



**CITY OF BOULDER
CITY COUNCIL AGENDA ITEM**

MEETING DATE: April 16, 2013

AGENDA TITLE:

Consideration of a motion to direct staff to move forward with the next steps to explore the formation of a municipal electric utility.

PRESENTERS

Jane S. Brautigam, City Manager
Tom Carr, City Attorney
David Gehr, Deputy City Attorney
Kathy Haddock, Senior Assistant City Attorney
Debra Kalish, Senior Assistant City Attorney
Bob Eichem, Chief Financial Officer
Heather Bailey, Executive Director of Energy Strategy and Electric Utility Development
David Driskell, Executive Director of Community Planning and Sustainability
Maureen Rait, Executive Director of Public Works
Jonathan Koehn, Regional Sustainability Coordinator
Yael Gichon, Sustainability Coordinator
Kelly Crandall, Sustainability Specialist II
Bob Harberg, Utilities Planning and Project Management Coordinator
Kara Mertz, Environmental Action Project Manager
Sarah Huntley, Media Relations/Communications Manager
Andrew Barth, Communication Specialist II

I. PURPOSE

The purpose of this agenda item is to:

- Present the following information to council and receive council direction on whether to take the next due diligence and legal steps toward forming a municipal electric utility:
 - A summary of key findings and conclusions on the modeling results of six options, as presented to council on Feb. 26;

- Answers to key questions raised by council subsequent to the Feb. 26 council study session;
 - Report on public input received as a result of a variety of communications and outreach efforts; and
 - Report on discussions with Xcel Energy (Xcel) about potential partnerships.
- Provide the information necessary for council to determine whether or not to move from Phase 1 to Phase 2 of the revised work plan.

If council decides to direct staff to move forward, this would authorize the City Attorney's Office to:

1. Continue the due diligence required to prepare council to take formal action to acquire property for a municipal electric utility,
2. Initiate and pursue or intervene in any action before regulatory agencies to clarify rights and obligations of the city,
3. Pursue meetings with rating agencies and other actions to facilitate financing of a municipal electric utility,

And direct the City Manager to:

4. Conduct the analysis necessary under a proposed framework for evaluating the types and sufficiency of "added value" a municipal electric utility would need to provide.

Staff would return to council for a July 23 study session with an update on discussions with Xcel about a potential partnership, and all items that need to be in place for an Aug. 6 decision about whether to acquire electric facilities serving the city, including:

1. Resolution of items that would allow the City Council to authorize acquisition (i.e., outcome of discussions with rating agencies, appraisal results);
2. Qualitative analysis of the "should we" questions that need answers before deciding to pursue acquisition of the property;
3. Additional research/analysis in Phase 2 work plan (local generation option, possible Xcel partnership or other options); and
4. Results from the third-party independent evaluation.

If council does not direct staff to move forward at this time, staff would seek alternative council direction, which could include returning with ideas about other ways to meet the city's Energy Future goals.

II. EXECUTIVE SUMMARY

Over the last several years, the Boulder community has been engaged in a process to determine the future of its energy supply. This process has been driven by the growing awareness that energy markets are changing, that the nation's largest sources of energy are nonrenewable, and that the infrastructure that composes the electric grid is aging, both locally and nationally. The community faces two paths: either *to maintain the status quo* relationship with Xcel, the current electricity provider, or *to create the Electric Utility of the Future*, by forming a city-owned and -operated electric utility or by forging a new partnership with Xcel that supports the guiding principles laid out in the City Charter and the community's Energy Future Goals and the guiding principles laid out in the City Charter.

This memo provides council with information to help determine whether to take the next important steps (moving from Phase 1 to Phase 2 as outlined in the Aug. 28, 2012, study session materials with revisions to the work plan described later in this memo) toward the potential formation of a local electric utility. This information includes:

- A summary of the results presented on Feb. 26, which showed that it is financially, legally and technically feasible to form a municipal utility under the requirements defined in the City Charter. In short, these findings were that a local electric utility could have comparable or better rates and reliability, with better environmental performance, than the status quo (see **Section IV, pages 4-7**).
- Additional analysis on job creation, coal costs, and other issues to respond to questions from council on and since the Feb. 26 study session (see **Section IV, pages 7-8**).
- Input from city and county residents, businesses, and institutions that could be served by a local electric utility. A strong area of concern for the potential customers of the utility relates to governance and how their diverse interests could be represented. Staff proposes to address this issue, in part, by forming a Governance Working Group (see **Section V, pages 8-12**).
- An update on progress related to discussions with Xcel about evaluating ideas for a new and creative partnership, through a City of Boulder-Xcel Task Force, which has had an initial organizational meeting (see **Section VI, pages 12-13**).
- A description of the actions that council is being asked to authorize staff to take, including continuing due diligence on the value of the local electric grid; initiating clarifying actions before regulatory agencies; facilitating financing of the potential electric utility; and conducting an analysis on the added value of a municipal utility compared to other paths (see **Section VII, pages 14-17**).
- A proposed work plan for the next phase of the Municipalization Exploration Project, should council authorize staff to take these actions. If council chooses not to authorize these actions on April 16, staff would bring forward at a later date a revised work plan based on council's direction (see **Section VIII, pages 17-20**).

Even if council decides to proceed with the next steps on April 16, the city is not locked into a municipalization decision. If council decides that the modeling and analysis to date provides sufficient information to justify the continued exploration of municipalization, staff will proceed with more detailed legal and financial analysis in the spring and summer. This would culminate in August with a condemnation ordinance that would seek council's authorization to enter into good-faith negotiations with Xcel to acquire local electric grid assets and, if unsuccessful, to file a condemnation action in state court.

It is important for council, and the community, to understand that making the decision to proceed with condemnation is deciding to municipalize unless the financial requirements outlined in the Charter cannot be met. To initiate condemnation, council must be ready to form the utility and issue bonds to pay what it offers Xcel for the property to be acquired, or if Xcel rejects that offer, what the court determines is the value of the property identified by the city. To make that decision confidently and in an informed manner, council will need to have verification of the

third-party independent expert as well as guidance from FERC and the city’s FERC legal counsel regarding stranded costs.

Once condemnation is authorized, the policy decisions about municipalization will have been made. While there will be off-ramps available, they will be limited to the financial Charter metrics and will likely have monetary consequences. For instance, if the value determined by the court is far in excess of what the city anticipated, or if the law regarding stranded costs changes, and the Charter metrics cannot be met, the city could abandon the condemnation proceedings. However, the city might have additional monetary consequences if it abandons the condemnation.

Staff recommends that council authorize continued exploration of the feasibility of municipalization on April 16. This will enable staff to provide new and updated information on July 23 and Aug. 6 for council to make an informed decision about Boulder’s Energy Future.

III. STAFF RECOMMENDATION

Suggested Motion Language:

Staff requests council consideration of this matter and action in the form of the following motion:

Motion to direct city staff to move forward with the next steps to explore the formation of a municipal electric utility including:

1. Authorizing the City Attorney’s Office to continue the due diligence required before council could take formal action to acquire property for a municipal electric utility.
2. Authorizing the City Attorney’s Office to initiate and pursue or intervene in any action before regulatory agencies to clarify rights and obligations of the city.
3. Authorizing the City Manager to pursue meetings with rating agencies and other actions to facilitate financing of a municipal electric utility.
4. Directing staff to conduct the analysis necessary for evaluating the types and sufficiency of “added value” a municipal electric utility would provide.

IV. ANALYSIS

A. Findings From the Options Analysis

[On Feb. 26](#), staff presented an analysis that demonstrated it would be feasible to create a local electric utility under the carefully thought-out conditions prescribed by the [City Charter](#). To come to this conclusion, staff and consultants modeled an Xcel Baseline option and five municipalization options that illustrated the possible ways that a Boulder local electric utility could seek to meet its energy resource needs. This modeling used three different levels of

combined stranded and acquisition costs, which are among the largest contributors to the cost of a potential local electric utility.¹

This modeling was intended to answer the question of “can we” form a municipal utility, i.e., whether such an entity could be formed in compliance with the conditions that were placed in the City Charter in 2011. Whether the city has demonstrated that it can meet the Charter requirements will have to be verified by an independent third-party expert in Phase 2 (see Agenda Item VIII for information on the timing and process of this evaluation).

Six options were modeled to compare against each other:

1. Xcel Baseline option – the current and expected costs for Xcel were modeled based on the company’s publicly available filings.
2. Phase Out option – assumes that the city utility purchases wholesale power from Xcel for five years to reduce alleged responsibility for stranded costs, and then moves to a no-coal power portfolio.
3. Low Cost option – the city utility’s power portfolio is composed of the least expensive resources, with high levels of wind power and smaller amounts of natural gas and coal.
4. Low Cost, No Coal option – the city utility’s power portfolio is composed of the least expensive resources but excludes coal power purchases.
5. Lowest GHGs option – the city utility’s power portfolio is designed to obtain the cleanest energy mix that is cost-effective, and excludes coal power purchases.
6. Lowest GHGs, Reduce Use option – the city utility’s power portfolio is designed to obtain the cleanest cost-effective energy mix, excludes coal power purchases, and includes a higher investment in energy efficiency that reduces the amount of power the utility would need to purchase.

The modeling demonstrated the following with regard to the Charter requirements:

- **Reliability must be comparable to that of Xcel at the time of acquisition.** This requirement was met for all of the options modeled by developing plans and incorporating associated costs in the financial model for (a) separating from the Xcel system, (b) start-up of the utility, (c) capital replacement, (d) energy resources, and (e) the human, organizational and financial resources that would be needed for ongoing administration, operation, maintenance, monitoring, control, dispatch, project management, customer service and response. Engineers evaluated the condition of the local Xcel grid and provided operating and capital cost estimates over a 20-year time period. These costs were reviewed by the [Reliability Working Group](#) as sufficient to

¹ Stranded costs are determined by the Federal Energy Regulatory Commission (FERC) pursuant to a specific formula stated in FERC Rule 888. Stranded costs may be due if a utility builds energy generation for a customer who then leaves its system. If the utility cannot sell the generation on the market to another customer, then the original customer could have to compensate the utility for the portion of its investment in generation that is “stranded” because the customer leaving is the only customer that could use a portion of the energy generated. The highest-level stranded costs in the model came from Xcel’s July 2011 estimate of what the City of Boulder would owe if it left Xcel’s system in 2017. Acquisition costs are determined in state court and are the fair market value of the property the city takes from Xcel through its power of eminent domain. The model incorporates the amount Xcel Energy stated in 2011 was the fair market value of its system serving Boulder. The city contends the assets are worth less than this amount but used Xcel’s figures for the purposes of conducting a conservative analysis.

ensure comparable or greater reliability for the proposed utility's service territory both at time of acquisition and over the 20-year period analyzed.

- **The local electric utility must provide debt coverage of at least 125 percent.** This requirement was met for all of the options modeled by fixing a minimum of 125 percent debt coverage, and modeling a range up to 200 percent. To achieve a high credit rating (an A-), the city's financial advisor has recommended that a new electric utility should plan for debt coverage of 150 percent to 170 percent.
- **The local electric utility must have five-year and 20-year plans to reduce greenhouse gas (GHG) emissions and increase renewable energy compared to Xcel.** This requirement was met for all of the options modeled. Resources were modeled based on lowest-cost energy and lowest carbon emitting energy. It was found that even where the cost of energy was made the guiding priority, a local electric utility could obtain 50 percent or more of its electricity from renewable energy resources, primarily wind. Emissions could be decreased significantly as well. In four of the five municipalization options modeled, the city could exceed the Kyoto Protocol Goal of reducing its emissions by seven percent below 1990 levels on the first day of operation. In the Phase Out option, this would occur in year five.
- **The local electric utility must have rates less than or equal to those of Xcel at the time of acquisition.** This requirement was met for some of the options but not others. For most options, rate parity could be met on day one and the cost of acquisition would be financed over 30 years with interest payments being paid from debt proceeds for the first 18 months. This is a common practice for utilities with large capital expenditures. However, rate parity on day one does not create a complete picture of how rates might compare over a longer period. To achieve this higher standard, staff looked at whether the local electric utility options were likely to provide cost savings over 20 years compared to continuing in a status quo relationship with Xcel. The options that prioritized reducing GHGs were unlikely to create long-term cost savings (and are not being recommended by staff at this time), but the options that prioritized low-cost generation were likely or very likely to create savings. The Low Cost option, which would include approximately 29 percent coal, 11 percent natural gas, and 60 percent renewable energy in 2017, was likely to create cost savings as compared to staying with Xcel when modeled at combined stranded and acquisition costs of \$150 million, \$277.5 million, and \$405 million.

Revisions to the Xcel Baseline option

Since Feb. 26, staff and consultants have refined the Xcel Baseline option costs using more recent filings for Xcel's first-quarter 2013 cost riders. This resulted in a slight but noticeable 5 to 10 percent reduction to the probability that the various options create cost savings over time as compared to the Xcel Baseline. This did not impact the ability of the Low Cost option to provide cost savings over 20 years under the lowest and middle levels of stranded and acquisition costs, \$150 million and \$277.5 million. It is important to note that while this may lower the probability slightly, there are model refinements that could possibly shift the results in the positive. Due to the complexity and cost of remodeling resources in HOMER, staff did not update fuel costs from

coal and wind resources, despite research indicating that future prices for coal could increase and wind could decline.

As part of preparation for review by an independent third-party evaluator, staff will be conducting additional due diligence on the models, particularly focusing on the Xcel Baseline option. Should there be a material change to the outcomes based on analysis of the baseline, availability of better data related to municipal utility operations or fuel costs, or the recommendations of the independent third-party evaluator, a full report will be available to council on July 23.

As a reminder, Figure 1 summarizes how the five municipalization options perform with regard to the Charter requirements, adjusted to reflect these more recent results. As was discussed in more detail in the [Feb. 26 memo](#), the five municipalization options were compared only to an Xcel Baseline option—the anticipated resource and cost performance of Xcel over 20 years based on the resource mix it provided in Colorado Public Utilities Commission (PUC) documents. Staff has not modeled alternative “futures” for Xcel, including different resource investments or changes that could occur as a result of forging a new and creative partnership. This is because Xcel has not provided any information or data to suggest what options are realistic. See Section VI for an update on discussions with Xcel about a potential partnership.

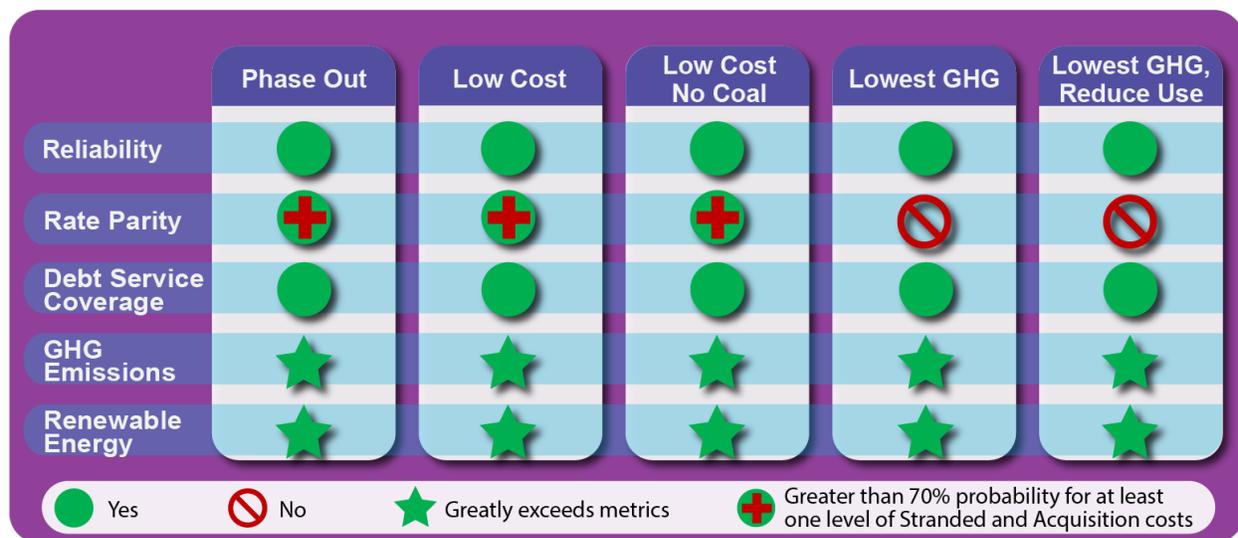


Figure 1: Performance of Municipalization Options on Charter Requirements

B. Responses to Council Questions

Council requested additional information about the modeling and analysis on Feb. 26 and through the [Hotline](#). Staff has responded to all questions where the research was readily available and part of the current modeling process. However, questions requiring more in-depth analysis or modeling will be addressed in future phases. The questions council members posed and staff’s responses are included in their entirety in **Attachment A**. For this memo, staff focused on questions where the answers had the potential to change the key conclusions or findings from the Feb. 26 analysis. The additional information—which includes discussion of coal cost trends,

natural gas extraction processes, modeling capabilities, and job creation, among other issues—did not impact staff’s conclusions from Feb. 26.

V. PUBLIC INPUT

The decision about whether to create a municipal electric utility is a significant one that could result in a change to electric service for residents and businesses in the city and limited parts of unincorporated Boulder County. While this move could offer substantial benefits, a decision to issue bonds for this purpose would represent one of the largest financial investments Boulder has made. Knowing this, the city has engaged in intensive communications and outreach efforts to ensure that the community is informed about the issues, the goals, the options for achieving them and ways they can participate in the evaluation and decision-making processes.

Recent Methods of Communication and Engagement

Starting in early February and running into March, the city launched a renewed awareness campaign with advertising in both *The Daily Camera* and the *Boulder County Business Report*, as well as on both publications’ online platforms. The ads were designed to alert the public that the city’s analysis and results of modeling would be released on Feb. 21 and discussed by council on Feb. 26. Advertising was also used as a vehicle to invite members to two targeted engagement opportunities: a business community-centered conference call on March 12 and a more general community open house on March 13. Summary reports about each of these events are included as **Attachments B and C**.

In an effort to reach groups in ways that are most convenient to them, the city offered to give presentations and answer questions about the Energy Future project to any organizations that were interested. Executive Director Heather Bailey and other staff members participated in nine such events between Feb. 26 and the date of this memo’s release. Host organizations included:

- Boulder Chamber
- Boulder Clean Energy Business Coalition
- Boulder County Commissioners
- Boulder Tomorrow
- Frasier Meadows
- National Wind Technology Center
- University of Colorado
- Women of Wind Energy

In addition to these organized feedback opportunities, the city invited individuals to fill out electronic comment forms, ask questions and share their thoughts on InspireBoulder, and, as always, write directly to council or staff. The city has received 82 e-mails and letters about this initiative since Feb. 26. While staff believes council has seen some of these already, all correspondence is included in this packet as **Attachment D**.

Lastly, the Energy Future project has been featured, at times in great detail, over the past several weeks in local and national media outlets, including *The Daily Camera*, *the Boulder County Business Report*, *The Denver Post*, *The Denver Business Journal*, *The New York Times* and

industry-specific publications. This coverage has helped to put this issue back in the forefront, provide valuable information and encourage dialogue within the community.

Feedback Themes

Detailed information about the feedback the city received is in the attachments noted above. The following list outlines the five areas of concern or input expressed most frequently. The key components of staff's response are bulleted below each category.

1. Questions about reliability and the impact an increased level of renewables would have on the grid

- a. The system can handle more renewables without impacting reliability. Boulder's modeled peak load is approximately 280 megawatts (including planning and operating reserves). Xcel's current portfolio includes approximately 1,983 megawatts, or 14 percent renewable energy sources. This includes wind, solar, hydroelectric and biomass, along with Renewable Energy Credits (RECs). Increasing the amount of renewables on the grid by Boulder's 54 percent only increases the overall renewables on the system by 6 percent. These energy resources would be firmed by natural gas and balanced by the regional balancing authority.
- b. There are communities both in the US and internationally that have achieved this level of renewables and higher. More than 50 percent of the resource mix in Denton, Texas, is from renewable sources. Aspen is 75 percent renewables-powered.

2. Skepticism about the positive outcomes expressed in the city's analysis, most often related to the city's position regarding stranded and acquisition costs

- a. The city has strong legal arguments that support its position that it will not owe Xcel stranded costs. It is important to realize that stranded costs only apply to generation investments, not to lost revenue. In addition, costs are only stranded if the utility cannot sell the generation power to anyone else in the country. More specifically, Xcel has told the PUC that it is likely to need more resources than it currently has at the time the city is most likely to municipalize. This means that if Boulder customers depart the system and no longer draw their power from Xcel's sources, the company – and other ratepayers – could avoid the need for more generation and the costs associated with it.
- b. Xcel, in a report issued by a consultant in 2011, indicated that acquiring its system would cost \$150 million. The city believes the assets are worth far less than that, but out of an abundance of caution, used Xcel's estimate in all of its cost models. Even if the city had to repay bonds to cover the highest case of stranded and acquisition costs, it could have lower costs than Xcel over 20 years.
- c. Even if council decides to proceed with the next steps on April 16, the city is not locked into a municipalization decision. All off-ramps continue to exist, at no or minimal financial risk to the city, prior to a decision to proceed with condemnation. After condemnation proceedings have been instituted, subsequent legal and regulatory decisions by outside entities may make it impossible to meet the financial requirements in the Charter. Under such circumstances, the city would not be able to

proceed with municipalization. It is important to understand that there could be some monetary consequences to taking an off-ramp at this later point, but council would not have the ability to override the voter-approved requirements outlined in the Charter.

3. Concerns about the possibility of higher rates than those offered by Xcel beyond the time of acquisition

- a. Stable rates and economic vitality are two of the community's fundamental energy goals. The city is so committed to these that staff modeled costs over 20 years to understand whether there would be spikes that would likely result in higher rates. For three of the options, under certain levels of stranded and acquisition costs, the average cost per kWh are likely to remain lower than Xcel's on average for the entire 20 years.
- b. The City Charter includes specific language setting guidelines for future rate considerations. It says, "Rates charged by the utility will be designed to create a fair and equitable distribution among all users." In addition, the Charter states, "The cost of electric power is a significant portion of business and household budgets. The utility will operate in a fiscally responsible manner, always being mindful that every expenditure will be reflected in customers' rates and will affect household budgets and business profitability. The utility will, while always honoring its obligations to bondholders, strive to maintain rate parity with any investor-owned utility whose service area would include the City of Boulder."
- c. While environmental goals are important, too, the city is not planning to pursue options that would achieve these but not meet the rate parity standard.
- d. Many municipal utilities charge rates that are lower than investor-owned utilities.²
- e. Unlike some other cities, Boulder is limited by Charter from being able to use—or increase—rates in order to boost its General Fund. The only transfer of funds that is permitted is up to four percent to cover what Xcel had been paying as a franchise fee. City voters are currently paying this as part of a Utility Occupation Tax to ensure that core services remain funded. This additional tax would no longer be necessary as it would be replaced by a four percent general fund transfer.

4. Questions about the service area plan and the city's intentions with regard to county customers

- a. The proposed service area plan includes all customers currently served by the six substations that provide electric power to residents, businesses and institutions in the city. These substations also provide electricity to some parts of unincorporated Boulder County. Acquiring the six substations would ensure continued reliability and represents the most technically optimal way of separating a city-run system from that which is operated by Xcel.

² http://www.nytimes.com/2013/03/14/business/energy-environment/cities-weigh-taking-electricity-business-from-private-utilities.html?pagewanted=all&_r=0.

- b. There are approximately 5,800 customers in the county who would receive their electricity from a city utility. They would represent approximately nine percent of the overall customer base of a local electric utility.
- c. A map distributed by municipalization opponents suggested the city's service area included all of Area II and most of Area III of the Boulder Valley Comprehensive Plan. This is not true. The accurate map was attached to the [Feb. 26 Study Session memo](#) and is available at www.boulderenergyfuture.gov.
- d. The city is not seeking to annex any property in the county; nor is the city seeking to condemn individuals' private property. Condemnation would be limited to assets owned by Xcel that are essential to providing reliable and quality service to customers of a Boulder electric utility.
- e. Several of the neighborhoods that are in the service area plan already receive city water and sewer service and are subject to previous agreements that would allow the city to annex them on demand, if that were the city's goal.
- f. The Colorado Constitution gives home-rule cities the authority to condemn property outside of its boundaries, including property of a utility, to provide services of public necessity to the community. Courts have upheld this power in several areas, including for the provision of utility services. Xcel has the right to contest this action in state court, and there are certain standards the city will have to meet before a court will grant approval.
- g. Not all county customers oppose municipalization. There are customers who would very much like to receive electricity and enjoy other benefits from a city-run electric utility.
- h. The city has no plans to charge county customers within its service area rates that are higher than those paid by city customers. If for some reason in the future, a new City Council or utility wanted to charge these customers a higher rate, the rate would have to be approved by the PUC before it became effective.

5. Questions about governance and the role non-voting members of the customer base would play in decision-making

- a. There has been significant communication related to potential county customers wanting an opportunity to vote on whether the city should pursue municipalization. It is important to remember, however, that the measures on the November 2011 ballot were necessary because city voters were being asked to spend their money, raise their taxes and potentially agree to subject their city to financial obligations related to possible municipalization. County residents have not currently been asked to spend any money to support the city's exploration. If the city decides to form an electric utility and the utility issues bonds, these will be repaid through the revenue the utility collects, not through additional taxes. The only money that county residents in the service area would be required to pay is their monthly electric bill. It is anticipated that these bills, based on the energy these customers consume, could be less than what they would pay to Xcel.
- b. Electric customers in Colorado do not have a choice about who provides them with this service. One of the reasons the city is considering creating a utility of its own is

- to provide customers with more options and a voice in decisions – both of which are not available under the current system.
- c. Since 1997, the company that we now know as Xcel has undergone two mergers and acquisitions. Its customers had no role in those legal proceedings or agreements.
 - d. The City Charter spells out provisions for ensuring that customers have a role in utility decisions. It calls for City Council to be the ultimate decision-making body because, as elected officials, they are more likely to be accountable to the community's desires. The Charter also calls, however, for an advisory board of nine members – more than on any other city board. Three of these members can be individuals who live outside the city but work or own businesses in Boulder. This was structured this way to give customers who may not have a direct vote, like businesses, a voice in electric utility-related decisions.

There are more details to be worked out about governance, including, for example, what level of authority council would assign to the advisory board. As part of Phase 2, if council decides to move forward, city staff is planning to convene a working group of community members from the city, the business community and the impacted portions of the county to explore the pros and cons of different governance structures.

VI. UPDATE ON DISCUSSIONS WITH XCEL

When City Council advised Xcel of its decision not to renew the city's franchise agreement in August 2011, it explained that non-renewal of the franchise did not mean that the city did not wish to partner with Xcel. In fact, council welcomed the opportunity to explore possible ways to engage with Xcel in a collaborative and community goals-driven partnership.

In the course of exploring municipalization and examining how other utilities around the country are structured, city staff has learned more about what such a partnership might look like and how a partnership could be structured. While the typical franchise agreement has been rejected by council, Xcel will undoubtedly continue to have a role to play in Boulder, whether municipalization occurs or not.

For example, should council decide to move forward with municipalization of the electric system, Xcel will still be the city's natural gas provider. Further, a city electric utility could, and likely would, contract with Xcel through a power purchase agreement to provide some level of wholesale energy sales. A municipal utility would still receive both transmission and balancing services from Xcel. Finally, operation and maintenance functions could be contracted out to Xcel if it wished to bid on providing those services. There are quite a few combinations of services for which a municipal utility could contract with Xcel.

Last December, city staff prepared a paper that outlined possible ways that Xcel could choose to partner with Boulder to meet the community's Energy Future goals. The options included many alternatives to municipalization. Most of these options would require PUC approval. Some would require changes to state law. All of them would require Xcel to work with the city to effect a change in the status quo of electric utility operations.

Since December, city staff has met with executives from Xcel on several occasions to develop a process for discussing a partnership to create the utility of the future. In March, Xcel proposed the creation of a task force that would engage with Xcel executives, city staff and other experts when needed, to discuss possible paths to forming such a partnership. Xcel and the city jointly selected Boulder residents and representatives of Boulder businesses to serve on the task force. The task force members are interested and prepared to be engaged in the issues to be discussed and represent diverse backgrounds and perspectives. **Attachment E** includes additional information on each of the task force members. The 12 members of the City of Boulder-Xcel Energy Partnership Task Force and their affiliations are:

- Skip Arnold, Executive Director, Energy Outreach Colorado; former VP of customer care for Public Service Company of Colorado (Xcel)
- Tom Asprey, retired electrical engineer, former Hewlett Packard and Intel electrical engineer
- Eric Blank, Attorney, former director of the Energy Project for the Land and Water Fund of the Rockies (now Western Resource Advocates)
- Ann Livingston, Director of Market Development for Snugg Home, a developer of energy efficiency analysis software, and former Boulder County Sustainability Coordinator
- Pete Lorenzen, Vice President, Global Transition, Transformation and Quality for GTS and Senior Location Manager at IBM in Boulder
- Sean Maher, Executive Director, Downtown Boulder Inc.
- Matt McMullen, Director of Facilities Management and Sustainability, University Corporation for Atmospheric Research
- Dr. Diana Moss, VP, Director and Senior research Fellow of the American Antitrust Institute, specializing in the economics of antitrust, regulation, and energy and natural resources; adjunct professor in the CU Economics Department
- John Nielsen, Energy Program Director for Western Resource Advocates
- John Tayer, President and CEO, Boulder Chamber of Commerce; former Director of Policy Development and Intergovernmental Affairs Coordinator for the city; former member, RTD Board of Directors
- Will Toor, Transportation Program Director, Southwest Energy Efficiency Project (SWEEP)
- Sam Weaver, Business Operations, Cool Energy, Inc.; member, Board of Directors, Colorado Clean Energy Development Authority; Planning Board member.

The Task Force met for the first time on April 9. The group will meet on a bi-weekly basis for the three months from April 9 to July 1. Meetings will be held at the Wolf Law Building at the University of Colorado and will be professionally facilitated, paid equally by both parties. These meetings will not be open to the public, but minutes of the meetings will be posted on the city's Energy Future website. A final report of the Task Force's work will be completed by July 15, 2013.

VII. ACTIONS IF COUNCIL DECIDES TO MOVE FORWARD

If council chooses to move forward on April 16, it would approve four actions to be taken by staff prior to the City Council Study Session scheduled for July 23:

1. Authorize the City Attorney's Office to continue the due diligence required before council could take formal action to acquire property for a municipal electric utility.

There are several items to be completed before council will have the information necessary to determine whether to adopt an ordinance for acquisition of property for a municipal utility. To date, the city has inventoried the electric facilities serving the city and the property interests hosting those facilities. The appraisers have provided preliminary estimates of value that suggest the \$150 million modeled for acquisition is in excess of the fair market value of the property.

The next step involves preparation of formal appraisals and identifying precise locations of separation, where interconnectors need to be installed and where additional facilities will need to be constructed to implement a transition between Xcel and the city utility. If council decides to proceed, staff plans to have all of these items finalized for the study session on July 23, and an ordinance prepared to authorize acquisition of the property, including condemnation if necessary. If council adopts that ordinance in August, the city would attempt to negotiate a fair market price with Xcel for acquisition of the property described in the ordinance. If those negotiations are successful, city staff would work with the appropriate parties to obtain the financing necessary to acquire the property. If the negotiations are not successful, the city would file a condemnation petition in the Boulder District Court to acquire the property and pursue that action to obtain a verdict on the value of the property.

2. Authorize the City Attorney's Office to initiate and pursue or intervene in any action before regulatory agencies to clarify rights and obligations of the city.

The City Attorney's Office, together with outside counsel, has done a great deal of research and analysis of potential obligations associated with the Federal Power Act and Federal Energy Regulatory Commission (FERC) rules. Several FERC rulings have indicated that by application of FERC Rule 888,³ the city will have minimal to no stranded cost exposure for leaving Xcel's system. The authority requested would allow the City Attorney, if he finds it advisable, to seek input, information, clarifications, or determinations from the FERC. Understanding FERC's position would provide the city with valuable information upon which to base a decision about whether to proceed with acquisition of Xcel's property. There may be other issues that arise as staff performs further due diligence that could be resolved by similar request of regulatory agencies.

In addition to seeking information from FERC, the city may also find it beneficial to consult with the PUC. A smooth transition of the electric utility if the city municipalizes would require coordination between Xcel and the city. The PUC has jurisdiction over Xcel to require it to cooperate in such a transition so as to avoid: (a) harm to ratepayers; (b) disruption of service to any customers; and (c) duplication of facilities. If it appears such coordination will not be

³ See footnote 1 for an explanation of Rule 888.

forthcoming voluntarily, the city could seek assistance by asking the PUC to approve a transition plan. There may be other issues that arise as staff performs further due diligence that could be resolved by similar request of regulatory agencies.

3. Authorize the City Manager to pursue meetings with rating agencies and other actions to facilitate financing of a municipal electric utility.

To conduct good-faith negotiations, a city utility must be able to issue the bonds necessary to pay for the property at the price agreed to or ordered by the court. The next steps in determining whether the utility would be able to obtain financing include meeting with rating agencies to determine what the agencies need from the city for an investment-quality rating. There may also be opportunities for other partnerships that could reduce the amount the city needs to finance. Further investigation of these opportunities would also be part of Phase 2.

4. Direct staff to conduct the analysis necessary for evaluating the types and sufficiency of “added value” a municipal electric utility would provide.

Another component of good-faith negotiations is that council must be prepared to move forward with municipalization should the city proceed with litigation and obtain outcomes that would allow the Charter requirements to be met. This would require a decision on Aug. 6 that municipalization is the path to meet the guiding principles and goals that council and the community have set for Boulder’s Energy Future. Should council decide to move forward April 16, staff will begin a public process to determine what types of added value should be factors to be considered in comparing the available paths, and then to provide relevant information and model outputs that indicate how the paths compare.

The focus of the last several months’ modeling and analysis has been to address the question of whether municipalization is financially, legally and technically feasible. The broader set of questions remains: about whether the benefits associated with municipalization provide value that outweighs the risks associated with changing the status quo. This analysis has been conducted in pieces over several years—for example, through the [2011 Localization Report](#) and sharing lessons learned from the city’s involvement at the PUC. While this is not a new question, it nonetheless deserves additional analysis as well as input by the customers who could be part of a potential local electric utility.

The Electric Utility of the Future

A touchstone to consider in determining added value is the desire to develop the “electric utility of the future.” This vision has been slowly introduced with presentations from engineers and utility managers across the country who talk about the dramatic potential of the energy industry over the next few decades. The utility of the future is flexible and customer service-oriented. It adapts to new information and new expectations without unsustainable investments in nonrenewable resources or inefficient regulatory practices. It provides high reliability to reduce its customers’ costs, and it provides increasingly clean power while offering customers enhanced opportunities to manage their energy and save money. It is agile and competitive, while promoting local innovation and engaging local industry and institutional leaders in partnerships that will further enhance its service. It offers a new business model that provides energy as a

service, rather than relying on increasing electricity sales and building more generation plants. This vision could apply to either a local electric utility or through an effective partnership with Xcel, and will continue to be refined over the next few months.

Proposed Framework for the Analysis

The potential for municipalization to help Boulder achieve the community's Energy Future Goals was a cornerstone of the decision by council to place continued exploration on the ballot in 2011. These goals were used to develop guiding principles, adopted in [Art. XIII, Sec. 178 of the City Charter](#), that describe a municipal utility that operates in a "reliable, fiscally sound, and environmentally responsible manner." Those Charter-required guiding principles set the foundation for envisioning the Electric Utility of the Future and comparing the status quo to possible alternatives.

Attachment F is a sample of a matrix that staff is proposing as a framework for organizing and summarizing this analysis. Staff is seeking feedback on the proposed matrix, and based on council and public input, the format for organizing the analysis could change. Staff proposes the following principles for conducting a meaningful and informative value-add analysis:

1. The analysis will compare the status quo relationship with Xcel; municipalization in general, rather than as a particular modeled option; and any alternative partnerships with Xcel that become viable based on staff's December 2012 white paper or the Task Force described in Section VI.
2. The guiding principles in the City Charter provide the framework for comparing different paths to the Electric Utility of the Future. The Energy Future goals and objectives have been used to further describe these guiding principles.⁴ The objectives provide the basis for factors that will be analyzed for each path. These factors can be removed or expanded through the public outreach process. The matrix includes a preliminary example of how it might be populated. Staff has added some minor redlines to the Energy Future objectives to clarify that they would apply to customers of the utility and not only Boulder residents and businesses.
3. The analysis will compare the different paths based on modeling outputs, the legal or technical capabilities of the utility entity or relationship, and actual or prospective actions or investments of the utility entity or relationship. This means, for example, that looking at the Xcel status quo should also acknowledge investments from the city through the Climate Action Plan tax. Because the municipalization and alternative partnership paths are speculative at this time, relevant examples from other communities may be included.

Proposed Public Process

The goal of the public input process is to ensure a fair and effective framework for analysis, and to review and comment on the information provided to ensure that it is accurate, balanced and complete. Staff has received and incorporated preliminary feedback on the proposed framework for the analysis from the working groups. Staff proposes that the existing working group process should be used to further refine and review the analysis. The working groups would be

⁴ Energy Localization, while not a guiding principle in the Charter, has been specifically called out because the "Enterprise" guiding principle is not fully reflective of the range of alternative partnerships that could lead to enhanced local decision-making about energy.

supplemented with other interested members of the community and targeted outreach to groups like the Environmental Advisory Board and the Boulder Chamber. Opportunities for online input are also under development. Staff will bring the completed analysis to council on July 23.

VIII. WORK PLAN OUTLINE

Phase 1 of the municipalization exploration work plan that was provided to council last August has been completed. While Phase 1 was completed a couple of months later than predicted in August 2012,⁵ staff was able to accomplish more in Phase 1 than anticipated, shortening the time frame for Phase 2 to less than four months. From the knowledge staff has gained over the past seven months, the work plan has been expanded from three to four phases. Most of the major financial decisions and the policy “off ramps” remain in Phase 2. Some of the work that can be done simultaneously with the acquisition process is moved from Phase 2 to Phase 3. Phase 4 includes the final steps to operate the utility. The details of each phase are outlined below. The revised work plan maintains the schedule imposed by the voters limiting the financing for exploring, and establishing, a utility to five years (until the end of 2017).

Prior to recommending that council adopt a condemnation ordinance to end Phase 2 and determine whether to proceed with Phase 3, staff plans to provide to council (a) the results of the third-party independent expert verification, (b) requirements from rating agencies to issue investment-grade debt, (c) clarification of FERC requirements to further refine the amount of stranded costs, if any, that the city may have to pay, (d) final inventories and appraisals of the equipment, and (e) a qualitative analysis of the potential benefits of municipalization. These factors address the most significant risks and costs exposures to municipalization. As a result, council will be able to determine whether to take any of the off-ramps related to costs and meeting the charter prerequisites.

Once a decision is made to condemn, remaining off-ramps would be limited to situations under which the Charter requirements could not be met. These could result in monetary consequences. Council could abandon condemnation if a catastrophic or significant unexpected event occurred, but the city might be required to pay some or all Xcel’s attorney’s fees and costs. Therefore, the decision to adopt a condemnation ordinance and move from Phase 2 to Phase 3 is significant and is the equivalent of choosing the path of municipalization.

If council approves the staff-recommended motion to move forward, staff will begin work on Phase 2 and prepare for a July 23 City Council Study Session as outlined below. If council decides to pursue acquisition of Xcel’s electric facilities serving Boulder on Aug. 6, the work plan will be dedicated to the formation of a utility concurrently with the acquisition proceedings. Should council decide not to move forward with the April 16 motion, staff will return on or before July 23 with a revised work plan based on council’s direction.

⁵ On page 29 of the materials presented for the Aug. 28, 2012, study session predicted that Phase 2 would start in January 2013, with an uncertain end date. The Aug. 28, 2012, packet is at http://www.bouldercolorado.gov/files/City%20Council/Study%20Sessions/2012_SS/08282012SS/BEF%20SS%2008282012%20Final%20Memo%20with%20Attachments.pdf

Phase 2: Pre-Acquisition Ordinance (April 17, 2013 to Aug. 6, 2013)

1. Proceed with due diligence and any appropriate legal steps from April 16 motion:
 - a. Continue due diligence to finalize documents necessary to acquire property
 - b. Pursue action to clarify obligations before regulatory agencies
 - c. Pursue meetings with rating agencies and develop financing strategies
 - d. Retain a third-party independent evaluator
 - e. Conduct qualitative analysis described in this memo (see pages 15-16)
2. Continue to work with Xcel on a potential partnership, analyzing any possibilities received by July 15
3. Additional modeling to explore at least one local energy generation option and other possible options as they arise
4. Provide third-party independent evaluator any information needed for their review
5. If council decides that an amendment to the City Charter to allow sales of bonds by negotiated sale will be on the November 2013 ballot, prepare an ordinance placing amendment of Charter section 98 before the voters
6. Initiate discussions and a community/stakeholder feedback process on utility governance structures
7. Integrate planning efforts with Boulder's Climate Commitment as it relates to energy-related greenhouse gas emission reduction goals and streamlining current work efforts on energy efficiency
8. Receive third-party independent evaluator's determination

July 23 Special City Council Meeting:

- First reading of ordinance to acquire electrical system serving the city, including by condemnation, if necessary

July 23 Study Session:

- Provide an update on discussions with Xcel about a potential partnership
- Bring to council all items that need to be in place for an Aug. 6 decision to acquire electric facilities serving the city.⁶ These would include:
 - Resolution of items that would allow the City Council to authorize acquisition (i.e. outcome of discussions with rating agencies, appraisal results)
 - Qualitative analysis – “should we” questions needed before deciding to pursue acquisition of the property
 - Additional research/analysis in Phase 2 work plan (local generation option, possible Xcel partnership or other options)
 - Results from the third-party independent evaluation

Aug. 6 Council Meeting:

- Second reading of ordinance to acquire electrical system serving the city, including by condemnation, if necessary.
- First reading placing amendment of Charter Section 98 before the voters, if council has directed that such an ordinance be prepared.

⁶ Should new information arise regarding an Xcel partnership or any other information that would alter the direction to pursue acquisition of Xcel's electric facilities serving Boulder, it will be presented at the July 23 Study Session and potentially change the course of the work plan for Phase 3 and beyond.

Phase 3: After Approval of Acquisition Ordinance (Aug. 7 to date of condemnation trial, approximately 10 to 18 months, likely June 2014 to February 2015)

1. Initiate good faith negotiations and pursue process to acquire property.
2. Identify resource service providers and initiate discussions
3. Continue modeling to narrow options into a strategic direction for resource planning, including exploring the following:
 - a. Opportunities for local generation and self-generation by large users.
 - b. Including the impact of changing course over the 20-year resource planning period from power purchase agreements to other resource opportunities.
 - c. Technology to support actualizing the “Electric Utility of the Future”
 - d. Consideration of the impact of electricity generation on water and the release of other pollutants in addition to carbon
 - e. Lifecycle assessments
 - f. Varying levels of energy efficiency and demand response
4. Develop a formal implementation plan, to include transition plan and staging of the system.
 - a. Consider contractor needs
 - b. Determine how the municipal electric utility will be organized, including divisions, contracted services, employees, service fleet, etc.⁷ This can be informed by the structure strategy selected for providing services.
 - i. Identify positions and position descriptions
5. Obtain PUC confirmation of transition agreement with Xcel or an order from the PUC
6. Define programs and services, including transition of existing energy efficiency programs and services
7. Finalize financing plan
8. Evaluate and finalize forms of governance
9. Form utility
 - a. Select financial advisor(s), bond underwriter(s), bond counsel
 - i. Prepare all documents necessary for bond issuance
 - ii. Identify alternative financing means and implement as appropriate
 - b. Define services
 - c. Develop rates
 - i. Rate determination models should be drafted and updated throughout the process of developing the utility. This will enable Boulder to identify programs or portfolio options that would significantly impact rates and develop the overall most efficient utility for the city.
 - ii. Model Boulder’s rates at initial operation and into the future
 - d. Formalize Generation and Resource Plan
 - i. Develop short and long term resource plans
 - ii. Issue RFPs for resources, select contractors, and negotiate contracts for power and services

⁷ This organizational planning will include integration of the current Climate Action Commitment and sustainability efforts with any future utility organizational structure.

Phase 4: Upon Completion of Phase 3 (2015 to 2016)

1. Obtain price for acquisition of assets by negotiation or verdict by court
2. Issue debt
3. Pay acquisition price and receive title to assets
4. Finalize contract negotiations for power and services between utility and provider
5. Finalize programs and services
6. Council approves rates
7. Implement operation of utility

ATTACHMENTS

Attachment A:	Responses to Council Questions (Hotline, Feb. 26 Study Session)
Attachment B:	March 12 Business-focused Conference Call Executive Summary
Attachment C:	March 13 Open House Executive Summary
Attachment D:	Comments received from January 1 through April 9, 2013
Attachment E:	City of Boulder-Xcel Energy Partnership Task Force Members
Attachment F:	Qualitative Framework

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Responses to Council Study Session Questions

Council requested additional information about the modeling and analysis on Feb. 26. For this attachment, staff focused on questions where the information was readily available and on analyzing and answering questions that had the potential to change the key conclusions or findings from the Feb. 26 analysis.

Energy Resource Questions

Coal Costs. Council requested additional information on the accuracy and impact of Xcel Energy's (Xcel) coal cost projections. Understanding the potential risk associated with fuel prices is important, because ratepayers—and not Xcel—are currently responsible for actual coal costs under the Electric Commodity Adjustment (ECA) pass-through rider—even when they differ from Xcel's projected coal costs.

Xcel Energy's 2007 and 2011 Coal Cost Projections

In 2007, Xcel provided their coal cost projections in Volume 1, pages 1-55 and 1-56 of their Electric Resource Plan (ERP) filing.¹ Xcel's 2007 coal cost projection began with a cost of \$1.02/MMBTU in 2007 and ended with a projected coal cost of \$1.98 in 2046. This is an annual compound increase of 1.67% per year over the 40 year period. On p. 1-55, Xcel states:

Coal prices were developed using a blend of forecasts from Evolution Markets, UPI (United Power, Inc.), JD Energy, CERA [Cambridge Energy Research Associates], and PIRA [Petroleum Industry Research Associates]. Coal prices were estimated for Powder River Basin 8400 and 8800 as well as Colorado Coal (11500 British Thermal Unit ("BTU")) resources. An additional rail charge including fuel surcharges was developed for each coal plant delivery location. All coal prices were escalated at 2.33% beyond 2030.

Between 2007 and 2011, Xcel's actual coal costs increased much faster than anticipated. As an example, as shown in Table 1 and Figure 1 below, Xcel did not project a coal price of \$1.75 until approximately 2040. Xcel revised their coal cost projections in 2011, showing a price of \$1.75 for 2011—30 years earlier than it had projected in 2007.² Beginning with a 2011 coal price of \$1.75/MMBTU and ending in 2050 with a coal price of \$3.11/MMBTU, this is a compound annual increase of 1.45 percent or less than the anticipated rate of inflation. Table 1 and Figure 1 compare Xcel's 2007 and 2011 coal cost projections for the years 2007 to 2020 and then for each 5th year after that. They also show actual Colorado coal costs between 2007 and 2012.³

¹ Volume 1 from the 2007 ERP is available at https://www.dora.state.co.us/pls/efi/EFI.Show_Docket?p_session_id=&p_docket_id=07A-447E.

² Coal cost projections were provided in response to Discovery Request Climax 1-1.A1 SO under the Fuel Burn tab.

³ Actual Colorado Coal Costs are derived from the U.S. Energy Information Administration (EIA) *Electric Power Monthly* reports (Table 4.10.B) for years 2007-2012: http://www.eia.gov/electricity/monthly/epm_table_grapher.cfm?t=epmt_4_10_a.

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In Volume 2 of Xcel's 2011 Resource Plan (pages 2-28 and 2-29 and 2-265),⁴ Xcel summarized its coal supply and cost analysis and indicated that it believes that there will be adequate coal supplies for the next 30 years and that costs will rise ± 1 percent per year in real terms. Xcel put forward a 2011 study by the John T. Boyd Company⁵ indicating that Powder River Basin coal prices had increased at a rate of approximately 3 percent per year between 1990 and 2010, although closer to 7 percent per year since 2000. The Boyd report then provided a conclusory estimate of 1 to 2 percent per year price increase from 2011 to 2040, based on the assumption that legal and regulatory regimes will remain the same over time.⁶

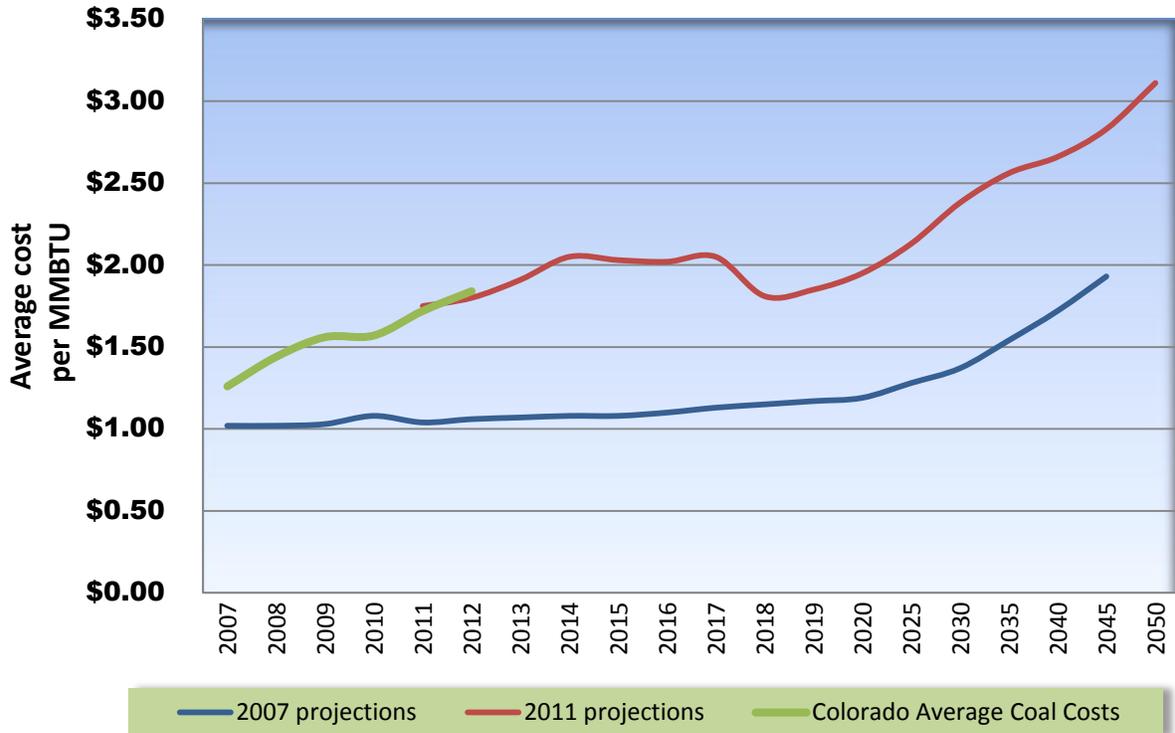


Figure 1: Xcel Energy's 2007 and 2011 Coal Price Projections along with Actual Colorado Coal costs between 2007-and 2012

⁴ Volume 2 from the 2011 ERP is available at <http://www.xcelenergy.com/staticfiles/xcel/Regulatory/Regulatory%20PDFs/PSCo-ERP-2011/Exhibit-No-KJH-1-Volume-2.pdf>.

⁵ The Boyd study is available at <http://www.xcelenergy.com/staticfiles/xcel/Regulatory/Regulatory%20PDFs/PSCo-ERP-2011/8-Roberts-Exhibit-No-MWR-1.pdf>.

⁶ See *id.* at p. 1-2: "This study is based on the assumption that the various laws and regulations governing coal leasing, mine permitting, health, safety and transportation, and the enforcement of those laws and regulations will effectively continue as they are today. Major changes in the legal/regulatory framework could affect our conclusions."

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Year	Xcel's 2007 Coal Cost Projection \$/MMBTU	Xcel's 2011 Coal Cost Projection \$/MMBTU	Difference Between 2007 and 2011 Coal Cost Projections \$/MMBTU	Actual Colorado Coal Costs: 2007-2012 \$/MMBTU
2007	\$1.02	N/A	N/A	\$1.26
2008	\$1.02	N/A	N/A	\$1.44
2009	\$1.03	N/A	N/A	\$1.56
2010	\$1.08	N/A	N/A	\$1.57
2011	\$1.04	\$1.75	\$0.71	\$1.72
2012	\$1.06	\$1.80	\$0.74	\$1.84
2013	\$1.07	\$1.91	\$0.84	N/A
2014	\$1.08	\$2.05	\$0.97	N/A
2015	\$1.08	\$2.03	\$0.95	N/A
2016	\$1.10	\$2.02	\$0.92	N/A
2017	\$1.13	\$2.05	\$0.92	N/A
2018	\$1.15	\$1.81	\$0.66	N/A
2019	\$1.17	\$1.85	\$0.68	N/A
2020	\$1.19	\$1.95	\$0.76	N/A
2025	\$1.28	\$2.13	\$0.85	N/A
2030	\$1.37	\$2.38	\$1.01	N/A
2035	\$1.54	\$2.56	\$1.02	N/A
2040	\$1.72	\$2.66	\$0.94	N/A
2045	\$1.93	\$2.83	\$0.90	N/A
2050	N/A	\$3.11	N/A	N/A

Table 1: Xcel Energy's 2007 and 2011 Coal Cost Projections and 2007 to 2012 Actual Colorado Coal Costs

Xcel's 2011 coal cost projections are substantially above their 2007 coal cost projections but the rate of escalation used in 2011 is still very low—under 2 percent cost escalation per year. If coal costs escalate at a rate higher than Xcel's projections, ratepayers' liability for fuel costs could be much, much higher.

Understandably, no one can predict how the complex forces of supply and demand will affect future prices of coal, but it appears that production costs, transportation costs and export pressure will tend to drive U.S. coal costs generally upward in the coming years. Many factors impact coal prices, including technology required for extraction, coal quality, transportation costs, demand, export levels, environmental regulations related to air and water quality, land-use regulations, labor and mining safety, etc. Although Xcel is relying on projections of 1 to 2 percent increase in coal prices over the next 30 years, there are numerous factors that could affect this trajectory:

- On Feb. 26, the U.S. Geological Survey (USGS) released a comprehensive new study that indicated that the Powder River Basin only has approximately 26 billion short tons of

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coal reserves, those that are currently economically recoverable.⁷ Energy Information Administration (EIA) quarterly coal reports indicate that the U.S. electricity sector consumes approximately 1 billion short tons of coal per year.⁸

- Transportation costs make up a significant portion of coal prices. According to the EIA, the transportation cost for coal being moved from Wyoming to Colorado increased by 30 percent from 2000 to 2010.⁹
- The Powder River Basin, located in Wyoming—the primary source of Xcel’s coal—is now the nation’s largest coal producer, and production is anticipated to increase as other large mines are less productive.¹⁰
- Currently, Xcel places costs associated with matching coal power and variable resources like wind on the variable resources rather than on the coal (called “coal cycling costs”), because coal plants serve as baseload and are generally slow to ramp up and down. In the 2011 ERP docket, the Colorado Public Utilities Commission (PUC) indicated that they may be willing to consider reversing that relationship in the future, and to place the cost of coal’s inflexibility on coal rather than on flexible resources like wind.¹¹
- Several U.S. coal mining companies are operating at extremely low margins,¹² which could contribute to lower availability or higher prices for coal.
- The federal government may take steps to regulate carbon emissions from existing, as well as new, power plants,¹³ and Xcel employees have testified that while not immediate, “there is significant probability that, at some point, either EPA or Congress will impose some form of market-based carbon policy or tax on electric generating units.”¹⁴ An additional environmental challenge relates to the costs associated with meeting new pollution-control requirements. New and pending environmental rules are expected to increase substantially the costs of operating existing or building and operating new coal plants, and some of the technologies proposed to better manage emissions are not yet fully commercial.

Together, these challenges raise important questions regarding the extent of coal’s future use. Because these factors are speculative, they have not been built into the city’s model to show additional risk in staying with Xcel Energy. The coal prices that were reflected in the city’s model for the Xcel Baseline option were based on Xcel’s current projections. Although the above analysis suggests that coal prices are on a trend to exceed Xcel’s projections, staff is

⁷ For a summary, see http://www.usgs.gov/blogs/features/usgs_top_story/fueling-the-mix-coal-and-u-s-electric-power-generation-2/. For a fact sheet, see <http://pubs.usgs.gov/fs/2012/3143/fs-2012-3143.pdf>. For the full reports, see <http://energy.usgs.gov/Miscellaneous/Articles/tabid/98/ID/233/New-Powder-River-Basin-Wide-Coal-Assessment-of-Recoverable-Resources-and-Reserves.aspx>.

⁸ Reports available for download at <http://www.eia.gov/coal/data.cfm#consumption>.

⁹ <http://www.eia.gov/coal/transportationrates/trend-coal.cfm>

¹⁰ <http://www.eia.gov/todayinenergy/detail.cfm?id=2770>

¹¹ See p. 75-76 of Decision No. C13-0094, Docket No. 11A-869E, available at https://www.dora.state.co.us/pls/efi/EFI_Search_UI.Show_Decision?p_dec=18106&p_session_id=

¹² See, e.g., <http://seekingalpha.com/article/841941-arch-coal-walking-dead> and <http://www.prnewswire.com/news-releases/hanou-energy-powder-river-basin-coal---changing-times-172260551.html>.

¹³ http://www.washingtonpost.com/politics/epa-may-delay-climate-rules-for-new-power-plants/2013/03/15/28e9d37e-8cda-11e2-b63f-f53fb9f2fcb4_story.html

¹⁴ Direct Testimony and Exhibits of Jack Ihle, Docket No. 11A-869E, at 8, available at <http://xcelenergy.com/staticfiles/xs/Regulatory/Regulatory%20PDFs/PSCo-ERP-2011/Direct-Testimony-Ihle.pdf>.

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reluctant to incorporate different projections into the model at this time without purchasing and analyzing forecasts from research services that are typically used by utilities. However, because staff used a range of carbon price levels (p. 67 of the [Feb. 26 study session memo](#)), the model does reflect a level of risk and variability resulting from the use of fossil fuels. This risk would not be fully reflected by varying only Xcel's coal prices, and would need to be applied to the Phase Out and Low Cost municipal utility options, although they have lower percentages of coal.

Coal Plant Retirements. Under Colorado HB 10-1365, the Clean Air, Clean Jobs Act (CACJA), regulated utilities were required to present emissions reduction plans. The plan approved for Xcel by the PUC and the Colorado Department of Public Health and Environment (CDPHE) retires 593 MW of coal-fired generation, adds emission-reducing retrofits to another 951 MW, and switches 463 MW to natural gas (see Table 2).¹⁵ CACJA therefore impacts approximately 58 percent of 3,436 MW of coal generating plants that Xcel had available in 2011, as shown below. Staff analysis of the status of CACJA proceedings as of January 2013 indicates that this will cost Colorado ratepayers approximately \$955 million, plus or minus 20 percent, by the time the plant adjustments are completed in 2017. Xcel's annual report put the impact of these investments at an average bill increase of 2 percent per year over 10 years.¹⁶ Although CACJA costs were not explicitly incorporated in the model because they have not fully accrued, they were factored in implicitly by: 1) including base rate with construction work in progress (CWIP) costs as of 2012, as indicated in Xcel's 2011 rate filing (11AL-947E), and 2) incorporating a 2.5 percent increase onto base rates, in addition to inflation, to account for CACJA costs on top of other capital and infrastructure improvements as described in the body of the Feb. 26 memo.

Unit	Size	Action	Date
Arapahoe 3	45 MW	Retirement	2013
Arapahoe 4	111 MW	Conversion	2014
Cherokee I	107 MW	Retirement	2011
Cherokee 2	106 MW	Retirement	2011
Cherokee 3	152 MW	Retirement	2015
Cherokee 4	352 MW	Conversion	2017
Comanche 1	325 MW	None	NA
Comanche 2	335 MW	None	NA
Comanche 3	766 MW	None	NA
Hayden 1	184 MW	Controls	2015
Hayden 2	262 MW	Controls	2016
Pawnee	505 MW	Controls	2014
Valmont 5	186 MW	Retirement	2017

Table 2: Summary of Public Service Company of Colorado's Current Coal Plants and Impacts from Clean Air, Clean Jobs Emission Reduction Plan¹⁷

¹⁵ Docket No. 10M-245E, Decision No. C10-1328, Final Order Addressing Emission Reduction Plan, Dec. 15, 2010, available at https://www.dora.state.co.us/pls/efi/EFI_Search_UI.Show_Decision?p_dec=14999&p_session_id=. The 10-year figure comes from at <http://www.xcelenergy.com/staticfiles/xcel/Corporate/Environment/CACJ%20Placemat.pdf>.

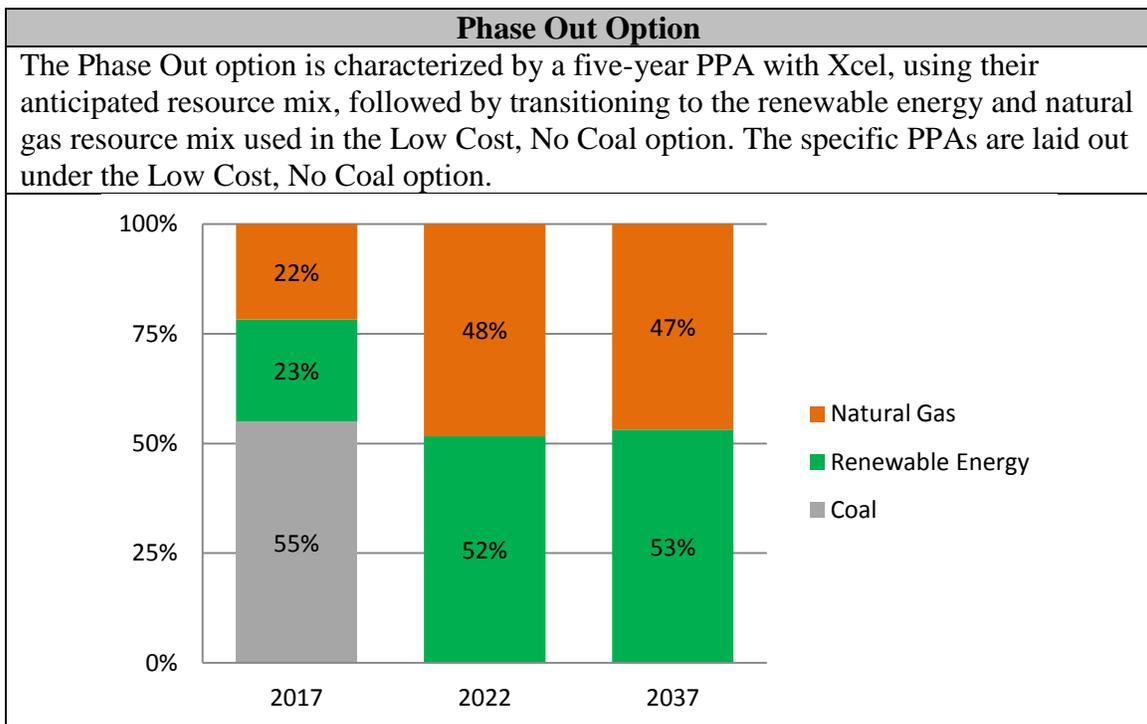
¹⁶ Xcel Energy Annual Report (2011), at p.16, available at http://thomson.mobular.net/thomson/7/3205/4595/document_0/XCEL_AR_2011.pdf.

¹⁷ "Controls" refers to the 742 MW of capacity that will receive emissions-reducing technology.

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Resource Mixes from HOMER. HOMER resource optimization software was used to generate appropriate electricity resource portfolios for the municipalization options based on prioritizing cost or GHG emissions reductions, depending on what the options specified. The following information includes additional detail on the resultant resource mixes for each option, as a percentage of MWh purchased, and the size and type of power purchase agreements (PPAs) that were included. These are “snapshots” in each of three years (2017, 2022, 2037) that were generated based on the median prices¹⁸ for natural gas, wind, and carbon. All options include 10 MW of local hydroelectric capacity throughout the 20 years in addition to the PPAs described below, and assume 20 MW of local solar photovoltaics are installed in Boulder as of 2017 and remain at relatively consistent levels in the Phase Out and Low Cost options.

Importantly, these are not intended to be the exact resource mixes, PPA sizes, or local generation types that would necessarily be obtained by a local electric utility. They are reflective of types of resource packages that could be obtained at different cost commitments. The city simply cannot make firm commitments for generation at this time, and full resource planning—with substantial public input—is dependent on the utility and its governing body being created. Therefore, the results of the HOMER modeling can be viewed as either (1) generating 20-year PPAs to meet the city’s electricity requirements, or (2) generating packages of resources in 5-year planning cycles that assume that a consistent supplier will provide flexibility in shifting capacity between PPAs. Once a resource was selected by HOMER for a given year, the overall purchased capacity was not decreased over time. If council proceeds with the municipalization exploration, actual prices and contracts would be compared against those that were modeled, beginning in Phase 2. Staff would also analyze options for additional localized generation, such as community-scale solar, combined heat and power, or biogas, for example.

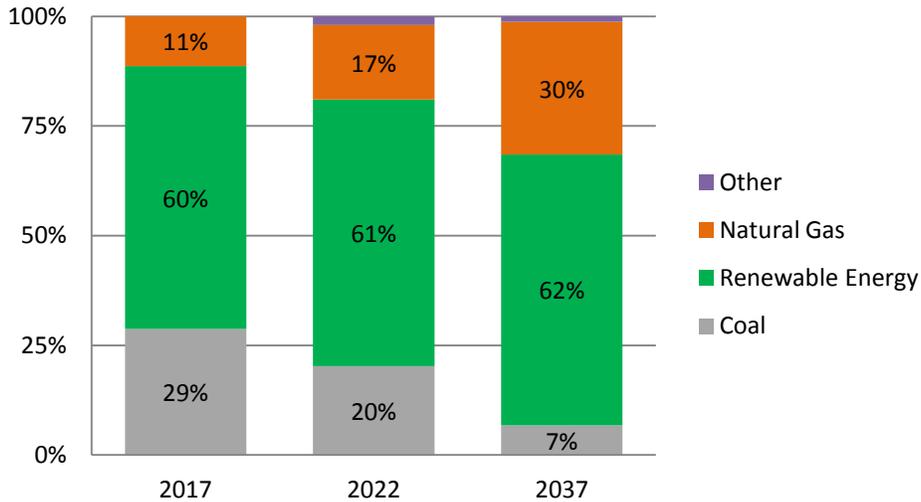


¹⁸ The median prices used in the modeling were presented in [Attachment D of the Feb. 26 study session](#).

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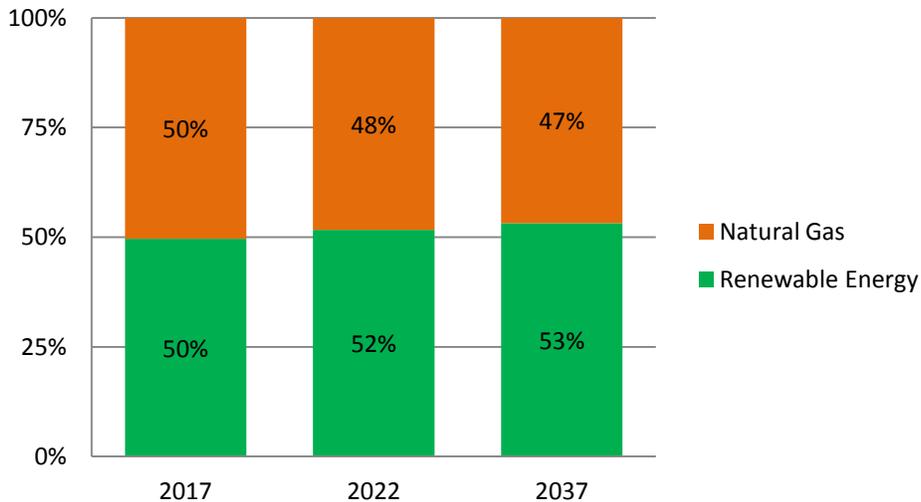
Low Cost Option

In 2017, the Low Cost option is characterized by a 198 MW wind PPA and a 250 MW natural gas PPA. In 2022, the wind PPA increases to 222 MW and the natural gas PPA to 258 MW. By 2037, the wind PPA has increased to 267 MW and 278 MW of natural gas capacity was modeled. Additionally, approximately 60,000 MWh of wholesale energy would be contracted from the market in 2017, using Xcel's forecast resource mix.



Low Cost, No Coal Option

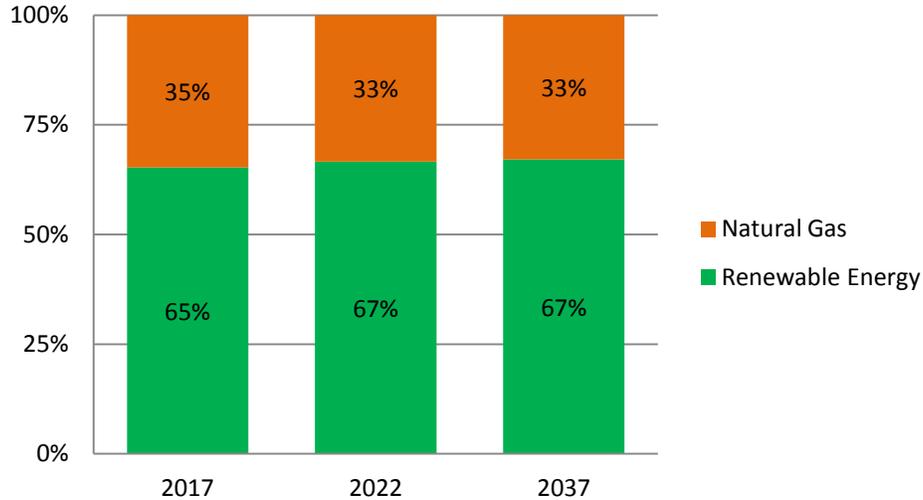
In 2017, this option's resource mix would be characterized by a 210 MW wind PPA and 291 MW in natural gas. By 2022, the wind PPA would increase to 230 MW and natural gas to 301 MW. By 2037, the wind PPA would be 264 MW and natural gas would be 325 MW.



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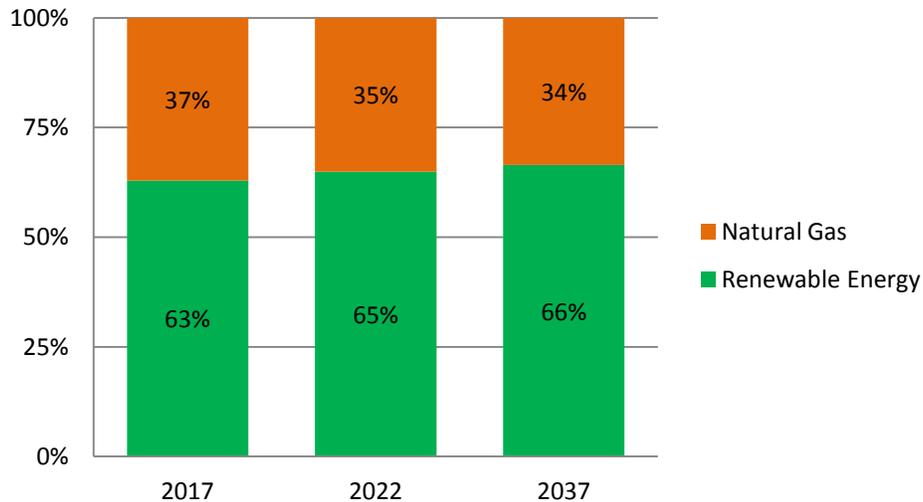
Lowest GHGs Option

In 2017, this option's resource mix would be characterized by a 429 MW wind PPA and a 291 MW natural gas PPA. The wind PPA would remain constant over 20 years, and natural gas resources would be 301 MW in 2022 and 325 MW in 2037. The 20 MW of solar resource in 2017 increases to 56 MW in 2022 and 97 MW in 2027.

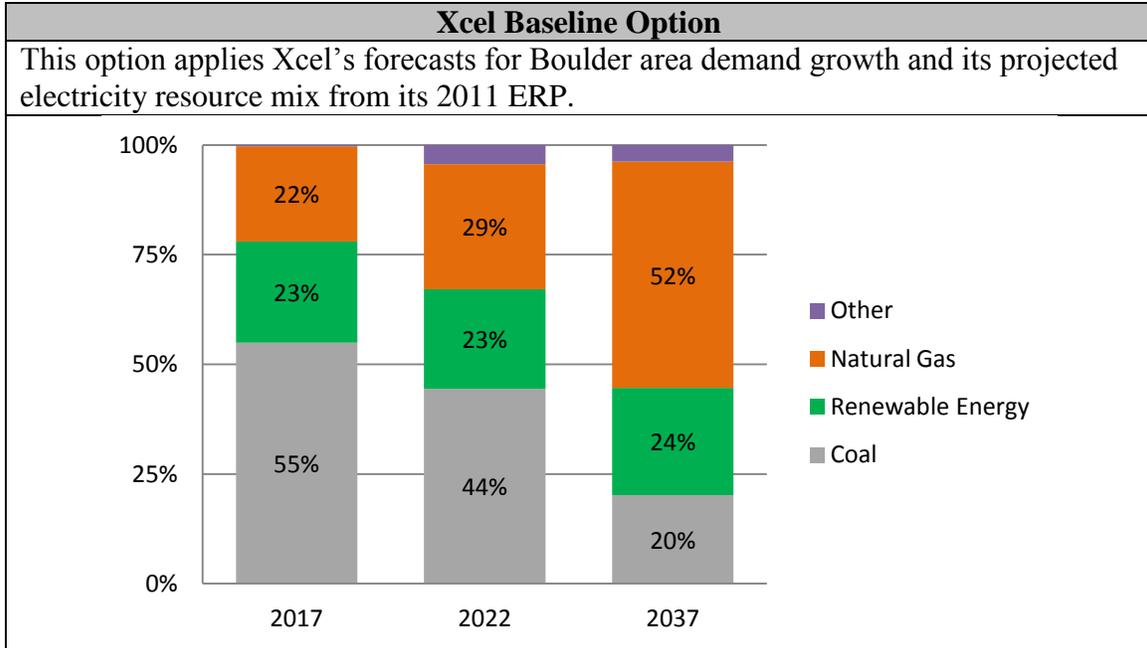


Lowest GHGs, Reduce Use Option

In 2017, this option's resource mix is characterized by a 368 MW wind PPA and a 289 MW natural gas PPA. The wind PPA remains constant over 20 years, with the natural gas remaining 289 MW in 2022 and increasing to 293 MW in 2037. The 20 MW of solar resource in 2017 increases to 54 MW in 2022 and 87 MW in 2027. Smaller PPAs are required for this option because increased energy efficiency investments decrease the need to purchase additional power.



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Load Modeling. In its 2011 ERP, Xcel forecast its retail peak demand growth to the year 2035 and provided, in response to discovery requests by Boulder, a similar forecast for Boulder's demand growth. The average annual growth rate for a Boulder municipal utility is forecast to be approximately 0.56 percent in coincident peak demand compared to an anticipated average annual growth rate of 0.83 percent in summer coincident peak demand for Xcel's Colorado service territory (see Table 3 below). Although Xcel was not able to specifically answer this question, this difference appears to be due to Boulder's relatively flat load profile and local investments in energy efficiency and distributed generation. These projections were built into both the municipalization options and the Xcel Baseline option that were modeled for the Feb. 26 study session. The projected demand growth provided by Xcel was applied to the demand for the technically optimal service territory of the proposed municipal utility. The same demand growth was applied to both the municipalization options and the Xcel Baseline option to create a valid comparison, despite the increased level of funding for energy efficiency and other demand reduction programs that were incorporated for the municipal utility options.¹⁹ This is believed to be a conservative approach.

¹⁹ The exception is the Lowest GHGs, Reduced Use option, which did reduce the projected load growth based on higher funding for demand management programs; it was compared to an Xcel Baseline option with the regular load growth trajectory.

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		Boulder Retail Demand		Boulder Municipal Utility Service Territory		Xcel Retail Demand	
Year		MW	% change	MW	% change	MW	% change
HISTORIC	2005	190	N/A	N/A	N/A	N/A	N/A
	2006	237	24.6%	N/A	N/A	N/A	N/A
	2007	218	-8.0%	N/A	N/A	N/A	N/A
	2008	231	6.1%	N/A	N/A	N/A	N/A
	2009	235	1.9%	N/A	N/A	N/A	N/A
	2010	240	1.9%	N/A	N/A	N/A	N/A
	2011	242	0.7%	N/A	N/A	5,913	N/A
FORECAST	2012	245	1.4%	N/A	N/A	5,953	0.7%
	2013	247	0.8%	N/A	N/A	6,024	1.2%
	2014	249	1.0%	N/A	N/A	6,081	0.9%
	2015	251	0.9%	N/A	N/A	6,150	1.1%
	2016	254	0.9%	N/A	N/A	6,225	1.2%
	2017	255	0.7%	291	N/A	6,277	0.8%
	2018	257	0.6%	293	0.7%	6,322	0.7%
	2019	258	0.5%	295	0.7%	6,370	0.8%
	2020	259	0.5%	298	1.0%	6,412	0.7%
	2021	261	0.4%	299	0.3%	6,448	0.6%
	2022	262	0.5%	301	0.7%	6,485	0.6%
	2023	263	0.5%	303	0.7%	6,531	0.7%
	2024	264	0.5%	306	1.0%	6,586	0.8%
	2025	266	0.5%	307	0.3%	6,639	0.8%
	2026	267	0.4%	309	0.6%	6,702	0.9%
	2027	268	0.4%	311	0.6%	6,762	0.9%
	2028	269	0.4%	313	0.6%	6,827	1.0%
	2029	269	0.3%	314	0.3%	6,889	0.9%
	2030	270	0.3%	316	0.6%	6,953	0.9%
	2031	271	0.3%	317	0.3%	7,010	0.8%
2032	272	0.3%	320	0.9%	7,064	0.8%	
2033	272	0.2%	320	0.0%	7,111	0.7%	
2034	273	0.2%	322	0.6%	7,164	0.7%	
2035	274	0.2%	322	0.0%	7,219	0.8%	
Average Annual Change:			0.53%		0.56%		0.83%

Table 3: Comparison of Retail Demand Growth for Boulder Service Area and Xcel’s Colorado Service Area²⁰

²⁰ Xcel data is from 2011 ERP Volume 2, table 2.6-4, available at <http://xcelenergy.com/staticfiles/xcel/Regulatory/Regulatory%20PDFs/PSCo-ERP-2011/Exhibit-No-KJH-1-Volume-2.pdf>. Boulder data is from Xcel’s Response to Discovery Requests BLDR 2-3 & 2-4 in 2011 ERP proceeding 11A-869E.

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Lifecycle Assessment of GHG Emissions. Council and the public have raised concerns about the life-cycle GHG emissions, human health impacts, and water consumption or drought on a local electric utility that could have a larger natural gas portfolio than is currently forecasted by Xcel. Life-cycle GHG emissions are addressed in responses to council's Hotline questions and will be modeled in the future as part of a formal resource plan, if council decides to move forward with Phase 2.

Best Practices in Natural Gas Development. Based on environmental and human health concerns, nonprofits, industry, and other stakeholders are beginning to develop best management practice guides for natural gas development. The Getches-Wilkinson Center for Natural Resources, Energy, and the Environment at the University of Colorado Law School has produced a database of best management practices (BMPs) and case studies related to oil and gas development in the Intermountain West.²¹ Additionally, the Interfaith Center on Corporate Responsibility and the Investor Environmental Health Network have partnered to produce a document called *Extracting the Facts* that provides guidance for how energy companies engaging in hydraulic fracturing (fracking) can minimize risks and properly disclose them to investors and the public.²² Its key recommendations include:

1. Manage Risks Transparently and at Board Level
2. Reduce Surface Footprint
3. Assure Well Integrity
4. Reduce and Disclose All Toxic Chemicals
5. Protect Water Quality by Rigorous Monitoring
6. Minimize Fresh Water Use
7. Prevent Contamination From Waste Water
8. Minimize and Disclose Air Emissions
9. Prevent Contamination from Solid Waste and Sludge Residuals
10. Assure Best In Class Contractor Performance
11. Secure Community Consent
12. Disclose Fines, Penalties and Litigation

Although currently existing guidance is focused on managing and disclosing risks from an investor perspective (it asserts that energy companies should “comply or explain”), transparency, accountability and environmental performance would be key from a community perspective as well. Compliance with these and other emerging BMPs, as determined by the leadership of the utility and its prospective customers, could be considered in addition to cost when evaluating resource contracts. With these BMPs still being developed, it appears rare for utilities or other organizations to consider them formally. However, a trend may be starting—for example, the board of directors of the Roaring Fork Transportation Authority (RFTA) of Colorado recently approved a natural gas policy that will allow the RFTA to consider whether oil and gas suppliers adhere to best management practices.²³

²¹ Available at <http://www.oilandgasbmps.org/>.

²² Available at <http://www.iehn.org/documents/frackguidance.pdf>.

²³ <http://www.aspentimes.com/article/20121109/NEWS/121109820>.

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Staff is not aware of any movement to demand that utilities account for how much of their electricity and heating gas comes from fracked and non-fracked gas. While a new “non-fracked” natural gas market is unlikely in the near future, the debate over fracking has at least spawned more thinking and talking about the energy supply chain. It is likely that more people will continue to be engaged in discussions about domestic energy, and that will eventually drive the development of new regulation and best management practices related to life-cycle emissions.

Energy Efficiency. Council requested information on the amount of energy efficiency investment that was included in the model. Data in the Energy Baseline Report completed in 2011 details Xcel’s energy efficiency investment in Boulder.²⁴ Xcel spent \$1.159 million on electric energy efficiency rebates in 2009. This aligns with data the city has received from Xcel for 2010 demand-side management (DSM) spending as well, showing roughly \$1.2 million in electric energy efficiency rebates provided to Boulder-area zip codes. Xcel has stopped providing Boulder County-specific DSM rebate totals to staff at the city or county, despite requests from local governments at the PUC to obtain such information to determine whether there are efficiencies between EnergySmart and Xcel’s DSM programs.

On page 78 of the [Feb. 26 study session memo](#), the assumptions for energy services staff, rebates, programs and support are included. These amount to:

Category	Annual Amount in Model
Energy Services	\$520,000
Energy Rebates	\$2,230,000
Energy Programs	\$1,710,000
Staff Support	\$52,000
Total	\$4,512,000

There is approximately \$4.5 million budgeted in the municipal utility options for rebates, programs and services, excluding staff. This is meant to replace the \$1.8 million for the CAP tax and more than replace the approximately \$1.2 million on electric rebates estimate from 2009. These numbers remain constant in all the options except the Lowest GHGs Option with reduced use, which assumed higher levels of energy efficiency and a reduced load as a result. In that option, the investment in rebates, programs and staff is more than double the amounts listed above.

Council requested that staff model varying levels of energy efficiency and funding levels in future models. This will be done in Phases 2 and 3 should council move forward.

Local Generation. Council and public input have recognized that enhancing local generation will be crucial to creating a flexible but secure local infrastructure. The modeling prepared for Feb. 26 included current data about hydroelectric capacity and production, and assumed an increase of solar capacity from 12 MW in 2012 to 20 MW in 2017 (consistent with currently

²⁴ Available at <http://www.bouldercolorado.gov/files/Energy/Aug2/EnergyBaselineStudyRevisedFinalReport072811.pdf>.

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permitted levels of 1-2 MW annually). Staff and consultants then modeled power purchase agreements (PPAs) to provide firm capacity to meet local demand and energy requirements. If council chooses to proceed with the municipalization exploration, staff would analyze how local generation and DSM could be cost-effectively optimized by a Boulder electric utility, and what the trade-offs would be of local investments compared to PPAs. This would occur in Phase 2 or 3 as described in the work plan.

Financial & Economic Questions

Job Creation. Boulder and Boulder County currently have a thriving “clean economy,” with a 2011 Brookings Institution report indicating that local green job growth dramatically outpaced national levels.²⁵ The modeling for a local electric utility included 107 full-time employees, should operations be conducted by the city organization. This compares to approximately 100 for Fort Collins, which operates a similarly sized utility. Several of the staff budgeted for the electric utility could be shared with the current city water utility, and funding for the electric utility share of those positions has been included in the current models as indicated on pp. 75-83 of the [Feb. 26 study session memo](#). If the city chose to outsource all or part of its operations, it would likely result in the same level of employees added to the community. It is possible that some Xcel Energy employees could be displaced should Boulder decide to form a local electric utility, but insufficient information is available to answer this question more specifically.

In addition to direct utility employment, the EnergySmart program, which funds rebates that assist residents, businesses, and property owners with energy efficiency investments, contributes to more than 40 contractor jobs in Boulder County, measured quarterly. The modeling for the local electric utility exceeds current levels of support for energy efficiency investments through the CAP tax and Xcel rebates by approximately \$1 million. The Lowest GHGs, Reduce Use municipalization option included more than twice that funding level. Types and funding for energy efficiency and renewable energy incentive programs will be analyzed in later phases, if council decides to continue the municipalization exploration. A more complete economic analysis can also be considered at that time.²⁶ This is an estimate of jobs only, as staff has not modeled the economic impact multiplier and dollar impact the additional jobs have caused. This will be developed in the next phase.

²⁵ http://www.dailycamera.com/boulder-county-news/ci_18465219.

²⁶ There are multiple methods for calculating the direct and indirect impacts of industry and governmental activities, and translating them into meaningful information about local jobs. Federal agencies and private companies generate multipliers that take into consideration: (1) how industries interact, (2) regional variations and ability to source locally, (3) the connection between job creation and enhanced local spending, and (4) points of diminishing returns, among other factors. These analyses can be highly technical and obtaining the models or multipliers can be costly. The analysis described in Section VII, which looks at the value added by pursuing different paths to achieve Boulder’s Energy Future, will include a level of appropriate analysis, as identified through public input.

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Factors Affecting a Utility Bond Rating. The following information is excerpted from a presentation to council on Dec. 11, 2012, by the city’s financial advisor, PFM.²⁷

CREDIT CONSIDERATIONS: OVERVIEW

- One of the largest drivers of the long term success of a local electric utility will be the credit rating obtained at inception
- City is “AAA” rated, which provides a solid place to start the discussion regarding service territory quality
- However, in PFM’s experience it is highly likely that the credit agencies will assign several areas/layers of risk to the utility and, therefore, derive a lower rating
 - A realistic goal is for an investment grade rating in the “BBB” to “A”²⁸ category
- Similar start-up efforts have shown a credit curve:
 - Initial utility assessment is well below expected future going concern rating
 - “Start-up Period” varies but can span several years
- The Rating Process is not about absolutes. A city electric enterprise will be graded on a curve as compared to other similarly situated utilities according to pre-established Rating Agency frameworks for assessment

CREDIT CONSIDERATIONS: FOCUS AREAS

- Start-up nature of the enterprise
 - Timing of hiring outside contractors and experience of those firms
 - Condition of the system and status of deferred maintenance
- Competitiveness and Rate Setting Mechanisms
 - Partially addressed by City Charter but added metrics will also be graded
 - Cost pass-throughs from utility to customer base
 - Willingness to raise rates
- Governance
 - Establishing an oversight body that is experienced and capable
 - Formal financial, risk management and operating policies: provides functional framework for how system financial and operational risks will be addressed
 - Formal policies on transfers from the utility to the city
- Organization/Management structure and competence
 - Includes experience of hired outside contractors
- Power resource management
 - Procurement plan and resulting costs
 - Stated carbon and renewables goals will be viewed critically as “before their time”
 - Engineering report on state of assets as this will impact capital improvement plans in the future
- Legal construct of bond documents
 - 1.25x stated coverage vs. target coverage a higher level
 - Debt service reserves—stated goal from engineers report of maximum allowable

²⁷ The presentation is available at <http://www.bouldercolorado.gov/files/Energy/2012/council/PFM.pdf>.

²⁸ This copy comes from the Dec 11, 2012 presentation to council by PFM. Since this meeting, PFM has narrowed the target bond rating to an “A-.”

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- Reserves: initial start-up reserves and ongoing policy
- Legal Risk, if any

CREDIT CONSIDERATIONS: FINANCIAL METRICS

The table below provides a sampling of both the important financial metrics evaluated by the ratings agencies and the medians for retail systems across ratings categories as measured by Fitch Ratings in their most recent U.S. Public Power Peer Study.

Fitch Retail System Medians				
Metric (2011 Data)	“AA” Rated	“A” Rated	“BBB+” Rated	“BB” Rated
Debt Service Coverage (x)	2.09x	1.57x	1.42x	0.90x
Days Cash On Hand	167	84	16	(2)
Transfer Payment as % of Op. Revs	4.9%	4.5%	1.0%	0.2%
Capex / Depreciation (%)	159.7%	124.2%	165.4%	184.4%
Equity / Capitalization (%)	51.0%	38.8%	35.6%	22.8%
Debt Per Customer (\$)	\$4,542	\$7,362	\$4,145	\$9,511

Modeling and Information Technology Questions

Course Change in the Models. The current modeling process integrates a detailed financial analysis of both the Xcel Baseline and municipalization options with decision analysis capabilities. Because of the level of detail in the financial model, including separation of peak and off-peak loads, bond issuance, the ability to add or remove a carbon tax, and the ability to solve for rates or debt service coverage, the model is large and has a long processing time. As a result, staff has not modeled, either for Xcel or the city electric utility options, course changes that might be made based on new information over the 20 year period. Should council move forward with exploring municipalization, a capability could be added to switch between options (i.e., select a cleaner resource mix subject to cost savings). However, if council proceeds to formation of a local electric utility, it may be worth exploring the use of a more robust, utility-specific mode for forecasting purposes.

This is because the current modeling process implements forecasting through a detailed business case, meaning that in places, numbers that should be treated as medians for forecasting purposes have been increased to numbers that are more reflective of expert assessments of actual or anticipated costs. This builds in additional buffer for purposes of identifying the likelihood of creating long-term cost savings through the municipalization options. If council decides to proceed with the municipalization exploration, the numbers in the models would be progressively refined in subsequent phases, creating a more realistic (less conservative) business case.

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Modeling Software Supplemental Description. In addition to the Excel-based financial model, the city is using two pieces of proprietary software: HOMER and DPL.

HOMER. HOMER is an energy modeling software designed to evaluate the economic and technical feasibility of a large number of technology options and to account for variations in technology costs and energy resource availability. Rather than predetermining a resource mix and modeling to match it, HOMER accepts prices, emissions intensities, and other inputs and then uses them to generate resource packages based on constraints like least-cost generation or lowest-emissions generation. It also allows for sensitivity analysis.

DPL. DPL links to the Excel-based financial model. It uses a decision tree format to program the financial model to complete many runs in an organized way and to then collect the outputs and process them into weighted averages, risk profiles, and sensitivities. The high, median, and low values for the uncertainties are associated with underlying probabilities that are used to weight the overall likelihood of each model run. Based on evaluating 6 uncertainties with high, median, and low prices for each, 729 model runs were completed per option to generate the expected values (weighted averages) and ranges around the various outputs.

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Responses to Council Hotline Questions on the Municipalization Exploration Project

The following provides answers to questions put to staff by City Council members Cowles and Wilson on February 25, March 1 and March 11.

Questions from Councilmember Cowles posted Feb. 25, 2013

Q: Reducing GHG emissions—Fuel Switching: CO₂e in coal and natural gas. The modeling was based on the assumption that burning gas releases only half the carbon emissions that burning coal releases to produce the same amount of electricity. A corollary of that statement is that using gas as the fuel source to generate electricity cuts GHG emissions by half over what would be released if the same amount of electricity were produced by burning coal. However, the work of UCAR scientist Tom Wigley indicates that gas is no better than coal in GHG emissions per BTU of energy if fugitive methane emissions from natural gas operations exceed 2% of the field’s production. See <https://www2.ucar.edu/atmosnews/news/5292/switching-coal-natural-gas-would-do-little-global-climate-study-indicates>, the first sentence of which reads as follows: “Although the burning of natural gas emits far less carbon dioxide than coal, a new study concludes that a greater reliance on natural gas would fail to significantly slow down climate change.”

Turbine efficiency. When you model gas generation, what type of turbine are you modeling (combined cycle?), and what is the assumed efficiency of the turbines?

A: The emissions for the modeled PPAs assumed a mix of turbine types using 4% combustion turbines (CTs) and 96% combined cycle (CC) in 2017. The CO₂ equivalent emission rate of 417.6 g/kWh for the CT and CC generators came from the Xcel 2011 ERP rate for each generic type as a 4%/96% blend. The component blend is determined by many factors and will be reassessed to consider available technologies in a later phase, if municipalization exploration moves forward. The assumption for CT and CC emissions are from the Xcel ERP Table “*Attachment 2.8-2 Strategist Modeled Emissions Projected Emission Rates for Generic Resources*” for a Post-Resource Acquisition Period Combustion Turbine (1,322 lb/MWh = 600 g/kWh) and the Post-RAP 2x1 Combined Cycle Turbines (903 lb/MWh = 410 g/kWh).

The exact mix of generators was not specified (this was not necessary at this phase, and will be included in any future resource planning). This was one of the points of using a PPA – the PPA provider is responsible for finalizing the mix that will meet the terms of the contract. It is expected that the 8,000 BTU/kWh case will be, primarily, a combined cycle, whereas the 10,000 BTU/kWh will be heavy on combustion turbines. The 9,000 BTU/kWh is expected to be a mix of these two. All will contain a CC and a CT to maximize the ability to ramp and meet load.

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Q: Modeling fugitive emissions. What are the reasons for not modeling fugitive emissions that are potent greenhouse gases attendant on the production of natural gas?

A: According to the Center for Climate and Energy Solutions (<http://www.c2es.org>), natural gas constitutes 25 percent of both total U.S. energy consumption and total global energy consumption. In the United States, natural gas consumption is roughly evenly split among the electric power, industrial, and residential and commercial sectors. About 16 percent of total U.S. greenhouse gas emissions are related to natural gas, 90 percent of which are due to natural gas combustion with the remainder coming from venting and fugitive methane releases (8 percent) and carbon dioxide removed during natural gas processing (2 percent).

The city's modeling used HOMER to optimize for resources based on cost and emissions. Traditionally, modeling uses emission numbers just for the power plant itself, that is, how much CO₂ does a coal plant emit in producing a kWh of electricity versus a gas plant versus a wind turbine, etc. Because it has the lowest carbon content of available fossil fuels, natural gas can play a critical role as a bridge to a low-carbon future. However, in order to achieve even greater reductions in emissions — which may be mandated in coming decades — natural gas will, in turn, need to make way for other low- or zero-carbon sources of energy. It is in this sense that natural gas may be seen as a “bridge” rather than as the ultimate long-term solution itself.

Recently, a series of studies and news reports have highlighted the problem of fugitive methane emissions from natural gas production — leakage of a potent greenhouse gas with the potential to undermine the carbon advantage that natural gas, when combusted, holds over other fossil fuels. Each of these studies provides a snapshot of leakage from a specific region and a specific segment of the natural gas system at a specific point in time. Some examples that staff researched include:

- 2010; Fort-Worth, TX (<http://fortworthtexas.gov/gaswells/default.aspx?id=87074>): Analysis of reported routine emissions from over 250 well sites with no compressor engines in Barnett Shale gas well sites in the City of Fort Worth revealed a highly-skewed distribution of emissions, with 10% of well sites accounting for nearly 70% of total emissions. Natural gas leak rates calculated based on operator-reported, daily gas production data at these well sites ranged from 0% to 5%, with six sites out of 203 showing leak rates of 2.6% or greater due to routine emissions alone.
- February 2012; Denver-Julesburg, CO: Tower study by NOAA/University of Colorado at Boulder scientists suggested that up to 4% of the methane produced at a field near Denver was escaping into the atmosphere.
- December 2012: At an American Geophysical Union meeting in San Francisco, the NOAA/University of Colorado at Boulder team described the unpublished results of a study in the Uinta Basin, Utah, suggesting even higher rates of methane leakage, 9% of total production.

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- A November 2012 study performed by the MIT Joint Program on the Science and Policy of Global Change November 2012 (http://iopscience.iop.org/1748-9326/7/4/044030/pdf/1748-9326_7_4_044030.pdf) indicates that emissions from gas production to be significantly lower than previous estimates.
- Forthcoming studies (<http://www.edf.org/methaneleakage>) include: March 2013 (est.) reporting by University of Texas at Austin (in collaboration with nine corporate partners and EDF) of a study about emissions from gas production; subsequent 2013/early 2014 studies will address gathering, processing, long-distance transmission and local distribution.

Some of these studies have revealed or are likely to reveal relatively high levels of fugitive methane emissions, while others are likely to reveal lower levels. *None of them, taken alone or in tandem, can yet provide an accurate picture of system-wide leakage.* As a news story in the journal *Nature* concluded (<http://www.nature.com/news/methane-leaks-erode-green-credentials-of-natural-gas-1.12123#b1>), “Whether the high leakage rates claimed in Colorado and Utah are typical across the U.S natural-gas industry remains unclear. The NOAA data represent a 'small snapshot' of a much larger picture that the broader scientific community is now assembling.”

The city’s 2013 modeling effort avoided drawing conclusions based on the partial data these studies provide. This will be a particular challenge given that advocates for natural gas production are likely to call attention to the low-leakage results, while opponents of natural gas production are likely to call attention to the high-leakage results, with each side claiming that the latest study “proves” its argument. Neither claim will be reliably accurate.

Overall, the impact of fugitive methane emissions on emission reductions is not insignificant, and there should be a continued focus on minimizing them. It will be important to wait for the more comprehensive results to come in later this year, at which time the modeling can be performed with any updated emissions data. Until then, no accurate conclusion can be drawn about the full scope of this critical issue.

Q: Penetration at 54% or more. What is the basis for asserting on pages 5 and 19 of the memo that there is a high likelihood that a Boulder Muni could “obtain 54 percent or more of its electricity from renewable resources?”

A: The city’s modeling effort incorporated HOMER Energy software to select resources most suitable to Boulder’s load based on specific parameters. HOMER is a computer model that allows for an evaluation of the economic and technical feasibility of a large number of technology options and to account for variations in technology costs and energy resource availability. The assertion that 54 percent of Boulder’s electric power needs could come from renewable resources is derived directly from the resource modeling process while maintaining the Charter requirement related to rate parity. It should be noted that resource modeling and resource planning is the standard utility process when determining future types and costs.

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Q: What is being measured? What is being measured in the assertion that 54 percent or more of the electricity of Boulder Muni customers could come from renewable resources? Are we talking 54 percent total energy (i.e., kWh in a year) or total instantaneous power (kW) measured during a low-load period on a sunny or windy day? This is a very important difference but it is not clear what is intended.

A: It was modeled as total, based on the hourly load information that was provided to HOMER from the Load Model. Therefore, the 54% is based on total annual energy based on hourly consumption projections.

Q: Literature or experience? Is there literature or experience that supports this assertion that a Boulder Muni could “obtain 54 percent or more of its electricity from renewable resources?”

A: There are in fact numerous examples of utilities and municipalities that are much higher, and in many cases, are 100% renewably powered.

Today, the City of **Aspen** electric system uses over 75% renewable energy. Aspen Electric has a goal of making its energy profile 100% renewable by 2015:
<http://www.aspenpitkin.com/Living-in-the-Valley/Green-Initiatives/Renewable-Energy/>

Denton, Texas is currently over 50% renewable:
<http://www.cityofdenton.com/departments-services/departments-a-f/denton-municipal-electric/renewable-energy-for-everyone>. Denton is an interesting case study. It is similar in size and demographic. Denton’s renewables are relatively local. Its renewables portfolio is local wind and solar firming with natural gas. Denton has one of the highest reliability rankings of any utility in the country. Its utility is in the top 3% nationwide, and has received the American Public Power Associations RP3 Award for providing consumers with the highest degree of reliable and safe electric service.

Across **Europe**, there are hundreds of communities that are 100% renewable, from a combination of localized generation, and grid power from the utilities:
http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/100_renewable_energy_for_citys-for_web.pdf

There are, and will continue to be, communities that have considerably more renewables in their portfolio than what Boulder is anticipating from this round of modeling.

Q: Increased Renewables, Increased Reserves. Because of the intermittency of renewables, the more they are used to generate electricity, the more standby power is required to ensure reliability. This issue is being studied in California now, where a 33% RPS has been adopted. See <http://articles.latimes.com/2012/dec/09/local/la-me-unreliable-power-20121210>. Where is the analysis of the cost of extra reserve power to back up renewables included in the model?

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A: The term “reserves” applies to planning reserves and operating reserves. The question relates to both, which were thoroughly integrated into the modeling. A full explanation of how each the Planning and Operating (spinning and non-spinning) reserves was included in the staff report in Attachment D, #6 “Utility Reserves” beginning on page 56.

Q: Intermittency, HOMER, and Diminishing ROI at higher penetration rates. Please address this concern about the assertion that a Boulder Muni could achieve a renewables penetration of 54% or more:

“Basically the sun shines brightly enough about 25-30% of the time and the wind blows above the aerogenerator threshold more of the time, about 45-50% at a good wind site. If the wind and sun are coincident, then we could have to shed renewable power elsewhere; not likely for Boulder, however, since our renewables capacity is not going to be large.

“The point of this is that achieving 54% does not make sense (correct simulation can show this or actual field experience can). However, if Boulder counts importing renewable power via PPA's to get its 54% then it is being taken from others. Since CO2 is a persistent global problem, not a local transient problem, it is not good bookkeeping for Boulder to take credit for that. I am concerned that the HOMER modeler used in the Boulder report did not catch this since it is his model that showed the precise effect at higher penetrations.

“Also note that at high penetrations the economics don't work since that last 1% of added green electrons comes at very high life cycle cost because the hardware to produce that last 1% is rarely used. We would hope that the Boulder system would have the provision to sell its excess power thereby reducing this consequence of the law of diminishing returns. The overall key point, then, is that the wind is not windy enough nor is the sun sunny enough to provide these high renewable electron offsets. If we just had some storage (chemical, pumped hydro) that would change everything and very high renewable fractions could be achieved but still limited by the law of diminishing returns.”

A: The recent modeling effort determined that it was quite possible to achieve over 50% renewables in Boulder’s portfolio. To be clear, it was not assumed that renewable energy would come from localized generation initially. The modeling assumes that Boulder would procure energy from clean sources such as wind and solar, based on Power Purchase Agreements (PPAs) from independent power providers. That power is generated and fed onto the transmission system, not the local distribution system.

The assertion that by **“importing renewable power via PPA's to get its 54% then it is being taken from others”** is unclear. Any PPA would be based on the premise that the generated power would be additive, meaning it would result in new clean energy generation flowing on the Colorado grid, and not currently being utilized in any way by another entity. If, during actual resource planning, it was deemed appropriate to procure power from an existing facility, the ability to claim the power would need to be carefully

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examined. If another entity (Xcel or otherwise) is already claiming credit to the environmental attributes of power being produced, the city could not also take that credit. The use of certified RECs from projects avoids double counting.

Two of the options modeled were designed to explore the point of diminishing returns for investment in renewable resources under current market and regulatory conditions. While the Lowest GHG option is indicating that just below 70 percent of Boulder's portfolio would be from clean energy sources, it is feasible that the actual percentage could be even higher. The Lowest GHG options were not calculated as a theoretical portfolio, but rather as a realistic portfolio considering current cost and availability. To increase the portfolio above this level requires the inclusion of more expensive generation and storage technologies. This will likely change with advances in technology that will be driven by the rising cost of fossil fuels and/or future carbon regulations, but the city's analysis is based on what is currently available.

Finally, to remain conservative in the financial assessment, the modeling did not allow sales of excess wind on the wholesale market, which is a potential revenue stream, nor was DSM modeled in terms of load shifting. A municipal electric utility may have the flexibility to take advantage of excess wind energy to avoid curtailment costs through load shifting or adding new variable loads.

Q: "Secure energy independence." In the first full paragraph on p. 6, there is a proclamation that "Boulder is poised [among other things] to...secure energy independence." What does that mean?

A: The concept of energy independence was simply meant to refer to the ability of Boulder to be able to choose from where and what types of power they will use to provide electric services.

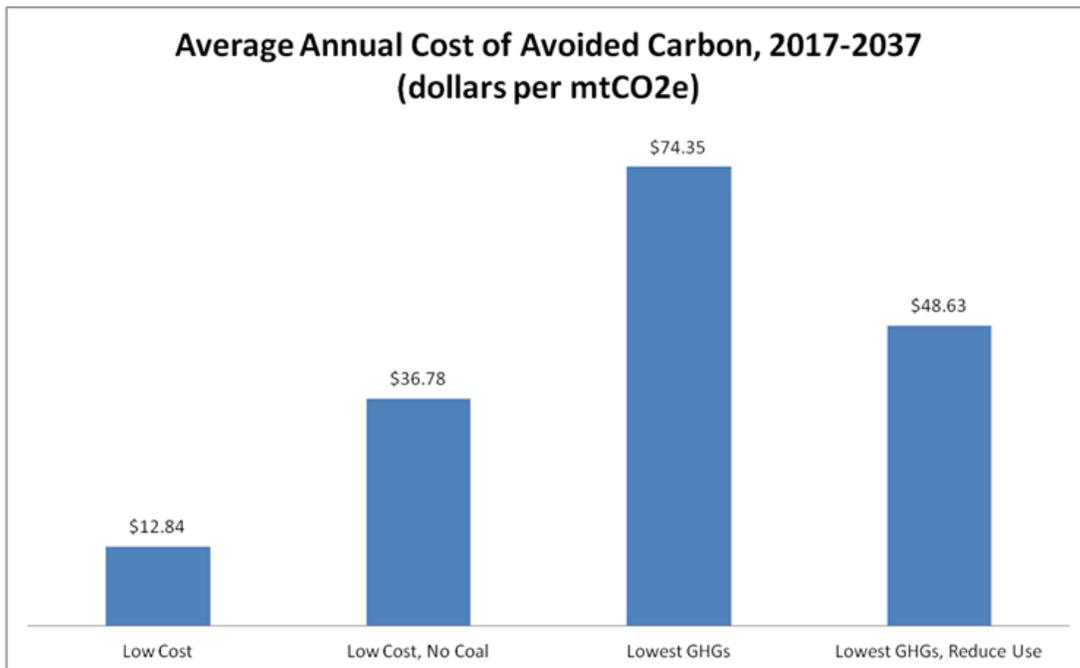
Q: Life Cycle Analysis. No credible study of power production in the EU or Japan would be even considered without the entire cradle-to-grave tracking of carbon emissions. Solar PV arrays do not burn carbon, but manufacturing PV is far from clean in this life cycle sense. Not once in the 287 page staff memo and supporting material is life cycle analysis even mentioned, let alone be addressed. The literature is full of Life Cycle Analysis of burning coal, so we could easily do an LCA for Xcel's Business As Usual Approach, even though Xcel ignores life cycle costs. Why has the Life Cycle Analysis of the various alternatives not been done?

A: A number of resources are available to perform modeling on Life Cycle Assessment (LCA) are available, however, there are multiple methodologies for calculating LCA: process-based, economic-input-output, or NRELs harmonization method, to name a few. LCA was deemed to be more appropriate in future phase modeling as each methodology will require specific resource types and technology to perform a quantitative analysis. A more qualitative analysis could be performed sooner that identifies general impacts of different types of products, materials, services, or industries with respect to resource use and emissions throughout the supply chain, if council desires.

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Q: Cost per ton of reduced CO₂e. Where is the cost per ton of reduced CO₂e calculated and analyzed? I believe the consultants have done this, as one of the five scenarios, “Lowest GHG’s, Reduce Use” includes not just fuel switching and investing in renewables, but also widespread energy efficiency and DSM measures as well.

A: The cost of avoiding additional carbon emissions has been calculated by determining the additional cost of the resources under the municipalization options compared to the Xcel Baseline option divided by the amount of carbon emissions avoided. The results presented here drew on median prices for all uncertain variables; if costs for renewable energy decrease over time, the cost per avoided carbon will also decrease.



Q: Grid Security and Cyber Attacks. I would think most utilities rely on third parties, like Mandiant, to provide security for their systems and infrastructure. How ARE utilities protecting against cyber attacks? Is this a cost where there are economies of scale? Where is this cost considered in the analysis?

A: Most utilities rely on a combination of in-house resources, control/prevention technologies, and external parties for assessment and monitoring. There is not a single process or technology that is capable of perfectly protecting infrastructure assets. An important aspect of electric grid security architecture is recognition that user endpoints (meters and other interactive devices) are relatively insecure and need to be categorized as less trustworthy, and therefore more restricted, in their ability to interact with primary network elements. This issue is the basis of defining “layers of trust” for the security architecture within the electric utility grid.

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Layers of trust are typically defined and created between various components of the grid system and their operating environment. For example, at the center of the layers of trust may be your operations center responsible for monitoring and administering the SCADA systems themselves. As you move outward, additional layers of trust will exist. In the second layer, there may be a secured substation and the outer layer may be remote devices in unsecured areas of the distribution system or user end points. At every layer boundary, there should be technical and administrative controls for the data that is allowed to pass through the boundary, if at all. Technical controls could include the network firewalls as well as devices such as deep inspection application firewalls that are designed to inspect traffic for specific format, data types, etc. and can be configured to disallow traffic if that does not fit these expectations. Other technologies include equipment for monitoring and alerting, to allow for an appropriate response in the event a breach is detected in accordance with an appropriate incident response plan as an administrative control. These are just a few examples of the layers of trust that must be in place.

A few critical paths to consider:

1. Follow the North American Electric Reliability Corporation Critical Infrastructure Protection standard. This detailed prescriptive standard must be complied with in almost all instances for power generating utilities and represents best management practices for the industry.
2. The appropriate network architecture for SCADA systems is deployment of at least two firewalls between the SCADA environment and any other (including internal organization/enterprise networks). In addition, it is critical to have appropriate policy and process regarding the management of any devices outside of the internal SCADA network (known as 'leaf' devices). These could be homes, substations, etc.

A high-level estimate of annual cost for meeting the appropriate level of NERC-CIP compliance, including .5 FTE for an Information Security Officer dedicated to the security of these systems, the (required) annual third-party assessment, etc. to take on information security for the power utility project is ~\$120K. These costs are included in the estimated ongoing O&M costs for a city electric utility, as modeled. Economies-of-scale issues for cyber security have not been evaluated because they are not anticipated to have a significant impact on the financial analysis.

Q: High Test Tech Bed. At p. 6, the memo speaks of Boulder's creating "a high-tech test bed." This raises the following question among some readers: "A test bed for what? Are Boulder Muni customers supposed to trade off reliability for someone's science experiment?" Obviously not. So what test bed is staff talking about here? And how can a test bed be separated from the day to day operation of a Muni so that the reliability goal is not sacrificed to a "science experiment?"

A: The plan is not to sacrifice the security of the grid to provide a test bed, but to look at opportunities to segment the grid such that innovative technologies can be tested in real life scenarios. This segmenting, or micro-gridding, is something that would be implemented over time and would only be done if there would be no risk to other

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customers. The upside is it could provide a great place to showcase and promote energy based technologies, attracting start ups and capital, as well as increasing reliability. This is different than a 'smart-grid' demonstration. Allowing new technologies of these types to be integrated into the utility grid will potentially create tangible job creation, increased efficiency at the centralized and distributed scales, and provide a pathway for future companies/communities to have real data to solve real world problems. Not to mention the economic wins in lowering the high upfront costs reliability concerns. Some recent examples of this concept are Ft. Zed, which is showcasing distributed generation in Ft. Collins, <http://www.serdp.org/Featured-Initiatives/Installation-Energy> and a Korean test bed KEPO <http://www.kepco.co.kr/eng/>.

Q: Emergence of a New Economic Paradigm. At p. 6, the memo claims that the “growing differential between the rising costs of fossil fuels and the declining costs of renewable energy technologies is setting the state for the emergence of a new economic paradigm...” Well, not so fast. The “rising costs of fossil fuels” is correct when speaking of coal costs, but the breadth of the assertion is belied by the collapse of gas prices during the last few years. The part about the new economic paradigm needs to be rewritten so that the huge increase in gas reserves and the decrease in gas prices are properly accounted for.

A: There is general agreement that natural gas prices tend to be volatile. Gas prices have been through many cycles in the past, and will likely continue to do so. The advent of fracking in the US will likely have some impact on long-term gas projections. The city modeling assumed this volatility by modeling a range of gas prices. If council prefers the citation in the staff report to refer only to coal and not gas in the statement above, the document could be revised.

Q: Antiquated System of poles and wires? Would the purchase of Xcel’s system be the purchase of an antiquated system? What part of it is antiquated, and what portion is that of the whole basket of purchased assets?

A: There are several matters staff would have to consider when pursuing condemnation and valuing what we acquire. If the condemning entity does not take the whole economic unit, but only part of it, the owner is entitled to damages to the remainder, if any. Therefore, even when parts of the system may be antiquated, it sometimes is less expensive to acquire the entire system, even though parts have little to no value, than to acquire only part of the system and argue damages in court.

The city must provide just compensation if it takes property from its owner by the constitutional power of eminent domain. Just compensation is commonly paraphrased as: what a willing buyer would pay and what a willing seller would accept, in cash, for the purchase of the property if neither was under any obligation to do so. There are very specific requirements of what are legitimate considerations and methods of valuation that are admissible in a condemnation proceeding. The appraiser must consider the highest and best use of the property, and value the property by three different methods of valuation. The factors included in the appraisers valuation of equipment includes

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whether equipment is new, antiquated, obsolete, well-maintained, hardly used, fully depreciated, and others factors affecting the use and value of the property.

In examining the Xcel system in Boulder, in addition to the Smart Grid examples you provide, there are several instances where Xcel has placed facilities on poles and “abandoned them in place.” These extraneous facilities can negatively affect reliability and otherwise interfere with optimal operation of the system and cause a safety concern. In such cases, it may be better for the city to identify the facilities as part of what the city intends to acquire than to omit it. That equipment will have little if any value, and ownership allows the city to remove the nuisance created by facilities being abandoned on the poles rather than waiting for Xcel to do so.

The above is very general and in many cases was apparent from a visual inspection of the electric system in the city. This would be applicable in all condemnation proceedings. More specific answers are part of the city’s legal strategy and will be disclosed publicly in the manner required by law and to provide the best advantage to the city.

Q: Wind Power and Avian Mortality. What is the current state of knowledge about the extent of avian mortality from wind turbines? The early wind farms placed in mountain passes in California killed a lot of birds, e.g., Altamont Pass (east of San Francisco); Tehachapi Pass (south east of Bakersfield) and San Gorgonio Pass (near Palm Springs). But there still seems to be cause for concern. Here is a quote from the June 20, 2012 edition of *Nature* at <http://www.nature.com/news/the-trouble-with-turbines-an-ill-wind-1.10849>:

“Wind turbines kill far fewer birds in general each year than do many other causes linked to humans, including domestic cats and collisions with glass windows. But wind power has a disproportionate effect on certain species that are already struggling for survival, such as the precarious US population of golden eagles (*Aquila chrysaetos canadensis*). ‘The troubling issue with wind development is that we’re seeing a growing number of birds of conservation concern being killed by wind turbines,’ says Albert Manville, a biologist with the US Fish and Wildlife Service in Arlington, Virginia.”

A: Electric utilities typically work with the U.S. Fish and Wildlife Service (USFWS) to develop avian protection plans for their service areas and to address avian issues related to specific facilities such as wind turbines. It is anticipated that the city would partner with any potential wind developer to develop and maintain a comprehensive Avian Protection Plan (APP) for any potential wind energy facilities. According to the USFWS, “With proper diligence paid to sighting, operations, and management of projects, it is possible to mitigate for adverse effects to fish, wildlife, and their habitats. This is best accomplished when the developer coordinates as early as possible with the Service and other stakeholders”.

Research continues to find best practices for all phases on wind development projects including ongoing operation practices such as temporarily shutting down turbines,

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increasing the threshold speed at which wind turbines operate, and installing sound deterrents. It is anticipated that the city would stay current on the latest developments in this research and revise any APPs as needed.

Questions from Councilmember Wilson posted March 1, 2013

Q: The Utilipoint study of August 2011 made an estimate of \$155M to purchase Xcel assets. Since that time, the city has added a large service area outside the City to the originally discussed service area that approximated the city limits. The increase in service area is roughly 13%, which could increase the \$155M to \$175M. What is the additional cost for acquisition, in the city's estimate, of acquiring all six substations and extending the service area?

A: We believe that the ceiling of \$150M provided by Xcel is inflated enough to cover the fair market value of all of the property the city may acquire within the service area. The city's appraisers have made preliminary evaluation of the fair market value and reviewed publicly available documents, primarily those filed by Xcel, which show that the value of Xcel's property (real and personal) serving Boulder is much less than \$150M.

The final determination of value by the city's appraisers would be completed prior to staff recommending approval of an ordinance to acquire Xcel's property, and the final appraisal reports would be made available prior to initiating negotiations with Xcel for acquisition, if acquisition is authorized by council.

Q: The Utilipoint study used standard PUC approved asset values and depreciation to determine the cost of acquisition. The city's estimated cost of acquisition in 2011 was very close to the Utilipoint estimate of \$155M. Staff is now saying that the city believes the Xcel estimation of acquisition cost is drastically overstated. If it is overstated, then the rates Xcel is charging in Colorado, and the taxes they are paying, must be incorrect.

What is the basis for the belief that the asset value is drastically overstated? Without knowing the basis for this assertion, there is no way to judge the correctness of the statement, on which Council is being asked to base its decisions.

A: The estimate of value by the city in 2011 was for modeling purposes with every question resolved in favor of Xcel so that the estimate of value used was very conservative. It was not intended as an appraisal of value; there was not an appraisal performed of identified property by an appraiser following the criteria of valuation for acquisition, and we believe the city's estimate used in 2011 far exceeds the fair market value of the property to be acquired. Regardless of what the city appraisals ultimately show as the fair market value, the material presented on Feb. 26 uses the Utilipoint number as the ceiling of the value of the property to be acquired. At this time, council is not being asked to make a decision based on a lesser value of the property.

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Q: What transmission facilities, if any, are included in the city's estimate of acquisition costs?

A: The city did not model the "can we" options based on the city's estimate of acquisition costs; the number set as the ceiling by Xcel was the number modeled for acquisition. The staff and consultants have not finalized its analysis or recommendation about all of the assets the city might seek to acquire. While the city staff and consultants have been involved in this analysis and strategic phase, the city is not discussing publicly its investigation, analysis or strategy considerations so as not to damage its ability to succeed during litigation. However, the city attorney has provided privileged legal advice to the council about these issues.

Q: The Utilipoint analysis did not include Smart Grid City in the \$155M estimate. What part of the \$40M investment in Smart Grid City is covered in the city's estimate of \$155M?

A: In acquiring assets through agreement or condemnation, the city is not responsible for reimbursing the owner for any investments; the city is responsible for paying the fair market value of the property it is acquiring as the just compensation for taking the property. Xcel's investment in SmartGrid City, other than the cost of equipment, has little to no relationship to the fair market value of the property. Since Utilipoint did not provide the basis of how it arrived at the number of \$150M, it is not known how much of that number includes investment by Xcel in SmartGrid.

Q: Xcel has installed 23,000 Smart Meters that require Xcel operating systems for obtaining billing information. They city must either replace these meters or use the Smart Grid City infrastructure, along with operating systems that would need to be purchased, in order to do monthly billing.

What cost is the city assuming to replace these 23,000 AMI meters with AMR meters that can be read in the same way as the other half of the meters in the city, and where is that cost shown in the business plan?

A: A final recommendation about whether the city should keep the 23,000 Smart Meters or replace them has not been determined by staff and consultants. As you stated, if the meters are not acquired, the city will likely have to immediately replace the meters. However, it is assumed the meters would at a minimum suffice for manual reading of the local meter display. Therefore, it is assumed that the meters would be acquired to provide the city necessary time to further evaluate their functionality and replacement needs. It has also been assumed for financial modeling purposes that these meters would be replaced within the first five years of operations. Two years' worth of these costs are included on the first line of page 74 of the Feb. 26 City Council study session memo, Attachment D under Group: Utility Start-up, Item: Logistics at time of acquisition, Cost \$19,475,307. The costs to replace the remaining smart meters, as well as full replacement of all the existing "non-smart" meters, are included in debt issuances over the 20-year modeling period.

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Q: What costs are included, and where are they shown, for buying out contracts for the many solar PV providers in the city, where Xcel made an investment in rebates, prepaid RECs and other payments to customers in the city (and in the extended service area)?

A: Not all, and maybe not any, of the contracts would need to be acquired by the city as part of acquisition of Xcel's property. Both Xcel and the parties to some of the contracts would be able to receive the benefits of their agreement by the contracts staying in place. The appraisers will include such contracts in their valuations to the extent that the city is acquiring any of the contracts. The City Attorney's Office has asked Xcel for copies of the contracts Xcel thinks the city should take over but so far Xcel has not provided them. Staff will provide a recommendation related to each type of contract for the discussion on July 23, 2013.

Q: What are the costs assumed for purchasing systems that are necessary for operation the utility, such as:

- **Distribution Management System (DMS)**
- **Outage Management System (OMS)**
- **Inventory system, including maintenance and repair history**
- **Distribution SCADA system**
- **Customer Information System**

And where are the costs for these systems included in the current line items shown?

A: Costs for these items are included on pages 73 and 74 of the Feb. 26 City Council study session memo, Attachment D under:

Group: Utility Start-up

Item: Logistics pre-acquisition, Cost \$4,933,859

Item: Logistics at time of acquisition, Cost \$19,475,307

Q: There is no doubt that acquiring more of the Xcel infrastructure can reduce separation costs. The question is, by how much. The decrease in separation costs will increase acquisition costs to some extent, as discussed briefly above. With over 15 years of experience in disputes involving separation of networks and collocation of facilities, I have a very good understanding of what will be required when this issue goes to court. The separation plan will need to be detailed, showing circuit by circuit what is being done to assure the same reliability on both sides. I am sure Xcel will insist on that for their side of the feeder cuts, as will the customers on the City side. An assumption is being made that facilities can be easily shared and managed. This is a bold assumption that will be argued over by attorneys and experts on both sides for years. It is true that utilities share facilities today, but those arrangements are cooperative and beneficial for both sides. When the Congress and the FCC ordered incumbent Bell operating companies to allow collocation of Competitive local carriers in their facilities, and to figure out how to manage "meet point arrangements", it took approximately five years of hearings

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before PUC staff and commissioners, and some issues being appealed to courts, for the collocation to actually occur in a reasonable way. Initial collocation required wire cages to be constructed inside existing facilities to separate competitor's equipment. These issues are very similar to the arrangements the city is brushing over to make separation look cheap and easy. It will not be either.

A: Staff understands that there are some who believe that in the condemnation case or in some other court action, the separation plan and a circuit-by-circuit analysis will be a disputed issue. The law regarding condemnation in Colorado does not support such a role for the court. We have not found, and no one has suggested, a specific cause of action that could be sustained that would provide for a court's review of the city's separation plan. If an interested party could show a compensable injury by the condemnation plan, the court may hear such an action. However, a general complaint for a different separation plan is not the type of action a court usually entertains. If any person has identified a specific cause of action that has been litigated regarding such a general claim, the City Attorney's Office would be happy to evaluate it. However, even though there may be disagreement between two parties, there is not always a cause of action upon which a court can rule.

With respect to co-location, the telecom situation was to allow any given customer to select his or her own carrier, regardless of location or territory. Thus, equipment from competing entities had to be installed in the existing framework of the system. In the electric utility case, customers are fed by only one entity (so, really like the old regulated telecom industry), and the facilities are "shared" only in the sense of occupying a similar physical area (a substation yard, for example). Equipment access is locked, and operating and maintenance agreements specifically state the ownership boundaries, disposition, and responsibilities for equipment and facilities of each participating utility. Interface points between utilities are strictly defined and metered for power interchange to compensate each entity for use of their equipment. In the event that a specific piece of equipment (or section of line) is truly shared, such as a transformer serving two distribution utilities, costs are allocated proportional to usage, capacity requirements, and other considerations. The owner of the equipment is paid by the other user(s) in order to pay the costs maintain, replace, and/or upgrade the equipment.

The separation plan includes modifications to the existing infrastructure to maintain and/or improve connections, reliability, and service redundancy to Boulder and Xcel customers after separation; the plan creates some separation points and utilizes a number of existing separation points presently operated as such by Xcel to allocate loads to substations and feeders while providing ready access to backup facilities.

Q: What is the current city assumption for Separation Costs (capital costs) on the city side of the separation and the Xcel side of the separation?

A: In order to protect the city's interests in anticipated litigation, the staff is not disclosing publicly all components of its analysis, inventory or appraisal of items subject to litigation. The city attorney and appropriate staff would be happy to go over these with

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you and any other council members who are interested on a privileged and confidential basis.

Q: UtiliPoint estimated Stranded Costs, which will be determined by FERC, at \$336M, if year one was 2013. This was based on an Xcel estimate provided to the City of Boulder by Xcel. The current city analysis uses the 2017 number (year 5) of the UtiliPoint estimate, which is \$255M. The current Xcel Resource Plan, which will probably be approved by the PUC in a few weeks, assumes that Xcel must serve the total load of customers in Boulder into the future. The city has never sent Xcel a letter saying that Xcel should stop serving Boulder at some date in the future. While the Stranded Cost estimate would need to be recalculated and decided by FERC, it is incorrect for the city to assume that the “high” number would be the number Xcel estimated for year 5. The “high” number would be a larger number calculated for Year 1, when the city begins serving its own customers. This number is probably closer to \$336, but would depend on a recalculation based on the new Xcel Resource Plan. Why is the city assuming that the “high” number is the number Xcel estimated for Year 5?

A: This issue is explained in Attachment H (Study Session Packet page 257) to the Study Session packet. Xcel provided estimates of its claims for “stranded costs” on June 3, 2011, in response to the city’s request of April 29, 2011. The Xcel estimate was based on various assumptions as to the date on which the city would leave the Xcel generation system. Xcel estimated “stranded costs” of \$336 million if the city departed the Xcel generation system on Dec. 31, 2012; and \$255 million if the city departed the Xcel generation system on Dec. 31, 2017. As explained in Attachment H, the UtiliPoint *estimate* used the Xcel estimates of claimed “stranded costs.” The city chose 2017 as the assumed date for commencement of the new utility in its modeling.

The Xcel Electric Resource Plan for 2011-2018 (the “2011 ERP”) was approved by the Colorado Public Utilities Commission in January. That ERP covers the period during which the city is evaluating entering the electric utility business. Further, the resource acquisition plan, included in the ERP, accommodates the possibility that the city might depart Xcel’s generation during the period from 2014 to 2018 by relying on relatively short-term power purchase arrangements, which can be foregone without adverse impact on other retail customers in the event that the city decides to pursue municipalization. Consequently, it is unnecessary to wait for the next ERP proceeding or a revised stranded cost estimate that might be based on the next ERP proceeding.

Q: There are several large expense items that I cannot determine from the current report: Xcel currently makes REC payments of between \$6 and \$7M per year to Boulder customers. If the city does not pick up those payments, the city cannot reasonably claim to be using the solar power generated from those facilities. Xcel will no doubt stop paying those RECs and the customers could be left in a financial bind. There is a statement in the City Report on Study Session Packet Page #59 that states “The cost of the 20MW of solar that will exist by 2017 under the current Xcel programs is assumed to be priced in the financial model under acquisition.” This statement is meaningless and details are needed to see where capital and expense are

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being included and not included. On the expense side my question is: Is the city assuming it will pick up REC payments that Xcel has paid (as up-front payments for 20 years of RECs produced by each system), is currently paying and will be paying on new systems, and if so where are they included?

A: In order to protect the city's interests in anticipated litigation, the city staff is not disclosing publicly all components of its analysis, inventory or appraisal of items subject to litigation. The city attorney and appropriate staff would be happy to go over these with you and any other council members who are interested on a privileged and confidential basis.

Q: The city is assuming Xcel keeps the substation transformers, instead of the city acquiring them. What cost is the city assuming that Xcel will charge for leasing, managing and maintaining these transformers? This could easily be over \$1M per year.

A: The financial models include appropriate purchase costs and maintenance/lease charges for transformers to serve the proposed service territory. In order to protect the city's interests in anticipated litigation, the city staff is not disclosing publicly all components of its analysis, inventory or appraisal of items subject to litigation. The city attorney and appropriate staff would be happy to go over these with you and any other council members who are interested on a privileged and confidential basis.

Q: Generally speaking, for a utility system with 25% or more renewables, there will be times when wind energy will need to be curtailed by a few percent. The wind providers must be paid for full production in any case, even though the wind is not being fully used. If the city uses a higher percentage of renewable, there will potentially be more curtailment, depending on the other resources used (coal generation, Combined Cycle or Combustion Turbine).

A: Any contract for wind power will indeed need to include the costs of full production. It would be helpful to understand the basis for the statement that "curtailment will need to occur at levels of 25% or more renewables." Nonetheless, the cost of curtailment has been included in the modeling based on each option's fuel mix. It was assumed that the wind producers would be paid for the full production of energy, including curtailment.

Further, to remain conservative, the modeling did not allow sales of excess wind on the wholesale market, which is a potential revenue stream, nor was DSM modeled in terms of load shifting. A municipal electric utility may have the flexibility to take advantage of excess wind energy to avoid curtailment costs through load shifting or adding new variable loads.

Q: At a renewable penetration of 50% and higher, what is the city estimating the wind and solar curtailment will be and what are the expenses associated with this?

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A: Solar production was not modeled with curtailment costs, because its maximum output is well below Boulder's average load. The wind curtailment levels and costs vary based on the penetration, load requirements and fuel mix by option. The exact amount associated with curtailment would need to be extracted by re-running the analysis to output it explicitly on an hourly, daily, monthly or annual figure. This analysis could be included in the next phase of modeling should council desire.

Q: Larger utility systems can have lower renewable energy integration costs and lower curtailment rates. How is the smaller scale of Boulder's municipal system accounted for when calculating renewable integration costs and curtailment costs?

A: The model was developed to meet the Boulder load with full cost accounting. Integration and curtailment costs were included as components of the specific resource costs.

Q: Further on this issue, in the presentation on Tuesday, the NREL integration study was quoted as saying that the grid can handle 80% renewable. The implication was that the grid can do this now, or in the near future. The NREL study actually said that 80% was possible by 2050 with significant changes to the grid, generating resources and the addition of energy storage. What assumption is the City using to justify a jump from 24% to 50% or 80% without accounting for the investments indicated in the NREL study?

A: Reliability is of utmost importance as the city analyzes the feasibility of a potential municipal utility, both in terms of its impacts to current reliability, and in looking for opportunities to enhance reliability. The recent modeling effort determined that it was quite possible to achieve over 50% renewables in Boulder's portfolio. To be clear, this city is not assuming that renewable energy would come from localized generation initially. The modeling assumes that Boulder would procure energy from clean sources such as wind and solar, based on Power Purchase Agreements (PPAs) from independent power providers. That power is generated and fed onto the transmission system, not the local distribution system.

To illustrate, Boulder's modeled peak load is approximately 280 MW (including planning and operating reserves). From Xcel's most recent Electric Resource Plan, Xcel's current portfolio is comprised of approximately 1,983 MW (14%) renewable energy sources. This includes wind, solar, hydroelectric and biomass, along with Renewable Energy Credits (RECs). Increasing the amount of new renewables on the grid to include Boulder's 54% (approximately 150MW) only increases the overall renewables on the system by 6 percent. In other words, the NREL study, among others, anticipate reliability concerns when renewable levels exceed 30%, far more than what Boulder's contribution will result in. Further, the integration of new renewables attributed to Boulder is not a reliability concern, as these energy resources are firmed by natural gas, and balanced by the regional Balancing Authority. The costs of the load balancing were accounted for in the modeling. Another important note: the city assumed the expiration of both the Production tax Credit (PTC) and the Investment Tax Credit (ITC) in the modeling, and evaluated transmission capacity and constraints related to potential renewable projects.

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As Boulder moves to incorporate more distributed generation into the system that is generated in Boulder, there will need to be significant upgrades made to the distribution system to accommodate the increased intermittency, as the balancing would need to occur at the local level. Xcel has stated that the components of the Smart Grid that have been installed will support increased levels of distributed generation, and the city models incorporated significant investments to upgrade that system. That said, a reliability study will need to be performed to determine real and theoretic limits of distributed generation in the future.

Finally, there are in fact numerous examples of utilities and municipalities that are much higher, and in many cases, are 100% renewably powered. A very applicable example is Denton, Texas. Denton is currently over 50% renewable:

<http://www.cityofdenton.com/departments-services/departments-a-f/denton-municipal-electric/renewable-energy-for-everyone>.

Denton is an interesting case study. It is similar in size and demographic. Denton's renewables are relatively local. Its renewables portfolio is local wind and solar firmed with natural gas. Denton has one of the highest reliability rankings of any utility in the country. Its utility is in the top 3% nationwide, and has received the American Public Power Associations RP3 Award for providing consumers with the highest degree of reliable and safe electric service.

Q: Xcel has costs associated with dispatch centers, customer care centers, outage management, etc., that cover their entire Colorado region. Boulder will be taking about 5% of Xcel's Colorado customers out of the rate base. It seems reasonable to assume that there will be a discussion about the fairness of the rest of the rate base picking up Boulder's share of these centers in the rate base when Boulder exits the system. What is the estimate for costs that the city would owe Xcel to keep other rate payers from shouldering extra burden?

A: Boulder's fair share of the fixed costs of Xcel's electric generation will be determined by FERC. The fair market value of the assets acquired by the city will either be determined through good faith negotiations with Xcel or by the district court in a condemnation proceeding. This leaves variable costs, like the cost of coal and natural gas, repair services, and demand side management programs. The analysis by consultants to the city anticipates that there will be a benefit to ratepayers outside the city by the city leaving the Xcel system, not an extra cost. Therefore, there is no extra burden for ratepayers outside the city to shoulder. In addition, when 5% of the customer base leaves a system, most providers would correspondingly reduce its staffing. Therefore the cost to provide those services would also be reduced by a corresponding amount; and not continued as if there was a phantom 5% of customers still being served.

Q: How do we know that the city is performing apples to apples comparison of Xcel's rates with the city proposed rates when the report says that two different methodologies are being used? See Study Session Packet page #30 "Xcel Baseline rates are modeled based on Xcel's projected uniform increase over the major cost

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categories plus inflation, whereas the rates in the municipal utility options are determined through the modeling process...” the next sentence continues with respect to Xcel “the model includes a carbon proxy price ...”

A: The city is performing a comparison to Xcel to the best of its ability with the information that is available through public filings at the PUC. Xcel Baseline costs per kWh were modeled based on the company’s filings over the major cost categories, using its projected increases, plus inflation. The resource mix for Xcel comes from its most recent Electric Resource Plan, which is a 40 year planning period and a seven-year acquisition period. The city has no basis to make other assumptions for the company’s resource portfolio outside of what is stated in the ERP. The city has requested more detailed information from Xcel that would allow this modeling effort to be refined; the company has not provided the data necessary to do so.

The municipal utility is modeled with changing resources, optimizing for different factors based on the option modeled (i.e. cost, greenhouse gas emissions). The municipal utility models are not meant to mimic Xcel’s projected rate increases. The costs per kWh of the municipal utility options increase by cost of resources and other cost categories over time included in the model as well as inflation.

Q: The report indicates that average rates for Xcel in 2017 is \$01471/kWh based on average 632 kWh residential usage – See Attachment I first block. Xcel’s residential rate is currently \$0.1086 (\$68.63/632kWh from Xcel’s Dec 13, 2012 news release). What is the explanation behind the big rate increase from 2013 (\$0.1086/kWh) to 2017 (\$.1471/kWh)?

A: It is important to note that the sector average costs/kWh in the model are not calculated using the cost allocation methodology that Xcel uses in its rate calculations. The city does not have access to Xcel’s methodology for cost allocations in the company’s ratemaking. The model derives sector average costs/kWh by using the proportion of Xcel’s revenues that it receives from each rate class (residential, commercial, industrial, street lighting) and applying it to the overall kWh by rate class to get an average cost per kWh per sector. The kWh and revenue proportions by class are based on sales information the city has received in previous annual reports from Xcel.

While this is not an official methodology, it is the best proxy available to the city at this time to estimate sector rates. Therefore, rather than compare the sector specific costs/kWh, a more accurate comparison is the overall average costs/kWh. Based on the most recent PUC rate case, the model reflects an overall average cost/kWh in Boulder in 2013 as \$0.0986/kWh (including the occupation and CAP taxes) and \$0.1156/kWh in 2017 (including the occupation tax, CAP tax and a carbon tax). The residential rate referenced in the question (\$0.1471/kWh) is derived from the average overall cost/kWh for 2017 (\$0.1156/kWh), using the above referenced methodology.

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Q: When the city or Xcel Energy condemns property that is being occupied by a business, there are charges known as “Going Concern”. Xcel has claimed that the city will owe them on the order of \$350M, based on their reading of Colorado law. While there may be interplay between Stranded Cost and Going Concern, there is no doubt value to Xcel’s retail business that is not covered by Stranded Costs. What is the city estimating the cost for Going Concern will be and should there be a “low”, “medium” and “high” value placed on this cost as there is for Stranded Costs?

A: Colorado courts have consistently ruled that business losses are not compensable in a condemnation setting. The “going concern” argument is requesting compensation for the loss of business or customers. Compensation for loss of business only happens in limited circumstances defined by statute. Colorado statute specifically excludes the value of the franchise area as part of just compensation in this case. The statutes do grant the right of compensation of amounts for loss of business when a municipality that operates an electric utility annexes property of a cooperative electric association that has a certificate of public convenience and necessity for the same area. However, that statute specifically does not provide such compensation in any other utility acquisition. In fact, in a 1991 case before the Colorado Supreme Court, Paula Connelly, currently general counsel for Xcel, argued that an investor-owned utility would not be owed any compensation under the statute.

Q: Staff made it very clear that they do not believe there is any circumstance in which the city would be required to pay Xcel’s legal fees for the legal confrontations that the city will be requiring Xcel to defend. I have heard other attorneys argue that they believe the city could indeed be required to pay Xcel’s legal fees, under current state law. What are the “low”, “medium” and “high” estimates for Xcel’s legal fees?

A: Because staff does not believe that the city will have to pay Xcel for its legal fees, there are no fees to estimate. The United States follows the American Rule with respect to attorney’s fees. The American Rule requires that each party to a lawsuit bear its own legal expenses. There must be explicit statutory exception to such rule for a court to order one party to pay the attorneys fees of another. FERC has no such authority. The PUC has no jurisdiction over the city. The only statutory exception for attorney’s fees in a condemnation action is if the verdict in a condemnation action is more than 130% of the last offer of the condemning agency. Even then, the condemning agency is only responsible for paying a reasonable amount of attorney’s fees directly related to the attempt by the property owner to increase the amount of the condemnation award. The condemning entity is not responsible for any attorney’s fees related to the property owners attempt to stop the condemnation, stop the action necessitating the taking of the property, or any other costs unrelated to increasing the amount of the condemnation award to the property owner. If the city decides to abandon the condemnation or files any action in bad faith, it may be responsible for attorney’s fees. However, staff does not recommend that the city proceed with condemnation under either event.

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The assistant attorney general representing the PUC in Docket No. 12A-155E, Verified Application and Petition for Rule Waiver (the “Boulder Docket”), did state that she believed that neither Xcel nor other ratepayers should have to bear the costs of municipalization by the city. That statement assumed that the PUC will incur costs related to the city’s municipalization efforts. However, there is no clear role for the PUC related to municipalization (other than the approval of a revised Xcel service territory). It also assumed ratepayers will incur costs if Xcel is required to spend money fighting the city on municipalization and that the PUC has jurisdiction over the city. None of those assumptions is accurate.

Questions from Councilmember Wilson posted March 11, 2013

Q: Does the city study assume the monthly capacity payment will be calculated on an assumed peak demand for each month of the year or on the highest peak demand experienced in a year?

A: The peak demand payment is based on each month of the year. The consultants and working groups believe that this approach was reasonable. If there is information that another method is more appropriate, it could be incorporated into additional modeling.

Q: What are the generation facilities represented by the three categories? Obviously, the 8,000 Btu/kWh case is for a combined cycle unit. Less obvious, but a reasonable inference, is that the 10,000 Btu/kWh is related to a straight combustion turbine. What kind of facility or mix of facilities is related to the 9,000 Btu/kWh case?

The three categories are based on a reasonable PPA price provided by the Resource Working Group, and vetted with industry experts. Assumptions were then checked against reference pricing for verification. The exact mix of generators was not specified (this was not necessary at this phase, and will be included in any future resource planning). This was one of the points of using a PPA – the PPA provider is responsible for finalizing the mix that will meet the terms of the contract. It is expected that the 8,000 BTU/kWh case will be, primarily, a combined cycle (CC), whereas the 10,000 BTU/kWh will be heavy on combustion turbines (CT). The 9,000 BTU/kWh is expected to be a mix of these two. All will contain a CC and a CT to maximize the ability to ramp and meet load.

Q: Are monthly capacity payments and assumed peak demand isolated in a revenue requirement calculation so that an analyst can examine the details? If so, can we acquire it?

A: No, the capacity payments have not been isolated. HOMER provided total monthly costs to the financial model on a per technology basis. If council chooses, we could request to have the consultants re-run the models to extract the information.

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Q: Does the city calculate capacity payment responsibility among customer classes based on demand differences or does the city distribute the payments on a total system kWh basis?

A: For this phase of the modeling, all costs are allocated on a total system kWh basis.

Q: Another point that needs to be evaluated is the loss of aggregation attributes that the city would experience as a small entity purchasing energy. Boulder's Xcel ratepayers are currently part of a large aggregation. When the city is contracting at the economic margin for power, it is reasonable to assume that the city will have to commit for discrete generation resources and that commitment will exist on a year round basis. This means that the city will probably need to pay substantial capacity charges for "summer peakers" that have a very low capacity factor. In a big system like Xcel's, these charges are averaged out, as is the load factor. In the city it will not be, unless we just buy power from Xcel. Has the city committed to discrete generation resources on a year round basis? What do (or will) those commitments look like?

A: The loss of aggregation attributes is inherently included, among numerous other factors, by comparing the various options to the Xcel Baseline. The assumption that a PPA must represent a single discrete generation source is not accurate. The reference pricing used in the modeling was for firmed sources of power. A firmed source requires that backup sources are in place to replace the largest potential unit loss of the PPA provider. This, in essence, disqualifies single generation source providers.

With regard to the load factor, the statement assumes that all the PSCo peaks are non-coincident. Given they are temperature, weather and time-of-day related, it is just as reasonable to assume the Xcel system might have worse peaks when aggregated relative to its average load, especially given that the Xcel system's overall load factor is lower than the Boulder area.

Finally, the modeling was based on PPAs, with reserved capacity available to meet peak load. That said, making firm commitments for PPAs at this point is not possible. The PPA numbers are indicative, confirmed with additional cost modeling using Xcel assumptions for generic resources and fuels, including profits. The city could not possibly make firm commitments for generation at this time, given the fact that it has yet to be determined whether a utility will even be created. Full resource planning would occur once the utility and its governing body has been created, and would include substantial public input on resource options available at that time.

Q: The other aspect of the city report that needs further analysis is the comparable Xcel rates. We are currently unable to evaluate those rates as we do not know which resource plan is being used, what assumptions are being used for the factors associated with the Xcel rates in the report.

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A: The Xcel Baseline was designed with data from recent and publicly available information such as PUC documents, annual reports and Federal Energy Regulatory Commission (FERC) filings. The assumptions associated with the Xcel Baseline, and the specific PUC documents were listed on page 10 of the staff report. Footnotes throughout the staff report cite specific references used in developing the Xcel Baseline. The analysis was based on the numbers that Xcel used in its 2011 ERP. These have been vetted and accepted by the CPUC.

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Energy Future Business-Focused Conference Call Executive Summary

About the event: The city hosted a business-focused conference call from noon to 1 p.m. on March 12, 2013, to provide an opportunity for people to listen to presentations and ask questions about various aspects of the municipalization exploration study. The call was geared toward the business community and focused on reliability, financing and governance of a possible municipal electric utility in Boulder. Four five-minute presentations were provided to offer background and to encourage an informed and constructive question and answer period.

- Executive Director Heather Bailey provided an overview of the modeling the city has conducted to date and the key findings, especially those related to rates and reliability.
- Michael Berwanger, managing director of the PFM Group, shared his perspective on the financial assumptions the city used in its modeling and outlined key steps and factors in the process for seeking financing related to the possible creation of a city electric utility.
- Bob Lachenmayer with Schneider Electric explained how the city's proposed service area plan helps maintain existing reliability and discussed possible enhanced reliability opportunities for businesses by utilities that are able to make innovation and unique customer needs priorities within their business model.
- Jeff Tarbert, senior vice president of the American Public Power Association, discussed how public power utilities across the US handle governance and customer participation. Mr. Tarbert outlined best practices and shared his thoughts about some of the key factors that need to be considered when determining how important utility decisions will be made.

Outreach: The city promoted this event through a variety of outlets in order to gain a wide range of participants. The call was business-focused, but anyone was encouraged to listen in and ask questions. The event was advertised both online and in hard copies of the *Daily Camera* and the *Boulder County Business Report*. Invitations were sent directly to business contacts who have already expressed an interest in the work and to the 600+ people who had registered to receive updates via the project listserv. Notices of the event were also placed on the city's Facebook page and were tweeted over Twitter. In addition, the event was noted in the January/February edition of the Energy Future Today newsletter, which is available on the website and in numerous city facilities and placed in several locations around town. Members of the Communications and Engagement working group also provided informational hard-copy and electronic event flyers to business organization liaisons and partners.

Attendance: Due to budget constraints, the event was limited to 300 participants. The actual target was 100. According to Telspan, the conference call service provider, 61 individual phone numbers participated in the call. Exact numbers for attendance are not known, because people were encouraged to allow anyone interested in the project to listen in with them over a speaker phone at their location. As an example, nine different city staff members participated from one phone line.

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Results: After the presentations, the call moderators invited participants to ask questions. . . During that time, eight questions were asked and answered by staff and the panel of experts. The questions lasted through the duration of the call and were focused on:

- Power purchase agreements
- Rate design
- Competition and customer choice
- Existing renewable energy contracts
- Service area
- Governance
- SmartGrid technology
- On-site generation
- Reliability
- Stranded costs, other costs and potential repayment of Xcel's legal fees

A copy of the questions asked and the answers provided are attached to this executive summary.

In addition, an audio recording of the complete call is available at www.BoulderEnergyFuture.com.

After the call had concluded, participants were encouraged to take a short survey on the call format and the information they received. Eleven responses have been submitted to date, and feedback includes:

- Participants learned of the event primarily through the Energy Future website (3) or an email from the Energy Future listserv (8)
- All 11 said that the format was useful
- All 11 said that the call's content was relevant and interesting
- Seven said that being able to dial in from anywhere made them more likely to participate, and four said that it had no effect on their willingness to participate
- All 11 said that they would like the city to host another format like this again

Detailed responses to the survey focused on how the format could be improved. While most said that it was fine, it sounds like a little more question-and-answer time would have been valuable. In addition, responders generally agreed that the call was helpful and they appreciated the opportunity to participate in the discussion.

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Questions from Business Conference Call:

1. Mike Parenteau of Corden Pharma

MIKE: “Good afternoon everybody. Thank you for the time. So this question revolves around Power Purchase Agreements. Xcel Energy does not charge power factor penalties to their consumers. In future if muni took shape- if during transition period, or sometime thereafter, would those penalties than be enforced by the municipality?”

HEATHER: “This is rate design issue—at this point we haven’t modeled this type of rate until we get the go ahead to move forward.”

MIKE: “I attended the council study session and have the report in hand. I have not been to absorb the 300 something pages. It is an impressive report”

2. Bill Schafer

BILL: The question is what options, if any, were considered for competing directly with Xcel? Because it sounds like most studies have shown that the proposed municipal will have a very good ability to compete. If there is that great of confidence—what about customer choice? What about directly competing?

HEATHER: In Colorado, I don’t believe that is allowed in the regulatory environment. This is a state that regulates the utility industry and competition is not a part of that make up so that wasn’t considered. However, if Colorado were to become regulated that would be a great question to consider.

BILL: I’ve been a little concerned that the actual cost of service is always couched in terms of under some options we are even able to have a lower cost of service but then everything I’ve read seems to indicate that isn’t the favored option.

HEATHER: There is no favored option. We presented five individual options and we modeled a band of costs and we did a probabilistic analysis where we assumed 80 percent of the costs would fall within the band. There are three of those options that show within the bands the rates could be competitive where the cost of service could be equal to or less than Xcel.

BILL: And if they aren’t and one of those is implemented that...?

HEATHER: If you recall, the Charter says that in order to municipalize, rates have to be comparable to Xcel’s. So if the costs are not comparable at the point in time the utility is formed then we couldn’t do it.

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BILL: But in some future point, once it's formed at some point—than the toothpaste is out of the tube.

HEATHER: The charter has requirements that say rates have to be fair and equitable and they have to be competitive with surrounding regions. I think that answers those questions right up front.

BILL: So it would dissolve itself if it weren't?

HEATHER: No, those are the things that the governing board, or advisory board would look at and based on their decision they would determine how to move forward with rates. But again the charter has pretty strict limitations on what can happen.

SARAH: One thing I'll add is that very question is the reason why we modeled 20 years, for people who want to see beyond the date of acquisition costs—they wanted to get a sense of how the different options might affect overall costs for 20 years.

BILL: The listeners should be clearer how four percent of gross electric revenues compares to the regular rate of return on an investor owned utility's revenue.

HEATHER: The four percent of revenues equates to the franchise fee what Xcel used to contribute to the city. In essence four percent was modeled to mirror the franchise payment on the city.

3. Adam Sedula(?)

ADAM: I'm out in Gunbarrel-- so unincorporated. Two things, I haven't seen it in any of the literature that I've read. (1) I have a lease system with Xcel rebates associated to it and I'm hoping that those lease systems are being incorporated in this plan as well and that it isn't going to be a forced buy out from the home owners. (2) I saw they were talking about not annexing unincorporated Boulder. But then what representation would we have with the system? Because we won't have direct voting for the city, we would be going along for the ride.

KATHY: Short answer we have not analyzed all of the contracts existing in detail. However our goal/plan is to make sure the customers all get full benefit of the contract they entered into and that we don't harm the customer or Xcel in the way if we acquire the system moving forward.

HEATHER: Jeff talked about the specific charter provisions that allows for three non-residential rate payers to have representation on the advisory board as defined in the charter. Our assumption is that provides for an opportunity for out of city limit customers to be represented by potentially having one of those positions.

ADAM: Okay thank you. Because the advisory board was just an option, I didn't know which of the options would be chosen and things like that.

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HEATHER: Well actually the advisory board is not an option. It is specifically one of the requirements in the Charter.

4. Jim Hartman of Hartman Ely Investments

JIM: We are doing work around the state with energy efficiency/solar power in Colorado Springs Utility (muni) and I'm very impressed on how their utility board works and city council. I wanted to comment on the non-residential members on the board—I think it's really important to have very good people on the board. How will that selection process work?

KATHY: I will quote directly from the charter that exact way that this will happen and it's not something that has been done yet and would also be a phase two issue. Section 185B of the charter says that the board members shall be elected from registered electors of the city or from owners or employees of businesses or a governmental entity that's a customer. A majority of the 9 member board must be registered electors but at least three board members have to be owners of businesses or governmental entities that's a customer. The requirements are that the board members are known for the probity, public spirit, and particular fitness to serve on the electric utilities board

HEATHER: One thing to add is that if council decides to move forward on April 16th—we will have a working group focused on governance and diving into the depth of the issue to provide recommendations to council on how governance should be formed.

5. April Nowicki of Boulder Stand

APRIL: I am a free lance journalist and my questions was that one issue with the smart grid pilot is that citizen's of Boulder are not participating in the pilot and I was wondering if the City has considered any ways to educate the community about how they can participate.

JONATHAN: smart grid is one of the areas we are continuing to evaluate. But understand that smart grid is Xcel's program—not the city's program. And we continually work to try to understand what smart grid really entails (in terms of technology/equipment/ and how customers might be able to take advantage of technology available). Moving forward what we would want to do based on some recent proceeding at the PUC, in terms of how smart grid should proceed as a program, is regardless of municipalization, is to understand what's available and understand how customers can utilize components of smart grid to better understand their energy consumption and how they are using their energy. Now moving forward, if we did create an electric utility we would want to evaluate what does it do and not do. And what are the potential benefits to enhance reliability, allow for more customer choice, and allow for more distributed generation. Those are the things we find promising about SmartGrid and we want to continue thinking about that.

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6. Mike Parenteau of Corden Pharma

MIKE: On page 57 of the study session document it talks about generation capacity of the University. I was curious -- does the University have a prime service EP permit for their on site to be able to count the 60 watts of capacity that in the study you've used to, I'm sure, shore up part of the capacity.

JONATHAN: we didn't utilize the generation at CU to shore up—we just wanted to address the fact that they do have generating capacity on site. Right now CU is fairly limited in its ability to create electricity. Their facility right now is producing steam which is used for heating, of course, the University campus. Moving forward, we would want to understand what the universities goals are in terms of production capabilities and how a potential utility would be able to partner with the University to really enhance and enable them to produce as much locally as possible. It's critical point because we want to encourage as many users as possible to be able to generate energy on site. So whether it's co-gen or generation for backup power I think your company has a great opportunity to look at local generation opportunities. It's an ongoing discussion but know that we didn't rely on CU's generation capacity with the modeling

MIKE: So take the IBM case where they have a considerable amount of onsite gen. but their Permitting is for standby use only—I would caution as we move forward to ensure that there is no regulatory issues that we would encounter due to EPA requirements on how local generation energy is used.

HEATHER: Yes we will definitely consider all of those/ all part of the process.

7. David Humphrey

DAVID: I have a technical question on reliability. How do you control the damping and the changes that are created by many suppliers coming on the line and dropping off the line in an unscheduled fashion without damaging any of the equipment and still maintaining reliability?

BOB: The plan relies on the balancing authority to make sure that the system maintains the level of reliability it needs to have with the fluctuation of demand and demand side aspects coming off the system.

JONATHAN: I think there are two aspects to consider on the generation aspect: the large PPA's that would in fact be firmed and managed by the balancing authority. So that's a non issue in terms of the reliability aspect. Now what I think is more important is the local gen options—as we begin to increase local generation options we want to be very cautious and thoughtful about to how those resources are integrated and harmonized to avoid any impact. However we believe that there are great opportunities based on things like micro grids, being able to do more local balancing that actually enhances and supports reliability and backup power in case of emergency and so your point is a very good one that we need to be very thoughtful as to how resources are

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integrated. But the large scale renewables will be managed by the balancing authorities—which is what's done all across the country and across the world in terms of integrating those intermittent resources.

DAVE: As non-scheduled power suppliers drop out of system—your scheduled power prices go up. The less scheduled time that the supplier has, the higher the prices will be for the large suppliers.

JONATHAN: the way we've modeled is not by procuring resources through the spot market. We are talking about procuring firmed resources through PPA's both short and long term, so you avoid the issue of dropping out on a regular basis. Not only do you address it through the PPA's and the balancing authority, but we also have very strong commitments to operating reserves. So what you're talking about are Operating reserves required by balancing authority that are also provided in terms of backup provided by utility groups that rely on one another in case one of them goes down. You always have the backup power that is then firmed by the balancing authority so you are not compromising reliability at a local level.

DAVE: How does that fit into the Boulder goal of localized power?

JONATHAN: When we say localized, it doesn't mean it has to be within city limits. It is something that eventually creates additional renewables on the system so we are not buying renewable credits. The ability to look at local generation is both here within city limits while still looking at PPA's for our renewable resources. It's a balance of those renewable resources to help us achieve that goal.

8. Karey Christ Janer:

KAREY: I'm a landlord in Boulder. There was a lot of discussion in the lead up to the 2011 election about the stranded costs framework of the city and growing concern that I don't believe has been addressed as a whole category. For example, I know it's the City's position that they won't have to pay them. But if in fact it turns out the city was incorrect and it turns out that the city does need to charge that, Xcel has said that it will try to recover its attorney's fees for going through this process. Originally your attorney had said that the city could be on the hook for Xcel's attorney fees and that's actually when I changed my mind about municipalization. A few weeks later he changed his position to say no, he doesn't think we would be on the hook for that. But if the city needs to drop out and pick an off ramp—and Xcel says okay but sorry we are going to go after our attorney's fees, where does the money from those attorney's fees come from because then the city of course would not be municipalizing and it would need to be some backup factor in case Xcel does decide to go for those attorneys fees. Does it come from the general fund or are you planning for that amount of money?

KATHY: There's a bunch of pieces to it and I'm going to try to separate it out. First, with respect to your questions about going concerns—this has risen from a statute that applied to a

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REA, not municipalities. And in fact the Loveland case in 1991—Supreme Court agreed that that statute does not apply to investor owned utilities. So that going concern does not apply. Condemnation law is very clear that you do not get recovery – so without a statute, you're not going to get it from the condemnation court.

With respect to stranded costs: Stranded costs refer to the obligation that FERC rule 888 has posed- if by leaving a system a municipality uses the transmission of the incumbent utility but strands generation such that the incumbent utility cannot sell the resources generated that generation investment to other parties. We do not believe that Xcel has invested in any generation facilities to serve only boulder and that there is a market for all the generation facilities that they have generated. And in fact if Boulder were to stay on the system they would need to also buy on the market.

With respect to Attorney's fees, the United States follows the American Rule rather than the English rule with respect to attorney's fees. You cannot get attorney's fees in litigation unless there is a specific statute that provides for you to get attorney's fees. FERC, as related to stranded costs, there is no authority for fee's to be awarded before the PUC. The PUC has no jurisdiction over the City of Boulder so it could not award attorney's fees with respect to the State court. It is allowed in condemnation only in very limited circumstances. Those would be if our last offer to acquire the facility, if we were not able to reach an agreement with Xcel, if our last offer was less than 130 percent of the court award than the court can order us to pay attorney's fees. Those would be reasonable fees only regarding the condemnation and not all of the fee's Xcel would have incurred. With respect to any other claim, we have not thought of a cause of action under which Xcel could recover attorney's fees. If anybody can think of one, we will evaluate it now. If any are filed in the future, we will evaluate it at the time.

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Energy Future Open House Executive Summary

About the event: The city hosted an Energy Future Open House at the West Senior Center on March 13, 2013, to provide information about the analysis done to date, answer questions and gather feedback from the community. At the entrance, participants were given a handout with the options summarized and encouraged to place a pin on the map representing where they live. Participants then watched a 10-minute video overview, visited topic-specific stations to speak with staff members and consultants and shared their input through one or more of the following ways: (a) conversations with staff; (b) hand-written comment forms, (c) dot ranking of feedback statements; (d) a Utility of the Future vision board. The event also featured projects completed by eighth-graders at The Watershed School who were asked by their teachers to visualize and present their visions of “Energy Utopia.”

Outreach: The city promoted this event through a variety of outlets in order to gain a wide range of participants. The open house was advertised in *The Daily Camera* and was referenced in articles published by the *Camera* and *The Denver Post*. The event was also promoted on the radio, through social media outlets, in flyers/newsletters distributed around town, and in email blasts to community groups, organizations, and listservs that had the capacity to reach more than 1,000 individuals. The city also invited the approximately 5,700 county residents who are in the proposed service area to attend the event.

Attendance: Approximately 150 participants attended. The participants were well distributed geographically. Of those who attended, 123 chose to pin their home or business location on the map. From this map, 55 percent were within city limits (19 percent were north of Valmont, 22 percent were in central parts of town; and 15 percent live south of Baseline Road). Thirty-eight percent were from parts of the county that are within the proposed service area (25 percent were northeast of Boulder; seven percent were in neighborhoods in areas situated to the west or central north of Boulder; and 6 percent were in neighborhoods southeast of the city). Seven percent of the attendees did not live in the proposed service area.

Key Takeaways:

- The open house format was very well received. It engaged people in more personalized dialogue and allowed staff to better understand what issues are rising to the surface.
- The key issues that rose to the top in discussion and dot ranking were governance, the service area plan and reliability.
- A majority of participants want to see a change in the status quo, especially in terms of increasing renewables.
- Many participants expressed concerns about governance and the role of non-voting customers in decisions. This should be a focus if we move forward.

Feedback Methods and Results: Feedback gathered during this session was recorded in a number of ways.

➤ Notes Taken at Information Stations

One of the techniques the team found most helpful was to have volunteer scribes who took notes as conversations occurred between city staff and community members at each of the information stations. There were four such stations: Governance & Reliability, Service Area, Specialists, and Modeling the Options. The scribes at each station took notes and captured the key parts of these discussions. The notes are available in their entirety as Appendix C-1. Many of the discussions focused on the proposed service area, cost estimations and renewable generation.

- **Service Territory:** There was concern coming from members of non-voting populations about possible annexation, rates and reliability in the county. Discussions included how the

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- substations were determined; if, and how, county residents will be represented; and if their rates and reliability would be different than within city limits.
- **Cost:** There was discussion on how costs for renewables and coal were estimated; how stranded, legal, and start up fees will be determined and affect the utility's viability; and the process behind buying the "poles and wires."
 - **Renewables:** Participants wanted to know how local solar panel generation will be included in the mix; where the renewables will be coming from; and a timeline and source or location for the additive renewables.

➤ **Comment Cards**

The city also received direct feedback from 47 participants who filled out comment forms at this event. Of those who chose this method, 60 percent indicated they own a home, rent a home or work within city limits. Thirty-four percent said they own property outside of the city. Six percent others did not share this demographic information. The comments, which have been transcribed and are included in Appendix C-2, were fairly evenly split between individuals who indicated support for moving forward with municipalization and those who had concerns or wanted county residents to have a formal voice in the process (38 percent in support and 36 percent with concerns). Of the remaining comments, 17 percent addressed desires or concerns about engaging in a possible partnership with Xcel Energy and nine percent were blank.

➤ **Dot Ranking**

Dot ranking was utilized at the open house in response to feedback from previous Energy Future public sessions that participants sometimes left feeling like there was no mechanism for them to provide their individualized and concrete perspective on the issues.

Staff structured this exercise by providing 50 statements, pro, con and neutral with regard to the creation of a city utility. Each of the pre-populated statements reflected actual perspectives that have been shared with staff. The statements were then categorized based on areas, such as renewables, reliability, partnership possibilities, governance, etc. Participants were told they could add statements not already included on blank pieces of paper on the adjoining wall. Each participant was given 12 dots and instructed to place them next to the statements that most represented the feedback he or she would like to share with City Council. There were no limitations on how individuals could use the dots; they could split them up evenly or use multiple dots on one statement if they felt particularly strongly about a statement.

It is important to understand that this exercise was never intended to be a "vote," or to be representative of the sentiments of the community as a whole. Instead, it was designed to help identify the issues of greatest excitement and concern for the people in the room at this particular event and at this particular point in time. The outcomes in such an exercise could be impacted – positively or negatively – by a variety of factors, such as who attended the open house, what and how much information they had when they participated in the exercise and who else was in the room at the time. This became a point of some concern during the open house, for example, when it became clear that a county neighborhood coalition had provided incorrect information about the city's proposed service area boundaries to county residents. While city staff worked to rectify this as quickly as possible, it is unknown how many dots were placed based on this misinformation. City

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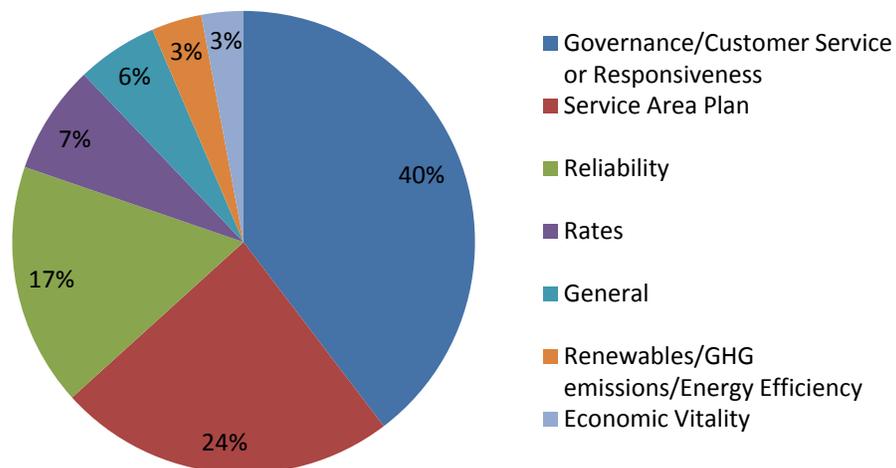
staff also learned during the open house that some of the participants came as a result of an automated phone call they received from an unidentified organization. Staff believes this call went to some phone numbers that are not a part of the city's proposed service area, contributing to possible confusion.

Despite these limitations, some clear and valuable themes emerged. In total, 1,210 dots were placed beside the available statements. Appendix C-3 lists the statements and the number of dots each received. The three categories that rose to the top were governance/customer service or responsiveness (with 28 percent of the dots used for these categories); renewables/GHG emissions/energy efficiency (14 percent of all dots); and reliability (12 percent). The statements that received the lowest percentage of dots were in areas of economic vitality, rates and more specific characteristics of a potential partnership with Xcel Energy.

The exercise called out a few areas of concern, as well as areas in support of a change in status quo. The statement with the biggest concerns was a question about whether individual customers, mostly from non-voting populations, such as the business community and county residents in the service plan area, could "trust council to make decisions that represent their interests with regard to electric rates, reliability and investments." This statement received more dots than any other one statement on the wall.

The figure below shows how dots were distributed among statements that expressed a base level of concern. Over 60 percent of these dots were used to express concern about governance and/or the non-voting population. Discussions at the open house suggest there was likely some overlap between governance/customer service/responsiveness and the service area plan.

Figure 1: Areas of concern or question

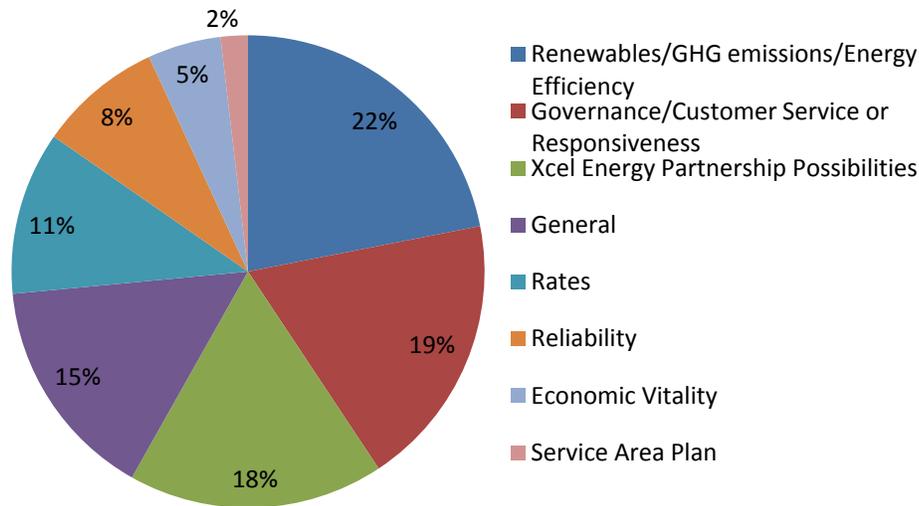


There was also a significant expression of support for moving away from the status quo, such as increasing renewables, lowering greenhouse gas emissions, providing more customer choice and exploring new technologies. Collectively, these statements received 58 percent, or a majority, of all the dots.

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The figure below shows the areas that received support among statements that called for a change to current operations.

Figure 2: Areas of support for changing status quo



This analysis suggests that many of the participants at the open house support the objectives behind the Energy Future, but a question remains for some about whether a municipal utility or a new city partnership with Xcel Energy would be a better agent for achieving the desired change.

➤ **Utility of the Future Visioning Table**

The final way participants were asked to contribute feedback involved an area for spontaneous and creative expression of goals and hopes for the electric utility of the future, whether this is a city-run utility or a new relationship with Xcel Energy. Thirty-seven individuals drew pictures or made comments about what they envision, with the majority stating they wanted to see increased renewables in Boulder's supply. A photograph of the full vision board is included in Appendix C-4.

Next Steps: If council decides on April 16 to proceed with potential municipalization, the data gathered from this event will help shape Phase Two of the staff's work plan. The concerns brought up at this particular outreach event emphasize the need to address governance and non-voting members of the service area, as well as to define a more specific resource plan that shows how the city would accomplish its renewable, demand-side management and energy efficiency goals. Phase Two should also include a deeper analysis of how, and if, Xcel Energy could partner with the city to create the Electric Utility of the Future and help the community accomplish its energy goals.

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Notes from Open House Information Sessions

Written by Volunteer scribes at each station: Julie Zahniser, Rick Tazelaar, Chris Hoffman, Shirley Jin

Options Station Questions and Comments

- 1) Are you planning for increasing DSM? This needs to be covered more in the *Camera*. (John English)
- 2) What will **City Council (CC) be voting** on in April?
- 3) Will **CC vote** to authorize doing another study?
- 4) How do you find/choose an objective **Third Party** to review study?
- 5) Did you include **Gunbarrel (G)** so you would have enough hardware?
- 6) Does Xcel own the **poles and wires** now?
- 7) What has to happen to buy the **poles and wires**?
- 8) Why do you “condemn” the **poles and wires**?
- 9) Is the city going to **condemn all of the substations in the county** even though county resident electricity customers will not get a vote?
- 10) Can the city “**take over**” the **County** electric utility?
- 11) Can the city “turn around” and **annex** the County?
- 12) Will electric customers still get **gas** from Xcel?
- 13) What will happen to my **solar panels** and my contract with Xcel?
- 14) How will the city handle the extra power produced by **solar panels** on homes?
- 15) Did you calculate **how much rooftop solar** could be produced in Boulder (B)?
- 16) How will the city handle **big storm emergencies**?
- 17) How will the city handle problems with **trees**? (Falling, growing, etc.)
- 18) Will **stranded assets costs** include all of Xcel’s plants?
- 19) How will **stranded assets costs** be determined?
- 20) Does **stranded assets calculation include possible County** resident customers and related hardware?
- 21) How will **start-up costs** be paid for?
- 22) Will **Xcel continue to provide service** until utility is up and running?
- 23) **Who is paying for this work** (event, modeling studies, analysis)?
- 24) **Where did the \$300K** come from that is being used to pay for the current Muni study?
- 25) Would **revenues generated from County be subject to the 4% cap limit** that can be put in City’s general fund?
- 26) Would there be any **differentiation between in-city and out-of-city customers**?
- 27) What is the **4%**?
- 28) Can the utility **transfer more than 4%**?
- 29) Are there **any circumstances where more than 4%** could be transferred?
- 30) Are there **any circumstances where money in the general fund be used for other purposes** instead of their Charter-designated purpose? (Not sure how to write question since do not know where the ear-mark is placed on City gen’l fund monies: e.g. Charter- or Budget-approved, etc.)
- 31) **What is the Charter** you are referring to? (County resident ?)
- 32) **Who is covered by this Charter?** (ditto above)
- 33) How do you change **Charter**?
- 34) Do all customers in the entire planned B. electric utility service area, including outside of city limits in **County, get to vote** on whether they: a) want to be in the utility? b) want to create the B. electric utility?
- 35) How could in- and out-of-city limits get to **vote** on BEF?

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- 36) Does CC set **rates**?
- 37) Are **rates** set by Charter?
- 38) How will rates be set?
- 39) How will **the Governance Board be set up**?
- 40) **Who will be on the Governance Board** and would it include people from in and out of the city if parts of the County are included?
("If you had more representation, you would get more buy-in.")
- 41) What **voice would County residents** have moving forward?
- 42) Can Utility **Gov. Board** change Charter?
- 43) In plan #2B (without coal) **how would you buy power**?
- 44) **Where would wind mills**, etc be located?
("It sounds like the city doesn't have to do that much technically.")
- 45) Does **Xcel own all of its power** production now?
- 46) Is that (it's current generation sources) why **Xcel is not doing more RE** now?
- 47) Is **coal more expensive** than natural gas (NG)?
- 48) When will **litigation** take place?
- 49) **When** do you think a B. **utility would start**?
- 50) What is **B's peak load**?
- 51) What **% reserves** are needed?
- 52) What is the **biggest RE source available** right now?
- 53) How long does it take to **build a wind farm**?
- 54) How exactly did you do the **modeling**?
- 55) Did you have **assumptions for resources**?
- 56) Is this the **decision-making process that other utilities** use?
- 57) What is the **city's capacity to manage** our own electric system?
- 58) **Why** is Boulder trying to create it's own utility?
- 59) Why does Boulder believe it can **provide electricity to electric customers cheaper** (than Xcel)?
- 60) Did you take **wind PTC and solar tax credit** out when modeling?
- 61) How did you find **Xcel's projected growth rate**?
- 62) Could the **utility be a profit source**?
- 63) Could the **utility push energy efficiency (EE)**? Is the city **planning for increasing DSM**?
- 64) Could the city's **utility be more efficient than the IOU**?
- 65) Re: Plan 3A,B-Is the **low GHG emissions option more expensive than the Xcel** baseline?
- 66) How updated were the **assumptions on solar cost**?
- 67) Don't you think that the **effective load carrying capacity for solar** was low?
- 68) Thinking about Denton, TX and Boulder, CO both wanting to reduce GHG, how will **Boulder reducing its GHG's affect Xcel's GHG reduction** over the entire Xcel system?
- 69) How will Boulder reducing its GHG's **force Xcel to reduce its GHG**?
- 70) Considering Boulder and Xcel in aggregate, wouldn't Boulder have a bigger impact if it could **force a change of generation dispatch order** for the entire system to wind first?
"I like \$ going into our local economy and local control."
- 71) Is the **primary purpose** of this municipalization effort to reduce GHG's?
- 72) When integrating the RE, would Boulder have it's own gas **plants or rely on Xcel as an balancing** agency?
- 73) How do you get an answer (decision) from **FERC**?
- 74) What is the **"legal liability"** that you are trying to avoid by phasing-in over 5 years? (Strand. Ass.)
- 75) How much **PV electric does Boulder Housing Partners** have?

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76) What % of its electricity is NBRec Ctr getting from its solar PV?

77) Could the city lease land to **power facilities adjacent to NBRctr, possibly by through a private-public partnership** with non-profits so that REC's could be captured?

Governance Station Questions and Comments

- 1) Why is the **area NE of Gunbarrel NOT** included?
- 2) How will you be ensuring **reliability**?
- 3) What happens if there's a **big snow storm**?
"I'm concerned about reliability. Need assurance I won't lose power in storms and major events."
- 4) Will my **rates** be affected? (Live in County outside of city but inside of proposed service area)
- 5) How will **areas outside of boundaries** be served?
- 6) Is the utility going to be **regulated by PUC**? "What's going to protect me?"
- 7) **Where will customers be able to take their concerns** if they are IN the city or if they are OUT of the city?
- 8) Where will the **utility get linemen**? "There is a shortage now."
- 9) Why will **4% be transferred to the general fund**? Why not 0%?
- 10) If I **live on the edge of the boundary**, how do I know if I'm affected and how? What about my neighbor?
- 11) Will **boundaries split subdivisions**?
- 12) How, and on what basis, **can the city legally acquire assets outside of the city** limits?
- 13) Is the city planning to **buy substations outside of city limits**?
- 14) If a customer **doesn't pay its bill will there be a tax lien** on his/her property?
- 15) What if people make the **same mistake on water**?
- 16) Compared to cost of setting up utility, **why not take same money and invest directly in RE**?
- 17) Is this just ENRON? Just a shell game?
- 18) Can I have a **hard copy of the map**?
- 19) **How am I going to be represented if I live outside the city** and within the boundary?
- 20) How were the service areas determined?
- 21) If I don't like the service area, is there anything I can do to **influence the service area demarcation**?
"Xcel knows electricity, Boulder doesn't."
- 22) Are **some substations going to be shut down**?
- 23) **Why did you include my subdivision** in the service area (NE of Gunbarrel?)
"City has not been very smart about other projects in the past."
"I am most concerned about rates. I am willing to pay 25% more but not 50-100% more, but am concerned that costs will skyrocket. Witness Smart Grid City which was Boulder's fault, too, not just Xcel's"
- 24) How does the **shared substation arrangement** work?
- 25) What are the **opportunities for advancing R & D in Boulder** area? Would/could Muni serve as a test bed?
- 26) What, if any, **jobs** would come out of a muni?
- 27) **Who is going to sell energy** (e.g. wind, solar, and NG-sourced) to Boulder?

Experts Station Questions and comments

- 1) **Is annexation a possibility** since I would like to have **city water**?
- 2) Please explain the **service territory map and how boundaries** were determined?
- 3) What is the **timeline for any legal decisions**?
- 4) **How far can the city go toward municipalization** before any decisions are handed down?
- 5) **When will the stranded cost issue** come into the picture?
- 6) Might the **city have any openings for an energy auditor** like myself?
"The push poll was very slanted."

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- 7) Concern” I am concerned that there will be a **lack of city liability** (e.g. over voltage situation) and that city will refuse liability as in the problem with sewer back-up.
- 8) Can we **replace our street lights with LED’s**? Why haven’t we done this already?
“I think other majors have done it (replaced with LED’s).”
“There are things that the government does ... very well, but what the government does should be limited to government things (e.g. roads, police, etc.) and should stay out of the realm of private enterprise.”
- 9) How do **country residents learn about details of municipalization**?
- 10) **What is Xcel objecting to that the city can’t agree to?**
- 11) **Why isn’t Xcel coming to the table** and offering what the city wants?
- 12) Is there any part of the **city plan that involves power generation**?
- 13) Concern: I am **worried about the cost estimated** given history of RTD cost estimates and cost of Valmont Butte (toxic wastes).
- 14) What do you do about all of the **legal costs**?
- 15) Have you had any input (evaluation of?) into the **remaining life of the system**?
- 16) Why is **Boulder’s hydro substation** included?
- 17) Have you studied the situation in **Las Cruces, NM**?
- 18) Where would the city get the **incentive to keep rates down**?
- 19) Who will be your source of **expertise when you run into problems related to reliability**?
- 20) How much **aid do you assume you will be able to get from Public Service** if there is a storm?
- 21) Have you talked with **people out in the country aren’t within the boundary** who might want to be in the boundary?

Additional Questions and Comments

- 1) Other cities that have municipalized are smaller than Boulder. I am not confident in Boulder to run things.
- 2) In case of a power outage can Xcel get power from other places more easily than Boulder?
- 3) If IBM and CU generate their own power would that not affect the financial situation for a Boulder Utility?
What happens if it is not making enough money to pay overhead and staff?
- 4) Why don’t you just let the people of Gunbarrel alone?
- 5) How will the utility be governed? (2 times)
- 6) How do we know that a Boulder utility will provide electricity at a lower cost than Xcel?
- 7) Are we buying Xcel’s generation system? (2 times)
- 8) What is the incentive for businesses to go solar?
- 9) Will the County be included? Will the County’s rates be increased?
- 10) Is there a way that people outside the City could have a say about a Boulder utility?
- 11) What are stranded costs? (2 times)
- 12) What are the options for people who live outside the city?
- 13) If the city decides to charge \$1000/mo for electricity what can we do since we cannot go to the PUC? We need accountability.
- 14) What if a Boulder utility takes over the whole state?
- 15) Do you have any idea when buying demand side is too high?
- 16) If demand increases will there be enough generation?
- 17) Is efficiency what is driving Boulder’s utility business model?
- 18) How soon will we know what the stranded costs are? What are the estimated stranded costs?
- 19) Do you think Boulder can build a car better than Toyota? If not why do you think Boulder can build a better utility than Xcel?
- 20) Why is the phase out option missing in two of the models?
- 21) Will areas in the County that have substations be annexed?
- 22) Will the office of Consumer Council be able to intervene in City rates?

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- 23) Prior to the election was the City aware that some County residents would be included in Boulder's utility plan and not given a say about it? All of the stakeholders have not been addressed. County residents have not been included in the discussions.
- 24) How are upfront costs to be financed?
- 25) Some unknowns are not part of the model. Is dirty energy cheaper
- 26) What are the dangers with regard to costs? When do we get to the point of no return?
- 27) What are the reasons other cities have municipalized?
- 28) Have cities in this region of the Country municipalized successfully?

APPENDIX C-2

Comment Forms from Open House

How did you hear about Event?	Did you like the structure?	Do you...	Email (added to listserv 3/19/13)	Comment
Email announcement	NO--the voting was by "opinions" but there are a lot of un-educated votes being made. Making a choice needs presentation of more info regarding the choices.	own a home		(1) relying on natural gas to achieve lower GHG emissions. Consider using wind and solar instead of Nat. Gas. (2) where is incentive for co-generation? (3) what is incentive for neighborhood power generation? (4) what new/innovative technologies are being considered? (4) what about district heating?
Postcard	Not sure--I expected a meeting but this is okay.	Own property outside of City	silveradough@msn.com	(1) will you publish the "concerns" posted and # of dots market on each--including added comments? (2) If city of boulder goes ahead with this plan, are they confident enough in t heir #'s to guarantee non-city residents their rate will NOT exceed Xcel's for 20 years? Will the city bear the cost if they are wrong?
Paper, Email, letter	YES	own a home. Own property outside of City		(1)Council really comes across as not willing to consider the off-ramps. They want their utility come anything. (2) County residents were not allowed to vote on this idea, but now we may be forced to be a part of it, really unfair. (3) deeply concerned that as a county resident, we will be last on the "fix" list when lines go down. (4) I know the muni-effort has been a major focus of the city for the past years plus, how much money has tax payers already spent on salaries that is hidden? (5) I really think the city and county residents would be much better served by working with Xcel to go toward greener energy generation. Boulder, if it forms its own utility, will be able to "feel good" about being virtuous, ignoring that the "dirty" electricity generation has been pushed elsewhere. (6) Feels like the city is trying to expand its freedom--that's why I moved to the county and now the city is following me there.
Daily Camera	YES	own a home		(1)County residents should have been allowed to vote on this. (2) I'm not sure all costs (the legal costs for the court case) are represented in the rate options. Seems too optimistic.
Newspaper (camera)	YES	own a home	Mahaffey10@aol.com	(1)I think this was an effective forum. (2) I would recommend Focusing really hard on a partnership with Xcel in which Xcel would provide at least most of the desirable elements and continue to run and manage the system. (3) The charter metrics chart input should include shorter 5-10 year verse 20year period. (4) Once the final path forward is laid out it should be voted on by citizens.
Newspaper daily camera	YES (too loud to hear film)	own a home	marciakosar@msn.com	(1)We should have never wasted 1.4mil + 3K to do this study. Money could have gone to solar panels throughout the city. (2) the risk too great and is not worth wasting more time and money. (3) Issue with the gun barrel situation is severe (people not voting and substation issues). (4) Value of our current utility lines, will take years and millions of dollars to resolve in court. Cities appraisal is by far too low!! (5) Xcel is an excellently run business with outstanding service and reliability. (6) Stop trying to save the whole world! NEXT STEPS: (1) stop wasting money and time the potential gain is not worth the risk. (2) continue on relationships with Xcel "as is" OR change state rules which will allow Xcel to have different programs for the customers. If a city can produce 50% of their elect needs with local solar/wind than Xcel has to match the same % with clean energy. FYI--If the city ends up needing a utility attorney I recommend Don Keskey (he is an expert in utilities)
paper	YES		playsboyce@msn.com	100% in Favor! I would also be willing to pay more for more renewables. If the % of renewables could be increased I would be happy to shared the cost with the rest of Boulder
Daily Camera Articles	No-- too crowded	own a home		Can the city come up with an initiative to deal with lack of trust (e.g. distrust)? My opinion is that city staff is self-absorbed, and would benefit from training along these lines. (e.g. how to build trust) a local training is a possibility. See Matrix Works. Thank you.
CEA	YES	own a home		Can the city condemn the substations without the consent of the customers?
email	YES	own a home		concerned about amount of natural gas--don't want more fracking! Wind and solar are better choices than natural gas (due to fracking!)
				County representation is unfair.
Had to look to find out	NO--this is a propaganda session from the city	work in boulder. Own property outside city	gtextoris@comcast.net	County residents are being forced to join without a voice or forum to air our opinions. I do not believe the city can operate as efficiently or reliably as the private sector. The city recreated a major public media campaign and barely convinces 50% in boulder to choose municipalization. They should be required to make an equal effort for the county residents affected.
paper, email	not easy to learn from posters but handouts looks good	rent a home	kenecon2004@yahoo.com	do not want partnership with Xcel that seeds any control to Xcel or slows the rate of substituting efficiency's renewables for fossil fuels. A utility is a public service. It's inefficient and inequitable to leave such a service in the control of a private for-profit corporation. Xcel's locked into coal--boulder can do better.
my wife (daily Camera)	YES	own a home		Governance will be one of the biggest challenges in making this work. Independent organization important--insulated from changing local politics; effective utilities mangers, not just idealistic innovators; must be balanced to be effective and reliable while going as green as possible. I support municipalization, but you need to have some quality guidelines to direct the overall effort.
Daily Camera		own a home	p.billig@comcast.net	Has the city considered wholesaling solar panels to residents/landlords to increase the amount of solar energy generated locally? I think some of the modeling should consider this type of local generation
telephone call	YES (too loud to hear film)	Own property outside of City	bwf1894@gmail.com	I am concerned that residents that own property outside Boulder city limits that are part of the proposed service will be charged higher rates than Boulder City residents. We do not want annexation. We do not want higher electric rates than Xcel or Boulder City residents. County residents need several representatives on the decision making boards and the electric utility board if we will be served by the City of Boulder electric. If renewable energy is planned, we do not want solar farms, wind farms on city open space located in the county so the county residents have to look at it.
350.org	the move was hard to hear	rent a home	heather.henfrey@gmail.com	I am so excited about the possibilities of ramping up renewable energy production. I am confident that the city could run a utility effectively and I am not at all worried about reliability and don't think that is a threat. I do think that reducing GHG emissions should be a major goal but keeping rates manageable should also matter...Boulder is expensive enough as it is! I worry that if we do stay with Xcel that they won't ramp up renewables enough or quickly enough! If you need any help with community outreach, let me know. I helped CEA with this back when we voted 2B2C!
Daily Camera	YES	own a home		I am very happy with Xcel. They are extremely reliable. I don't trust the models that the city has provided (i.e. we'll have cleaner energy at less cost) and I think the city should negotiate with Xcel to provide a joint electric utility.
Daily Camera	YES	own a home		I came here dead set against municipalization. Had a long talk with Steve Pomerantz who allayed most of my fears. One remains-- Bondholds are more demanding than shareholders. When public service Colo. Those predecessors of Xcel cut the dividend in half, my wife didn't murmur that her "widows" stock did something unexpected. Try cutting the bond payments in half--that is called bankruptcy. It's happened t o some cities. I fear that if the city losses its AAA rating by--say--paying all out to Xcel for acquisition AND something unexpected happens--nuclear takes off or coal emissions can be captured--that the city will be driven to default.
Daily Camera		Own property outside of City	buhler@ieee.org	I do not work for Xcel or have family or friends that do. With the takeover of Xcel property (substations etc) how is the loss of property tax base accounted for by the city and the county? Will property tax rates in city and county have to be raised to compensate? Will tabor affect this?
Emails from plan boulder ,clean energy, action and sierra club	YES	rent a home		I hope Boulder can set up an affordable, reliable municipal power system based upon renewable energy. They should only stay with Xcel if Xcel can offer a better deal on all these things. But I doubt Xcel can do this since they have shareholders that have profits in mind.

APPENDIX C-2

My wife	YES	rent a home		I support Boulder taking local control of our utilities. I want more aggressive green energy like Germany and even Spain are doing. If our utility company (Xcel) is going too slow, let's do it ourselves. Set an example and maybe other cities will follow. Way to go. Thank you. Also we need to ban Fracking!
350.org	YES	rent a home	carissahp@gmail.com	I support municipalizing boulder. Not only should we have local control of our energy, we should have local control over big energy companies in boulder--Gas and Oil. (i.e. Fracking). If we cannot ban fracking, we need laws to keep them out as it is not in our best interest to be fracked. Also we need aggressive initiatives for solar panels on homes and businesses. We need to set a green energy standard We have a lot to gain from this as a tourist destination and an environmental innovator. These are billions in revenue generated by cutting edge businesses in boulder as well as tourism. It is a destination City and we should uphold our status by going green. Someone needs to take a lead, just like Chicago has- to make this a green city! Thank you for working so hard.
my school	YES	work in Boulder		I think that Boulder should invest in renewable resources
my school	YES	own a home/work in boulder	carter.maher@watershedschool.org	I think we shouldn't completely cut out Xcel of the loop. But, eventually we would. As well as start funding/researching in renewables
Newspaper	is there some way to voice my support for the city utility?	own property outside of city	dinah.mckay@colorado.edu	I want the city utility to go forward!! I would want more local suppliers of energy. I want more local jobs and money into the local economy. Not only is it better for the economy, but for our energy security to be less centralized and subject to a large corporation like Xcel. I am Willing to pay higher rates to set our energy future on a more sustainable course with renewable energy sources (absolutely)! Xcel is beholdng to its shareholders and is interested in profits for them not the welfare or wellbeing of people r the planet. (period)!
telephone call	NO	own a home		I would like the opportunity to be able to hear other comments for and against, although not being allowed to vote on this concept, have not given me the opportunity to really be a part. Comments at this state are just that. How influential can we be at this point--will the information gathered at this time be given the same consideration as those who were afforded the "right" opportunity to be considered a pertinent part of this by way of a vote. A voice is important for all who will be affected by this decision--what type of democracy is it we live in where those afforded a voice can determine an outcome for those not allowed the vote--this seems to be a lesson in what the democratic process is all about.
Email from Andrew Barth	YES	own a home		muni's have lower rates. Let's municipalize!
email list	YES	own a home		Option 2 & 3--w/ w/out coal --> The balance of natural gas and coal or just natural gas GHG's may not be much different unless methane is captured during natural gas extraction. Also consider water use in electrical generation--water is going to be another big factor as our climate continues to warm. Fracking uses a lot of water--please include this factor too in future analyzes great job! thanks!
post card	YES	Own property outside of City	jknull@msn.com	Please publish results of this open house feedback!
Email	YES	own a home		Seems like we will get one monopoly over another monopoly. A better monopoly? Maybe the whole US power system needs to be deregulated as in many parts of the world. Just like Reagan broke up the Bell System, maybe there is a totally different approach. Maybe boulder should join with all communities and petition the State and Central Govt. to remove all the cumbersome/antiquated rules and regulations. It would be chaos for 20 years, but then ...
	YES	own a home		Since the biggest unknown is acquisition costs, the phase out option seems to make sense as it minimizes this cost.
email notice from Boulder Energy Future	YES	own a home		Thank you city staff and volunteers and consultants for creating the models, initial report and citizen communications!! I am enthusiastic about the city pursuing a municipal utility--either we can do it and create a great, flexible, innovative utility--or the possibility will push Xcel to be more responsive and innovative. But I have more faith in the former. As a consumer I want to do what I can to make this happen! (I am willing to pay more to get to more renewables faster; my primary concern is to reduce carbon emissions!
email	YES	own a home	smich@colorado.edu	Thank you! (1) "phase out" options v. "low-cost" options = how does probability of various levels of stranded and acquisition costs compare? How specific can we be? How confident are we that under "phase out" these costs would be low? (2) please give clearer percentage estimates of probabilities of costs under the different scenarios. The "likely" and "very likely" statements are too loose to convey very useful information; looks sloppy. (3) Let's have more information about how to pursue "reduced use" regardless of options selected. Please solicit public input on this--from businesses, residents, CU, national labs, etc. (4) One the page of graphs comparing rates, is it not possible that the costs, even under the "phase-out" option could exceed \$150million? What's the probability of this? (ps. Kara is great at answering my questions!)
paper	YES-I like the open ended process--not a 3hr time commitment	own a home/ own a property outside the city	jms569@msn.com	Thanks for your efforts on the behalf of the people of boulder!
Daily Camera	NO--see comments	own a home		The community needs to be updated and help in the decision going forward. The city council should not be the only ones deciding. Involve the whole community. About structure: Too hard to hear video; too hard to get to read the questions on the wall.
Post card	YES	Own property outside of City	maryl@LHVC.com	The fact that the city of boulder wants to create its own power company and not allow all of the people who would be affected by this decision is a violation of my voting rights. I want a say in how my power is provided.
Email	ok	Own property outside of City	jbironsjr@aol.com	This is very similar to our early country where there was taxation without representation. Boulder is dictating and we in the county have little or no say on the issue(s)
email list	YES	Own property outside of City		Utility w/out representation. Not fair and hopefully illegal to include non-residents in the service area. No representation going forward. City council does not represent me. I don't vote for them. Advisory board is not an answer--is your analysis of the cost of condemnation realistic?
email list	YES	Own property outside of City		Very concerned that I had no vote in this process and will not going forward. If my property is to be included in the city's electric utility--I and all others who are in the same situation, (i.e. the affected county residents) should be able to vote on whether a utility is created and/or whether to be included.. The idea that boulder will create renewable sources is specious. It will merely gain boasting rights that it has bought up renewables from elsewhere.
Home owners association-gun barrel	NO	own property outside of city		We are strictly against switching our electric power from Xcel to Boulder City. (Kent Riese and Martha)
county neighbor who did not get to vote	NO-no questions answered--city rep Kicked out a county rep.	Own property outside of City		We did not get a vote in the county that vote in the city was less than 200 to pass. There are 6,000 in the county who are affected and I am sure if they voted we would not be here tonight.
Newspaper (camera)		Own property outside of City		We live in the County. It is wrong for the city to force the people in the County to have city municipalization that will raise our utility rates. The people in the County need to vote on this.
daily camera	YES	own a home		More of the legal \$ and proven issues need to be known before moving forward on any final decision
email	YES	own a home/ work in boulder	lori.cameron@comcast.net	
Daily camera and phone call	YES	Own property outside of City		

APPENDIX C-3

Feedback Statements for Dot Ranking

Category	Feedback Statements	# of votes	% Overall
Governance/customer service or responsiveness	I do not trust my local government to make decisions that represent my interests with regard to electric rates, reliability, investments and other key factors.	73	6%
Governance/customer service or responsiveness	I am concerned about the city's ability to run an electric utility.	58	5%
Xcel Energy Partnership	I wish to encourage Xcel Energy to come to the table with meaningful partnership opportunities for our community to consider. I am expecting the city to keep an open mind to what the company offers and seriously consider a partnership as an alternative to municipalization.	57	5%
Governance/customer service or responsiveness	I am confident that the city, which already runs several utilities, can run an electric utility effectively.	52	4%
Rates	I would be willing to pay rates that are up to 5 percent higher, at some point during the next 20 years, if it means the city could make more progress with regards to lowering greenhouse gas emissions and increasing renewables.	50	4%
Governance/customer service or responsiveness	I want an opportunity to have a greater voice in decisions about my community energy supply than what is currently provided by Xcel Energy and the Colorado Public Utilities Commission.	49	4%
Service Area Plan	I own a home or business in the county and would fall under the city's proposed service area plan. I don't see any benefit to me in being provided electricity by the city rather than by Xcel.	49	4%
reliability	I am concerned about how a city utility would respond to an electrical outage caused by a major weather event or other unforeseen disaster.	44	4%
reliability	I am concerned about the reliability that would be provided by a city-run distribution system.	43	4%
What's Next/ General	I am excited about the potential of Boulder helping to shape the new electric utility business model that could be replicated in other cities.	42	3%
Service Area: Additional Public values	I didn't get a chance to vote--b/c I live in the county	41	3%
Xcel Energy Partnership	I am not interested in the city pursuing a partnership with Xcel as I believe a municipal utility could accomplish my goals better.	36	3%
reliability	I am confident that mutual aid agreements and a well-run city utility would be able to handle outages caused by a major weather event or other unforeseen disasters promptly and appropriately.	30	2%
reliability	I believe a city electric utility could have opportunities to improve reliability.	29	2%
Renewables/GHG emissions/Energy Efficiency	I believe Boulder should look for opportunities to generate as much energy locally as possible.	29	2%
Renewables/GHG emissions/Energy Efficiency	I want to be able to choose whether my electricity is generated from coal, natural gas, and/or renewables, understanding that prices may vary.	27	2%
Governance/customer service or responsiveness	My experiences with Xcel's customer service—such as transferring an account or obtaining a rebate—have been positive.	26	2%
Renewables/GHG emissions/Energy Efficiency	I would be interested in installing solar panels that would produce more electricity than I use and selling the excess to Xcel or to a municipal utility.	24	2%
Additional Public values	I'm for municipalization	21	2%
economic Vitality	I believe a municipal utility could help create an environment in which local businesses could thrive.	21	2%
Governance/customer service or responsiveness	I believe the Boulder City Council is more concerned with the opinions and issues raised by Boulder customers (residents and businesses) than the Public Utilities Commission.	21	2%
Governance/customer service or responsiveness	I am concerned the Boulder City Council will prioritize environmental issues such as greenhouse gas emissions in a manner that will jeopardize economic viability by increasing electric utility rates.	20	2%
Rates: Additional Public values	If the city is so sure of its rate projection will it guarantee non-voting county customers their rates will stay at or below Xcel projections even if actual rates are higher?	20	2%
Governance/customer service or responsiveness	It is important to me that my electricity continue to be provided by an electric company that is regulated at the state level.	19	2%
Rates	I believe the city's analysis shows that there are municipalization options that could achieve and balance our community's environmental and economic goals, assuming court and regulatory costs don't come in substantially higher than expected.	19	2%

APPENDIX C-3

Rates	I am concerned about rates and am not willing to pay more, even if it results in more renewables and less emissions more quickly than other options.	18	1%
Renewables/GHG emissions/Energy Efficiency	I am interested in managing my electricity use by, for example, running appliances during off-peak periods, in order to lower my rates.	18	1%
economic Vitality	I am concerned that local businesses and key employers may seek to leave the city if a municipal utility is created.	15	1%
What's Next/ General	I support City Council taking the next steps to pursue possible municipalization without giving up the possibility of taking an "off-ramp" if subsequent information suggests creation of a local utility is not feasible.	15	1%
economic Vitality	It is important to consider how local businesses could have an opportunity to test new and innovative energy technologies locally.	14	1%
Renewables/GHG emissions/Energy Efficiency	Given the opportunity, I would try out new tools to manage my electricity use, like smartphone apps, different rates, or appliances that are programmed to run at certain times of day.	14	1%
Xcel Energy Partnership	A partnership between the city and Xcel must include energy conservation programs.	14	1%
Service Area: Additional Public values	Taxation without representation	13	1%
Renewables/GHG emissions/Energy Efficiency	I agree that a utility's business model should focus on service rather than increasing the amount of electricity sold.	12	1%
Service Area Plan	I own a home or business in the county and would fall under the city's proposed service area plan. As long as the city does not seek to annex my property, I am supportive of the prospect of being served by a city electric utility.	11	1%
What's Next/ General	I want to keep the status quo with Xcel as the provider, PUC authorizing changes in rates, and receiving inexpensive, coal-based electricity.	10	1%
Governance/customer service or responsiveness	My experiences with Xcel's customer service have been negative.	9	1%
Service Area: Additional Public values	If the 6,000 in the county had voted, would the 2011 vote been the same?	9	1%
Additional Public values	Ft. Collins and Longmont are more reliable than Xcel and less expensive	8	1%
Renewables/GHG emissions/Energy Efficiency	I am concerned that by adding renewables for Boulder, the city might be taking them away from the region.	8	1%
What's Next/ General	I want my utility to be innovative, like my community.	8	1%
Additional Public values	This is simply a shell game. Power will be generated and sold elsewhere. No net benefit in renewables and emissions	6	0%
Rates	I want to understand what I'm paying for when I get my electricity bill.	6	0%
Renewables: Additional Public values	Want all power to be locally produced renewable energy	6	0%
Renewables: Additional Public values	Ramp up energy efficiency- "the cheapest kilowatt is the one not used"	6	0%
Renewables: Additional Public values	City open space in county. Don't add renewable tech so the county residents have to see	6	0%
Rernewables: Additional Public values	Want a smart grid that works	6	0%
What's Next/ General	I originally voted for municipalization, but now believe the best path is to look for future partnership opportunities with Xcel Energy.	6	0%
Xcel Energy Partnership	A partnership with Xcel must work toward reducing the amount of greenhouse gas emissions from electric generation.	6	0%
Xcel Energy Partnership	I would like to see a partnership between the city and Xcel support programs to encourage innovation in the energy field and economic vitality in Boulder.	5	0%
Additional Public values	Xcel and City-forum to hear both sides (open to all)	4	0%
Governance: Additional Public values	If you can't manage Boulder Junction (train station) why should we trust you with our electricity?	4	0%
Renewables/GHG emissions/Energy Efficiency	I am a renter, but still want to have access to renewable energy and energy efficiency programs.	4	0%
Renewables: Additional Public values	I support efforts to integrate distributed generation into new housing units and incentives for retrofit	4	0%
Service Area: Additional Public values	County commissioners to objectively represent a majority of county voters	4	0%
Service Area: Additional Public values	Please develop a voting model which allows county residents to have a say now and if municipalization occurs	4	0%
What's Next/ General	I did not originally support the municipalization effort, but have since determined that the analysis shows that it is the best way to achieve Boulder's energy goals.	4	0%
Additional Public values	Xcel is bad. Leave asap	3	0%
Additional Public values	City would assume no liability, while Xcel does	3	0%
Governance/customer service or responsiveness	I am more concerned about my government, as opposed to Xcel, being able to see and/or control the amount of energy I use.	3	0%
Rates	I want my utility to provide assistance for those who can't pay their bills.	3	0%

APPENDIX C-3

Renewables/GHG emissions/Energy Efficiency	I have solar panels already but I am limited by law to generating 120 percent of what I need to supply my home. I would like to be able to generate more and sell the excess to Xcel or to a municipal utility.	3	0%
Renewables/GHG emissions/Energy Efficiency	I don't think there are any more opportunities for me to reduce how much electricity I use, since I've done them all.	3	0%
What's Next/ General	I don't believe that climate change is a pressing issues, and Boulder should stop trying to be a leader in this area.	3	0%
Xcel Energy Partnership	I support going to the legislature, with Xcel as a partner, to seek a change in state law, if necessary, to allow for more competition in energy in Colorado.	3	0%
Additional Public values	County representative had to leave why?	2	0%
Service Area: Additional Public values	Customers do not get to vote on Xcel as a provider, so why is it important to vote now?	2	0%
Additional Public values	I have seen this effort fail elsewhere	1	0%
Rates	I don't want to worry about whether my costs or rates will change unexpectedly, and this is my biggest priority with regard to my electric system.	1	0%
Renwables: Additional Public values	This is a beautiful city. Please no wind farms in our view	1	0%
Service Area: Additional Public values	No Annexation	1	0%
Xcel Energy Partnership	I would like a partnership with Xcel to include my ability as a customer to understand my rates and the options I have for using less energy and controlling the costs in my monthly bill.	1	0%
Additional Public values	Keep Xcel	0	0%
Partnership: Additional Public values	Invest in low carbon infrastructure, not breaking off the grid	0	0%

TOTAL

1210

Vision Board

What is your Utility of the Future?

1. Feed in Tariffs!
2. Distributed Generation
3. Energy Conservation and Efficiency
4. People over corporate Kleptomaniacs
5. Give County folks a Vote! → Response: Than pay your taxes
6. No carbon-based fuels at all by 2030.
7. Distributed Electric Generation...on your own house
8. Is the status quo sustainable?
9. Total deregulated nationwide
10. Micro grids...for energy balancing with automated home energy systems linked with demand side management
11. What can I, a consumer, do to make this work?
12. I'm concerned with ethical issues of taking away Xcel property. We're not china.
13. Living with a lot less energy. Conservation is key!
14. If Longmont, Loveland and Fort Collins can do it—why can't we?
15. Efficient Street lights—dark sky friendly
16. Let's walk the walk, not just talk the talk! Yay green energy and local power! 😊
17. Xcel Public/private partnership please! (Not muni) → response: Xcel? No way!
18. Renewable energy
19. Local Control
20. Not controlled by the “elephant next door” – the city which controls much of my neighborhood but for which I have no vote. The city whose traffic wears out the roads and tells me to pave them!!
21. Xcel never owned Boulder; it was just a one nighter...
22. Low GHG emissions
23. We must take action now to minimize climate change!
24. Please look at clean renewables. Hydro is not the same as solar.
25. Pride in green, local (muni) energy
26. Tesla's vision at drjudywood.com
27. I would like to utilize more local energy sources, more local jobs... I would pay higher rates for that!
28. I am outside the city. I hope my future never includes anything from the City of boulder!
29. Wind Solar energy conservation
30. Please don't trash rivers in the name of “renewable” energy
31. I would like to see solar panels on all appropriate roof locations.
32. Let's have the government do what the government should do and let the private enterprises do what private enterprises should do...
33. We must STOP being takes!

ATTACHMENT D: Comments received from Jan. 2013 through April 9, 2013

Please note: Emails received after April 9 will be provided to City Council at the April 16 meeting

Origin of Comment	Date MMDDYY	Name	Email	Location	Zip Code	Category	Comments
Economic Vitality							
Open House	3/13/2013		dinah.mckay@colorado.edu	Boulder County		Economic Vitality	I want the city utility to go forward!! I would want more local suppliers of energy. I want more local jobs and money into the local economy. Not only is it better for the economy, but for our energy security to be less centralized and subject to a large corporation like Xcel. I am Willing to pay higher rates to set our energy future on a more sustainable course with renewable energy sources (absolutely)! Xcel is beholdng to its shareholders and is interested in profits for them not the welfare or wellbeing of people r the planet. (period!)
Finance/Rates							
EnergyFuture	2/15/2013	Don and Fran Coen	6769 Jay Road	Boulder County		Finance/ Rates	<p style="text-align: right;">Dear Heather Bailey:</p> <p>While it always seems nice to look at ways to improve our environment, everything I have read or seen seems to indicate clearly that solar and wind can in no way compete price wise. One thing I do not want is an energy bill that is HIGHER than we now pay. If we can be shown that, without a doubt, the new plan can be competitive, cost wise or lower then that would be fine but we are already paying a tremendous amount for our energy. When I built my house about fifteen years ago I went far and above what most people were doing at the time to build an energy efficient house. Still, our costs have continued to rise and are now at a rate where we have difficulty keeping up. I urge you to not pursue a new plan that you THINK would be competitive. Wind and solar, from what I see are at least ten or fifteen years away from being competitive price wise.</p>
Council	2/26/2013	Doug Schuler	doug@apikol.com			Finance/ Rates	<p style="text-align: right;">Dear Boulder City Council Members,</p> <p>I am writing you today in regard to this evening's meeting regarding the Municipal Utility. After reading the memo (specifically page 20), it became abundantly clear to me that this discussion is VERY sensitive to the Stranded and Acquisition costs. Given the data provided on page 20, I would suggest that you work to minimize money wasted while these numbers can be nailed down with more certainty. While this will be difficult, the balance all remaining work hinges on these numbers.</p> <p>Lastly, assuming the worst case scenario (or perhaps even worse than that!) it makes sense to focus most of the attention tonight on the merits of the "Low Cost" option. After reading the memo, I'd like to hear a bit more on how staff plans to get down to a coal usage of 25% with the low cost option, when the neighboring communities of Longmont and Loveland have an actual coal usage of 68-69% (Coal data is in Appendix F-3). This just doesn't add up to me.</p> <p style="text-align: right;">Sincerely,</p>
EnergyFuture	3/11/2013	Karen Van Dusen	kvandusen@comcast.net	City of Boulder, CO	80304	Finance/ Rates	I am extremely concerned that members of our city council, with their own agendas, will not be able to make an objective decision about our energy plan. I am grateful for input from the city's Chamber of Commerce, the city's businesses, and TRULY independent researchers. I worry rates will become too high or we will take on too much debt.
EnergyFuture	3/12/2013	Bill Shafer	bschafer710@gmail.com	Boulder County	80302	Finance/ Rates	<p>During today's business-focused conference call Heather Bailey, I think, stated that the assumptions underlying the projected price of service under municipalization were available on the website. I am unable to find them. Can you please point them out to me?</p> <p style="text-align: center;">These would include gas prices, wind prices, solar prices, WACC, carbon taxes, and O&M, I assume, since these were identified as the most important and sensitive assumptions.</p>
EnergyFuture	3/12/2013	Jim Johnson	johnson53j@aol.com	City of Boulder, CO	80304	Finance/ Rates	There are two questions. Can we keep costs approximately similar to Excel's and can we reduce the enviromental impacts? Rather than take on both problems at once we should move to aquire Excel as rapidly and efficiently as possible and reduce the enviromental imacts later after the costs of aquisition are known. Excel, with the support of every power company in the US will involve Boulder in a long and drawn out legal battle. We need to conserve our resources for the legal battle then take on the environmental challenges.
Open House	3/13/2013			City of Boulder, CO		Finance/ Rates	I came here dead set against municipalization. Had a long talk with Steve Pomerantz who allayed most of my fears. One remains-- Bondholds are more demanding than shareholders. When public service Colo. Those predecessors of Xcel cut the dividend in half, my wife didn't murmur that her "widows" stock did something unexpected. Try cutting the bond payments in half--that is called bankruptcy. It's happened t o some cities. I fear that if the city loses its AAA rating by--say--paying all out to Xcel for acquisition AND something unexpected happens--nuclear takes off or coal emissions can be captured--that the city will be driven to default.
Open House	3/13/2013			City of Boulder, CO		Finance/ Rates	Since the biggest unknown is acquisition costs, the phase out option seems to make sense as it minimizes this cost.
Open House	3/13/2013			City of Boulder, CO		Finance/ Rates	muni's have lower rates. Let's municipalize!
EnergyFuture	3/16/2013	John Driver	2342 18th st	City of Boulder, CO	80304	Finance/ Rates	I am opposed to the city of Boulder taking the on the enormous capital and operational risks associated with investment. I am a definite NO for this project. The city has, in my opinion, wasted scant financial resources already following an unjustified project. Find another way!!!
EnergyFuture	3/19/2013	Donald	dmartinusen@comcast.net	City of Boulder, CO	80304	Finance/ Rates	<p>I oppose further moves towards municipalization of Boulder's electricity distribution system. Municipalization is risky for the City and its taxpayers, requires large additional staff and consulting inputs, and, even if successful (doubtful in my view), would do little to address global climate change, a crucial task for state, federal and international concern. Surely there are less risky approaches by which Boulder can do its environmental share. I elaborate on my concerns in the following paragraphs.</p> <p>Discussions to date assumes credit markets will purchase bonds issued to fund the full cost of purchasing Xcel's Boulder assets and setting up a Boulder electric utility. Formulating a financing strategy is planned for the next stage of project preparation. However, it is highly likely that potential buyers of the Utility's bonds will need guarantees and/or other assurances and support from the Utility's owners (i.e. the City). Buyers of bonds have no "upside potential" sought by buyers of equities; thus bond-buyers focus on the certainty of repayment, a focus reinforced by the recent credit crisis. This raises the questions of whether the City is able to grant such guarantees, unclear from a perusal of the City's most recent audited financial statements. The current estimates of a bond issue are large in relation to Boulder's existing debt (\$165 million total liabilities due in more than one year, as at December 31, 2011).</p> <p>Municipalization depends on bond buyers' willingness to buy the bonds. Under any credit arrangement the Utility must covenant to repay, provide security by way of some sort of mortgage on the Utility's assets, and provide other assurances to be determined. Any mortgage will be on assets whose value, however measured, will be much less than the outstanding bond issue; this is because the majority of the funds provided are for Xcel's stranded costs, not physical assets. There will be Conditions of Default, such as failure to repay, under which the bond-holders will have the right to foreclose.</p> <p>Bond purchasers will be concerned about the Utility's unproven ability to trade profitably in fluctuating energy markets and the need to create, from scratch, a competent organization with a 24/7, 365 day utility culture. It is hard to imagine future energy prices being more predictable than in recent decades. The cost of energy purchases (estimated at 70% of operating costs by the 2011 Robertson-Bryant study) is overwhelmingly important to the Utility's financial results and ability to repay. The Utility's managers and traders will need to make bets among short and longer-term energy alternatives and sources; this is a very different task than operating Boulder's existing utilities. The Utility will need to recruit staff with track records in energy trading; this may be time-consuming and expensive. The cost of poor performance in energy procurement would be high: the need for tariff increases to meet debt-service needs, or actual foreclosure.</p> <p style="text-align: center;">In light of the perceived risks I believe potential bond buyers will require guarantees from the City, especially in the early years.</p>

EnergyFuture	4/6/2013	Doug Cosman	doug_cosman@yahoo.com	City of Boulder, CO	80304	Finance/ Rates	The entire idea of building our own electric infrastructure is a financially irresponsible move that is totally unnecessary. The ultimate financial burden on our city will be astronomical, probably in the neighborhood of \$25,000 in debt for every residence in Boulder just to condemn and build out our own infrastructure, followed by electric costs that will no doubt be more than we are currently paying. All of this driven not by practical considerations but by a naive belief that this action will somehow make a significant impact on global warming. It is all driven by personal ideologies of the city council without regard for fiscal responsibility. Even this web site - a City Council controlled communication channel - is editorialized to promote this fool's errand.
Energy Future	4/9/2013	Julia Jones	julia.jones@me.com	City of Boulder, CO	80304	Finance/ Rates	As a resident of Boulder, I implore the city counsel to consider the negative economic impact ratepayers will suffer by this already misguided attempt to consider developing its own electrical municipality. Moreover, the idea that the city counsel and city has the expertise to successfully run such a complicated system is hubristic. MANY MANY city residences DO NOT SUPPORT municipalization and the waste of city resources on this effort. Negotiate with Xcel to increase renewable generation. Work with Xcel to achieve city renewable goals. Do not make the city go bankrupt or have to increase taxes even more to reach a goal that if fully vetted would drive any reasonable person to abandon.
General							
Council	1/8/2013	Marge Rinaldi	margerinaldi@msn.com	City of Boulder, CO		General	<p style="text-align: center;">Dear Mayor Appelbaum and City Council members,</p> <p>My husband and I moved to Boulder a year ago. While I don't fully understand the implication of the replacement of Xcel Energy with a Boulder-run power authority, I have concerns about the impact the change would have on my current solar energy incentives.</p> <p style="text-align: center;">I am also not sure why the voters of Boulder felt it was necessary to separate from Xcel in the first place.</p> <p>My hope is that the City Council will weigh all the costs and benefits carefully before moving forward with something that to me seems like a waste of taxpayers' money. If we had lived here in 2010, we certainly would not have supported this special tax.</p> <p style="text-align: center;">Thank you for taking the time to analyze this issue carefully and making a decision that will be in the best interest of Boulder residents.</p> <p style="text-align: right;">Marge Rinaldi 4420 Chippewa Drive Boulder 303-465-4702</p>
EnergyFuture	2/27/2013	Regina Celi	celisecondary@gmail.com	City of Boulder, CO		General	<p>I do believe Boulder's citizens interests would be best served with the Municipalization of Energy. I am a Boulder resident and property owner since 1982. As a progressive citizen, hopefully living in a very progressive city, I feel we should be using a lot, if not all alternative energy. It hurts me to see the environment hurting and it hurts me having to give my money to Excel. Time to get the non-progressive mega profit makers out of the scene.</p> <p style="text-align: right;">regina celi 848C Walnut Street Boulder 80302 (347) 530 9564</p>
EnergyFuture	3/6/2013	Pompe Starer-Vidal	pompevidal@yahoo.com	City of Boulder, CO	80304	General	The Boulder Weekly has an excellent feature article about potential problems with the current plan for municipalization. I agree with the points they make and am against the plan as it stands.
EnergyFuture	3/7/2013	Simon Loos	sloos@marinenergyauthority.org	Marin County, CA		General	<p style="text-align: center;">Greetings!</p> <p>I work with California's Community Choice Utility (Marin Clean Energy), and want to voice our support for the Boulder effort. Keep up the good work! Please let me know if we can be of any assistance - we have many 'lessons learned' concerning program design and outreach for community energy programs. I represent a CA local green power utility: Marin Clean Energy. I'd like to learn more about your efforts and see where we can help! All the best,</p> <p style="text-align: right;">Simon Loos Data Analyst sloos@marinenergy.com 415-464-6030 www.marincleanenergy.com</p>
Webmail	3/10/2013	Marquerite Tierney	tierneyfyi@comcast.net			General	I don't know if the city or Xcel hired the marketing firm with such lousy people skills to conduct a 25 minute survey-but if it was the city, you need a new firm. I believe it was Xcel because the questions were heavily biased to reflect their benign nature. Please take Boulder off the Xcel monopoly supply chain. So much better to be part of a cooperative. Thanks!
Open House	3/13/2013		jms569@msn.com	Boulder County		General	Thanks for your efforts on the behalf of the people of boulder!
Open House	3/13/2013		marciakosar@msn.com	City of Boulder, CO		General	(1)We should have never wasted 1.4mil + 3K to do this study. Money could have gone to solar panels throughout the city. (2) the risk too great and is not worth wasting more time and money. (3) Issue with the gun barrel situation is severe (people not voting and substation issues). (4) Value of our current utility lines, will take years and millions of dollars to resolve in court. Cities appraisal is by far too low!! (5) Xcel is an excellently run business with outstanding service and reliability. (6) Stop trying to save the whole world! NEXT STEPS: (1) stop wasting money and time the potential gain is not worth the risk. (2) continue on relationships with Xcel "as is" OR change state rules which will allow Xcel to have different programs for the customers. If a city can produce 50% of their elect needs with local solar/wind than Xcel has to match the same % with clean energy. FYI--If the city ends up needing a utility attorney I recommend Don Keskey (he is an expert in utilities)
Open House	3/13/2013			City of Boulder, CO- rents a home		General	I hope Boulder can set up an affordable, reliable municipal power system based upon renewable energy. They should only stay with Xcel if Xcel can offer a better deal on all these things. But I doubt Xcel can do this since they have shareholders that have profits in mind.
Council	3/14/2013	Susan Riederer	sriederer@comcast.net	Boulder County	80301	General	<p style="text-align: center;">Dear Mayor and City Council,</p> <p>After reading the misleading article on the front page of the Daily Camera today about "Some Boulder residents express skepticism on municipalization", stating that a large contingency of county residents are skeptical of the city's ability to run a municipality, I felt compelled to let you know as a long time resident of Boulder County (currently live in the Gunbarrel area) that I strongly support the city moving towards municipalization despite the fact that I did not get to vote on the matter.</p> <p style="text-align: center;">I believe that the city will do more to reduce our emissions into the air than a privately held company whose primary goal is to make profits.</p> <p style="text-align: center;">Thank you for all of the work that you do for our community,</p> <p style="text-align: right;">Susan Riederer 4830 Tanglewood Tr Boulder, CO 80301</p>
Council	3/15/2013	Warren Zivi	warrenzivi@gmail.com			General	My immediate neighbors and myself do not want Boulder municipalization of our energy services.

Council	3/16/2013	Darryl Leopold	darryl.leopold@gmail.com	Boulder County	80301	General	To Whom this Concerns, I live in Heatherwood and just wanted to say I support completely the City of Boulder's efforts to start a city run utility. I do not know if I will be able to participate and get my power for Boulder's utility but would jump at the chance if I could. Keep up the good work. I know how difficult it can be to go against a scorned utility that has lots of money. I just want to let you know you have my support. Darryl Leopold 4673 Greylock St Boulder, Co 80301
EnergyFuture	3/18/2013	Mike Short	michaelshort@yahoo.com	City of Boulder, CO	80304	General	VEHEMENTLY opposed to muni power system. I feel the City is working backwards from a preconceived position. Have a look at the condition of streets before taking over something infinitely more complex.
EnergyFuture	3/25/2013	POMPE Vidal	3939 Orchard Ct	City of Boulder, CO	80304	General	I am opposed to municipialization of our utility.
EnergyFuture	3/27/2013	Steve Charbonneau	steve@findsolutions.org	Boulder County	80504	General	I'm interested in the discussion
EnergyFuture	3/31/2013	Robert Vaughan	rdvaughans@mho.com	City of Boulder, CO	80305	General	City is unlikely to achieve its goals. Too many exogenous variables will impact its neat multivariant model.
Webmail	4/4/2013	Meghan Rozell	megtress@gmail.com			General	I just wanted to let you all know how desperately a municipal city energy plan is wanted. I don't want to give my hard earned money to a corporation who has a monopoly any more. After the years of poor treatment from these people, I want to make sure they are not earning any more undeserved money. I would much rather see it go to our city and toward our city. Please, I urge all of you to do whatever you can do to push these bullies out of our city. Even if we were paying comparable prices, I would sleep better knowing that I didn't just make some guy who doesn't care about me richer and that I could be a part of the bigger discussion with my city about how to make a transition into renewable energy for the future. Help me get out of this seemingly endless frustration.
CMOSupport	4/5/2013	Dale Meyer	gdalemeyer@gmail.com	Boulder County	80302	General	Received a survey phone call last night April 4. Complicated questions took 25 minutes. Asked who created/paid for the survey. Interviewer instructed not to reveal. Terrible sets of questions. WAS THIS COMMISSIONED BY CITY COUNCIL OR CITY ADMINISTRATION? If it was I must say "please stop the childish behavior - you have become a terrible embarrassment." If it was X'Cel that created and funded this imbecilic "survey" then the City Council and City Manager need to be aware of this and publicize it widely. Either way, the telephone questionnaire was insulting, sophomoric at best, and the public must be made aware that the results are meaningless. I must restate that the interviewer would not reveal who paid for the survey - he was instructed not to do so. In my years in Boulder [45+] there have been many issues that our community has faced, but this "municipalization" battle is approaching the worst - the egos are rampant, we experience uncivilized bombastic behavior beyond belief, and many of my longtime Boulder friends and acquaintances are saddened to observe intelligent people on both sides behaving like small bratty children. I realize that my comments here won't reach elected Councilpersons nor the City Manager due to "policy" - however, these officials need to be made aware that many reasonable longtime residents sadly perceive the inappropriate behavior of both City Officials and X'Cel executives. So, Heather, if at all possible, please send this message to all City Council members and the City Manager - kindly figure out some way that all are apprised of the view of this 77 year old fellow and many other longtime Boulder citizens.
EnergyFuture	4/9/2013	Sam Gastro	samgastro@gmail.com	City of Boulder, CO		General	Make it Happen!
Council	4/9/2013	Ron Flax	ron.flax@gmail.com		80305	General	Dear Council, As a resident of the City of Boulder, I wish to convey my continued support for movement towards a municipal utility. I have been carefully observing the details of the process to date, as well as the results of the work of City of Boulder staff, and I strongly believe that it is the best interests of our community to create a municipal electric utility. I look forward to your continued demonstration of strong leadership. Sincerely yours, Ronald Flax 2836 Elm Avenue Boulder, CO 80305
EnergyFuture	4/9/2013	Lauren Spinrad	chachas2005@gmail.com			General	Hello, I am writing because it recently came to my attention that city council is voting on whether to keep moving forward with the plans to municipalize Boulder's energy. Please continue to represent Boulder citizens by supporting these voter-approved plans. Thank you, Lauren Spinrad
EnergyFuture	4/9/2013	Christian Eaton	coloradoeaton@gmail.com			General	I am writing in to voice my concerns over a vote at next Tuesday's City Council meeting. I would urge you to please vote yes to continue moving forward with ballot measures 2B and 2C. Thank you for listening to the citizens & curbing our greenhouse gas emissions! The planet thanks you too!
Governance & Reliability							
EnergyFuture	3/16/2013	Landon Hilliard	landonhilliard@comcast.net	City of Boulder, CO	80304	Governance & Reliability	By operating our own municipal electric company, we in the City of Boulder can control our own destiny. Local control is more promising than compromise with a corporate entity. Let's trust ourselves to do the job correctly and meet climate smart benchmarks. Even with the attendant complications related to the transition, I strongly support municipalization as the right course to take. Thanks for working on our behalf!
Energy Future	3/27/2013	MaryEllen Floyd		City of boulder, CO	80304	Governance & Reliability	Dear City of Boulder, Please leave things the way they are! People feel you are playing with FIRE. Leave it up to Xcel they know what they are doing@ The City of Boulder have NO idea what they would be getting info trying to run an Electric utility Company. All these added Service Charges and fees are bad enough. Do you want everyone to leave Boulder? How do you expect to pay for everything you are planning? -MaryEllen Floyd
EnergyFuture	4/2/2013	Peter Stroller	peterstroller@yahoo.com	Boulder County	80302	Governance & Reliability	My wife and I strongly support municipal electric power for the city and our area. We live at 764 Sunshine Canyon Drive.. We think it should be pointed out to the media that Excel spent close to \$1,000,000 to defeat the referendum and private citizens raised less than\$100,000 in support. I believe Excel will be doing it's best subvert the change to a city utility. Municipal power will be less expensive and we will be able to understand our bills. Profit can go to improve the system and back to the citizens. Our environmental goals will be reached(Excel is more interested in profit). The city will be able to respond to citizen concerns and the needs of low income people.

EnergyFuture	4/3/2013	Derrick O'Connor	rod@rodoconnor.com	City of Boulder, CO	80305	Governance & Reliability	<p>I think this is about the most asinine project I have ever heard of and I have lived in Boulder for over 30 years, so I have heard a few.</p> <p>Taking over, and attempting to run the electrical utility based on political ideology is insane. The "carbon footprint" nonsense is just that, a figment of your imagination.</p> <p>I want someone running the electrical service that knows what they are doing, not a bunch of idiots on the Boulder City Council.</p> <p>Xcel has served me well for the past 30+ years, and I see no reason for that to change now!</p>
Energy Future	1/9/2013	Maureen Taylor	maureen.taylor@me.com			Governance & Reliability	<p>I am the treasurer of Orange Orchard and we are waiting to see what your decision would be. I have 2 questions that I would like some more information on if at all possible.</p> <p>1) Will Boulder City be under the remit of the PUC, and if so would this mean that your rates will be linked / aligned with those of Xcel?</p> <p>If the city were to form its own electric utility, it would not have to report to the PUC when determining rates for customers. Final rate determination would be overseen by the Boulder City Council. It is likely that an electric utility advisory board would be created, similar to the Water Resources Advisory Board (WRAB) that looks at all items pertaining to the city's water, wastewater, and stormwater utilities. Under its current structure, the WRAB analyzes all potential water utility rate increases and provides their feedback and suggestions to City Council before that group makes the final determination. The WRAB is made up of local volunteers who apply and are appointed by City Council to serve for limited terms. The electrical board's structure and authority would be determined should the community decide that it will, in fact, create its own electric utility.</p> <p>If the city decides to form a municipal electric utility and people outside of the city limits become customers, then the PUC could become involved in the rate making decision process, but only if the city charges those customers rates that are higher than Xcel Energy's at that time. Under this scenario, Boulder City Council would also be involved with the rate making decision process along with the PUC, so those customers could have a multiple checks-and-balances system that could help ensure rates are fair.</p> <p>2) It was mentioned at our coffee morning that there were varying degrees of "municipalisation" from a legal perspective. Any chance that you could point me to some suitable reading material?</p> <p>Our staff, consultants and community stakeholders are currently working on determining the various degrees of municipalization that could still accomplish community goals and meet the charter requirements. Our plan is to lay out those options in our Feb. 26 memo to City Council and present them that night at the Study Session. The memo will be available online by Feb. 21.</p> <p>Thanks, Maureen</p>
EnergyFuture	2/15/2013	Mark Milliman	mark.milliman@comcast.net	Boulder County		Governance & Reliability	<p>This effort is a waste of time and taxpayer dollars. I have never witnessed any government effort where it has been able to reduce costs and pass them on to the taxpayer. The effort typically results in higher costs, larger government, lower quality service, and higher taxes.</p> <p>In order to execute this expansion of government legally, Xcel Energy would want to sell its assets to the city at a fair price. Also, county residents and government now potentially affected would have to approve of being part of this municipalization. I can see the cost of litigation going higher and higher. As a county resident, I will fight against being a part of this dubious effort by a government outside its jurisdiction.</p> <p>The city would not invest in building open access broadband infrastructure at a tenth of the cost that would prove the economy of the city, but it will spend hundreds of millions of dollars of taxpayer funds to achieve a dubious social engineering objective. In my opinion the priorities of this city are wrong.</p>
Council	2/25/2013	Cartherine Allen	bouldercathy@indra.com	City of Boulder, CO		Governance & Reliability	<p>My concern for a city run utility is this: How well will they serve the community in getting power restored after a major event? Excel can pull workers from other states. Will we have enough manpower on hand? I wonder if this has been taken into consideration when deciding whether to municipalize.</p> <p>Thanks, Cathy Allen 262 Spruce, Boulder</p>
Council	2/28/2013	Gail Gordon	CPA@gordonassoc.com	City of Boulder, CO	80302	Governance & Reliability	<p>I feel compelled to write City Council again for several reasons. This is an open comment period for citizens on the City's proposed municipalization issue. Mayor Appelbaum, I did not appreciate your lengthy e-mail response dismissing my first e-mail feedback on this issue.</p> <p>As a City resident for 25 years and Boulder Chamber member for 20 years, I do support:</p> <ul style="list-style-type: none"> - The City, Xcel Energy, and the business/residential community finding a workable solution with Xcel Energy. - A citizen vote on this issue with the business community being polled for their input. <p>- A feature with Xcel Energy where commercial and residential customers can buy solar energy each month as an "add-on" to our bill similar to what our household does now with 100% wind power. This should be available soon to accelerate green energy. Not every household has the ability to buy solar panels.</p> <p>I do not support:</p> <ul style="list-style-type: none"> - The City spending more money on consultants to study this issue at taxpayer's expense. - A five year transition period. If the City is not qualified to run a utility, it should not try to do it. - Not sharing information with Xcel Energy. - Taking this issue to court by legal action. <p>Overall, I feel the City is being too self-confident it can successfully run a utility and that your projections are not realistic.</p> <p>Sincerely, Gail Gordon 377 West Arapahoe Lane Boulder CO 80302-5858 phone: 303-938-9308</p>
Council	2/28/2013	Cindy Warren	cjwarren2002@hotmail.com			Governance & Reliability	<p>City Council Members,</p> <p>I wanted to let you know I am strongly opposed to your plan to replace Xcel Energy. I do not believe your approach is either fair or legal. I think the City Council has their own agenda, clearly separate from the majority of Boulder residents. As a group, you act against my wishes and best interests at nearly every turn.</p> <p>I will support any actions Xcel takes to block your municipalization plan.</p> <p>Cindy Warren, M.D.</p>

EnergyFuture	3/12/2013	Bill Shafer	bschafer710@gmail.com	Boulder County	80302	Governance & Reliability	What options are under consideration for providing options and choices to customers should they prefer to purchase power and services from Xcel? Is the planned municipal power entity willing to compete with Xcel, directly guaranteeing customer choice?
Open House	3/13/2013			City of Boulder, CO		Governance & Reliability	Can the city come up with an initiative to deal with lack of trust (e.g. distrust)? My opinion is that city staff is self-absorbed, and would benefit from training along these lines. (e.g. how to build trust) a local training is a possibility. See Matrix Works. Thank you.
Open House	3/13/2013			City of Boulder, CO		Governance & Reliability	Governance will be one of the biggest challenges in making this work. Independent organization important--insulated from changing local politics; effective utilities managers, not just idealistic innovators; must be balanced to be effective and reliable while going as green as possible. I support municipalization, but you need to have some quality guidelines to direct the overall effort.
Council	3/14/2013	Mary Eberle	m.eberle@worddrite.com	City of Boulder, CO	80304	Governance & Reliability	<p>On March 13, the New York Times carried a piece about cities and their analyses of the benefits of running their own electric company. Boulder's process is described in this article. I feel certain you all have seen it. On page 2 toward the end, I noted some quotes (emphasis added): "For now, though, Boulder, whose efforts are being closely watched by utilities, environmental advocates and officials across the country, is moving along even though its utility has among the best records for including clean energy, especially wind, in its portfolio." and "In the meantime, the Public Service Company of Colorado is working on a plan to satisfy the city's demands, Mr. Eves said, partly because it does not want to lose the customers, who are 4 percent of the company's business, but also because other areas it serves have set or are designing similar energy targets."</p> <p>I feel strongly that moving to a municipally owned electric company would be a mistake. I have no vested interest in Xcel. I think Boulder should drop "municipalization" and see as a "win" that the commotion Boulder has caused will benefit our city and others even if we stay with Xcel.</p> <p>The city's water utility is often pointed to as a paragon of a great city service, and generally I support that view. Boulder has reliable, great-tasting water. But behind the scenes is the ugly fact that the city is controlling more and more of the ditch water. When I think of all the treated water I have pored on landscaping over the years, I cringe. A small ditch runs along my property, and I would so much have liked to use that water, including of course, paying for it, instead of the treated water. In addition, I believe I remember correctly that in 2002's drought, no water was allowed to run in the ditch. Thus ditch-side trees that give shade and natural, no-energy cooling were stressed. These examples show that a city-owned utility can be just as oblivious to individuals' desires and values as a corporate entity can be.</p> <p>Finally, the Boulder Weekly recently ran an analysis of high costs that Boulder would unnecessarily face because of environmental problems at the Valmont site. I'm sure there are other such problems lurking. It seems to me that the money the city is spending on all the studying and promoting around municipalization could have been better spent to insulate, solarize, and add ground-source geothermal heating and cooling to homes and businesses. If we all used ground-source geothermal cooling, we would cut the country's energy usage in half. But there is a large up-front cost, and the city could help homeowners with that. The city could subsidize the drilling of ground-source geothermal wells in every cul-de-sac and feed the heating and cooling liquids to the surrounding houses. Homes not on cul-de-sacs could have their wells drilled in the street. No commercial buildings should be approved in the future if they do not use this technology for heating and cooling. Our home has it, and in combination with solar collectors, we spend very little if anything now for air conditioning. Heating is another matter, of course, so we count on electricity to pump that geothermal fluid in the winter, though we have back-up gas fireplaces and stoves.</p> <p>I would be delighted to speak with any of you further, but I urge you not to continue the quest for municipalization of our electricity. Save the future legal fees and put them into making our homes and commercial buildings more energy efficient.</p> <p>Thank you for considering my views and for your service to our city.</p> <p>Sincerely, Mary C. Eberle 1520 Cress Court Boulder, CO 80304 303 442-2164</p>
EnergyFuture	3/20/2013	William Conner	smbconner@comcast.net	City of Boulder, CO	80303	Governance & Reliability	I want the city council members to know that I am TOTALLY opposed to municipalization of Boulder's energy supply. I do not trust the city council (present or future) or the city staff to supply reliable service at a reasonable cost.
Council	3/29/2013	Anita Li	anitabeth3@gmail.com	City of Boulder, CO	80304	Governance & Reliability	<p>March 30, 2013 To the Boulder City Council,</p> <p>I just want to say that I completely trust the city government and professionals (and active citizens) to manage an electric utility. I believe you/we can do a better job than Xcel. I believe the city's utility will be better in reducing greenhouse gas emissions, more reliable, and affordable.</p> <p>I urge you to proceed with the municipalization option.</p> <p>I don't trust Xcel to seriously reduce greenhouse gas emissions. I "trust" them to save their own skins, no matter the cost to the public and no matter the cost to future generations. Frankly, Xcel made a bad decision when they invested in coal-fired plants, and they made it despite numerous warnings from the people of Boulder. I think it is outrageous that Xcel wants to keep us shackled to their coal-fired plants, and outrageous that they want us to pay for their mistakes.</p> <p>Boulder's municipalization plans are one of the few bright spots on the eco-horizon. When I read about tarsands oil, fracked gas and mountaintop removal, I feel the gravity of our situation. That's why I am extremely grateful for what you are doing in moving us toward renewables and toward energy sovereignty.</p> <p>Please keep going with this positive endeavor. It is so important. You have my full support.</p> <p>Anita Li 3312 16th Street Boulder, CO 80304</p> <p>To the Boulder City Council,</p>
Council	3/30/2013	Cindy Powers	cindy.powers@gmail.com			Governance & Reliability	<p>I want to let you know that I completely trust the city government and professionals (and active citizens) to manage an electric utility. I believe you/we can do a better job than Xcel. I believe the city's utility will be better in reducing greenhouse gas emissions, reliably, and affordably.</p> <p>I urge you to proceed with the municipalization option. Please keep going with this positive endeavor. It is so important. You have my full support.</p> <p>Kindly, Cindy Powers</p>
Information Request							
EnergyFuture	1/1/2013	Ed Johnson	Bouldehills4me@gmail.com	City of Boulder, CO		Information request	How can I get involved in the Boulder energy independence project? I'm an IT web infrastructure technical expert with Anthem Blue Cross today, but looking for new opportunities for when I retire in 2 years, somehow working on projects in Boulder County. Hoping to get involved / volunteering in the energy project in some way this year. Moved to Boulder this summer from LA, and so glad I did.....I love it here.
EnergyFuture	1/17/2013	Rocky Mountain Fire Protection District	cfolden@rockymountainfire.org	City of Boulder, CO.		Information request	How will the program effect property in special districts? Thank you.
EnergyFuture	2/12/2013	skismohr	skismohr@mwalliance.org			Information request	Looking to hear updates on muni power production/distribution vote and next steps.
energyfuture_comments	2/24/2013	Gerald DePoorter	shilohco@aol.com	Superior		Information request	Where can I read the ""analysis"" report mentioned in the Sunday Boulder Daily Camera?

EnergyFuture	2/28/2013	Debbie Miles	d_r_miles@yahoo.com	City of Boulder, CO		Information request	You used to have the power production information on the Rec center solar cells and hot water system on a web site. Do you still have how much we save from these units per month?
EnergyFuture	3/1/2013	Peter Copeland	peter.copeland@q.com	City of Boulder, CO		Information request	<p>I am a long-time Boulder resident (since 1974) and I would like to see a soft copy of the consultant's economic model for the municipal utility. I would be willing to sign a non-disclosure agreement for use of the information in city proceedings. My profession is economic cost modeling of landline networks, so the methodologies involved will not be foreign to me. I look forward to examining the model and providing my opinions of the methodology and assumptions behind the analysis. I would think a more diverse evaluation of the model would help the Council in its decision making.</p> <p>Thank you,</p> <p>Peter Copeland 5231 Holmes Pl. Boulder, CO 80303-1245</p>
Energy Future	3/3/2013	John Street	john.street@yahoo.com			Information request	<p>I was recently reminded by my colleagues Jason Weiner and Blake Jones of the impressive municipalization efforts to-date. I have been meaning to write to you since attending the city council meeting on February 26th. I was so inspired by your vision for creating a model next generation utility. It will be an historic achievement for Boulder and an example to the rest of the nation for what a utility can do.</p> <p>I would like to ask if I can help in any way. By way of background - I have been working in renewable energy since 2007, doing solar project finance and project development. I have an MBA from Georgetown and an engineering degree from CU. I have a total of 17 years of professional experience, and I am currently consulting with the folks at Namaste Solar to enhance their financing and project development capabilities. My resume is attached for reference.</p> <p>If appropriate, I'd like to speak to you about consulting opportunities or else volunteering for a working group that can utilize my expertise. Frankly, I am also interested in the larger effort of helping build the utility ... but that may be a conversation for another time.</p> <p>Best regards, John Street</p>
EnergyFuture	3/10/2013	Jim Eastman	jtheastman@msn.com	Boulder County	80503	Information request	<p>Does the proposed service area for the City of Boulder's electric utility include the unincorporated village of Niwot?</p> <p>Thanks, Jim Eastman 7158 Overbrook Dr. Niwot, CO 80503</p>
EnergyFuture	3/12/2013	Mary Broderick	maryb@ibew68.com	City of Boulder, CO-Works	80216	Information request	<p>How do you get the Staff report Democratizing Boulders Energy future. This report was the subject of an interview on KGNU on March 1, 2013 with Jonathan Coen and Sam Weaver with Duncan Campbell.</p> <p>I cannot find the report on this website</p>
Open House	3/13/2013		jpknoll@msn.com	Boulder County		Information request	<p>Please publish results of this open house feedback!</p>
Energy Future	3/15/2013	Anita Li	anitali@smwaldorf.org	City of boulder, CO	80304	Information request	<p>I work at a K-12 school in Boulder, and I'm just wondering if you (or someone on your team) would consider coming to our school during Earth Week to discuss the benefits of municipal utility, for reducing greenhouse gas emissions.</p> <p>I am just exploring to ask if you would consider this, or if you can recommend someone who could engage a lot of schoolchildren on this topic. The committee has not yet decided on all our activities for that week. The most likely day would be Friday, April 26th.</p> <p>As I said, I'm just exploring a possibility. Thanks for your time.</p> <p>Sincerely,</p> <p>Anita Li Communications Assistant, Online Forms Manager, High School Transcripts Registrar Shining Mountain Waldorf School</p>
EnergyFuture	3/25/2013	Asif Lakhani	laknahi.29@gmail.com	journalist		Information request	<p>I am reporting on private vs. municipal electricity for American City & County Magazine. I was wondering if I can get someone in the office to give me a call (or if I can call someone) BEFORE NOON EDT today about the vote the city had last year to fund the going-municipal study (mostly) and other quick hits.</p> <p>Please confirm the message has been received.</p> <p>Thank you,</p>
Modeling/ Communication/ Working Plan							
EnergyFuture	2/27/2013	Neil Kolwey	neil.kolwey@yahoo.com	City of Boulder, CO		Modeling/ Communication / Working plan	<p>Dear project team and City Council,</p> <p>Regarding the municipalization issue, I have a few comments or questions. Mainly, I question the assumptions around the power purchase agreements, which would be the main source of electricity for the City under the municipalization option. First of all, I know from my own experience that long-term natural gas and electricity prices are extremely difficult to predict. However, I agree it is fair to use Xcel's assumptions regarding future natural gas prices. Secondly, it appears that in the "natural gas PPA" section of Appendix D, the consultants used standard rules of thumb for the prices of natural gas-based electricity, rather than actual data on prices of such long-term PPAs. I understand this data is hard to come by, but the use of rules of thumb for this seems particularly questionable. There are many issues with trying to predict the long-term PPA costs, such as competition among other potential purchasers, decreases in availability, etc. How are these uncertainties handled in the modeling?</p> <p>Purchases of electricity over the next 20 years will be the largest single cost for the potential municipal utility. Therefore this question of prices of the PPAs is very important. Any conclusions about cost-parity with Xcel should be framed with the huge uncertainties involved.</p> <p>Good luck with the study. Please continue to pursue discussions with Xcel, and try to work out a reasonable compromise with them that meets the City's environmental goals. That would be my preference.</p>

EnergyFuture	3/7/2013	Dave Humphrey	davehumphrey2@comcast.net	City of Boulder, CO		Modeling/Communication / Working plan	<p>I do not believe the model is able to accurately portray reliability issues in a large (municipal) electric system that exceeds 30% renewable power. This is a particular issue with a large number of suppliers feeding into the local grid (larger suppliers, not small business/residential). You have to be able to schedule the power on the lines to keep from a) burning them up, or b) browning out. Renewables are not schedulable due to climate variations. Xcel Energy has been able to take on up to 20% or so on a localized area of its grid, but the company states it cannot handle more than 30% with today's technology. It is not alone in this matter.</p> <p>How can we rely on a modeling tool that is not able to model the reliability of a real world example that exceeds the highest renewable ratio in existence today?</p> <p>This is my question for the March 12 business Conference Call.</p>
EnergyFuture	3/11/2013	Tim Wolf	tvdwolf@me.com	Boulder County	80301	Modeling/Communication / Working plan	<p>2) If you are truly objective, and want to promote the highest level of intellectual integrity and quest for accuracy, why not a) open all your modeling to Xcel; and/or b) create an external modeling team--who may or may not be as positively disposed to the municipalization idea as those who have been doing the modeling for the past two years--and see what they conclude? The constant references by those involved that modeling assumptions are 'conservative' mean little unless these notions are truly tested by those with competing or different ideas. Think we need more intellectual objectivity here and less subjective 'deal fever', which is what this movement seems to convey. Thank you for listening and for the favor of a response. Tim Wolf (303) 478-3551</p>
EnergyFuture	3/11/2013	Gem Stone-Logan	gemstonelogan@gmail.com	City of Boulder, CO	80301	Modeling/Communication / Working plan	<p>It is obvious that the city council is passionate about this project. It is good to be passionate about important issues. However, it's also easy to make data say whatever you want it to say if you believe it serves a higher purpose.</p>
EnergyFuture	3/13/2013	Scott Nelson	poorboy44@gmail.com	City of Boulder, CO	80304	Modeling/Communication / Working plan	<p>My name is Scott Nelson, and I am writing as a concerned citizen with some questions on the risk management plan for the proposed new Boulder utility. I've read the bios of the risk management committee and am impressed by the breadth in background being represented. However in reviewing the risk committee minutes, it looks like an important issue isn't being addressed in as much detail as I think is warranted. As you are aware, power is not a storable commodity - supply has to balance demand at every instant of every day. Since wind and solar aren't dispatchable generation assets, one can't control how much power these resources are going to produce. If you are trying to balance unpredictable supply (wind) with a smooth demand (load) in real-time, you are going to need substantial balancing or ancillary resources from dispatchable generation -- i.e. gas/coal. Dispatchable gas/coal thermal ancillary generation is going to end up throttling up and down substantially more to balance unpredictable wind/solar supply and meet demand. First, to my knowledge, the net carbon impact of the additional ancillary requirements hasn't received serious analysis, and I would like to see the issue addressed. Second, the chance of being caught short and being forced to buy from the spot market is not insignificant, as it seems to have been implied. If Boulder is caught short on a hot day when generation and transmission is constrained and is forced to buy spot power from Xcel - such a situation could potentially bankrupt the city in a single hot afternoon. I would like to see this issue addressed in more detail.</p> <p>My specific questions are:</p> <p>1) What methods are being used to understand the risk around being caught short on power and/or not having sufficient transmission capacity rights?</p> <p>2) What are the "worst case scenarios" being analyzed? Load shapes aren't constant and the use of an "average load shape" is not sufficient for risk management. Use of an "average generation profile" is also insufficient, given the intermittent nature of the generating resources and transmission line availability. Also, critically, when it gets hot, wind generation tends to drop off. A lack of resources, coupled with spiking demand and congested transmission lines during a hot day could cause a power shortage. If Boulder is caught short, will it incur potentially financially devastating spot market purchases from Xcel to keep the power on, or will it take a blackout?</p> <p>3) What hedging strategies are being proposed to mitigate these risks? Financial hedging instruments could include forwards, options, transmission rights and so forth. Physical hedges could be the installation of local dispatchable thermal generating resources, e.g. leasing of CTs (combustion turbines) at the Valmont coal plant. What kind of budget is being allocated for these types activities?</p> <p>4) Is the city going to run a real-time trading desk to manage these risks? Or is it going to contract risk management out to a third party (e.g. ACES, in the Midwest, manages portfolios of munis).</p> <p>I look forward to your responses to my concerns, as I think they are a critical part of the planning process for a possible future Boulder municipal utility.</p> <p>Best regards, Scott Nelson 920 North St. Boulder, CO 80304 303 909 4559</p>
Open House	3/13/2013		smich@colorado.edu	City of Boulder, CO		Modeling/Communication / Working plan	<p>Thank you! (1) "phase out" options v. "low-cost" options = how does probability of various levels of stranded and acquisition costs compare? How specific can we be? How confident are we that under "phase out" these costs would be low? (2) please give clearer percentage estimates of probabilities of costs under the different scenarios. The "likely" and "very likely" statements are too loose to convey very useful information; looks sloppy. (3) Let's have more information about how to pursue "reduced use" regardless of options selected. Please solicit public input on this--from businesses, residents, CU, national labs, etc. (4) One the page of graphs comparing rates, is it not possible that the costs, even under the "phase-out" option could exceed \$150million? What's the probability of this? (ps. Kara is great at answering my questions!)</p>
Open House	3/13/2013			City of Boulder, CO		Modeling/Communication / Working plan	<p>The community needs to be updated and help in the decision going forward. The city council should not be the only ones deciding. Involve the whole community. About structure: Too hard to hear video; too hard to get to read the questions on the wall.</p>
EnergyFuture	3/28/2013	Michael Shepard	email4shep@yahoo.com	City of Boulder, CO	80304	Modeling/Communication / Working plan	<p>I've reviewed the plan, the options, and the extensive documentation on the working groups' recommendations. It's an impressive body of work. I have a few comments.</p> <p>It's hard for a process like this not to lead to group think. While the consultants and volunteers for all the working groups no doubt gave it their best, it's easy for a committee to become blind to what it's missing. As a cross check I would urge the city to convene a group of general managers of municipal utilities of scale comparable to Boulder and ask them to react to the proposal and analysis. What are we missing? What questions have we failed to ask? What could bite us that we haven't considered? The people who deal with running municipal utilities day to day know where the skeletons can hide. And they come to this with a very different perspective than community volunteers and consultants.</p> <p>My second comment is that we should be very clear on what the objectives are. A lot of the rhetoric, including that with the rotating photos of community members on the city's web page, is about controlling our own destiny. That's very different than reducing emissions and energy use--which I think should be the prime drivers. Efficiency is far and away the cheapest and fastest way for Boulder to reduce its emissions and energy use. I'm worried that the city will spend enormous sums on legal bills and debt service and investment in renewable power, when a dedicated energy efficiency utility could achieve far more reduction in emissions and energy use faster and cheaper. XCEL does a fine job of keeping the delivery infrastructure running reliably. Why would we want to take on that task when what we really care about is reducing energy use and making supply cleaner?</p>

EnergyFuture	4/3/2013	Nick Dunklee	nick@nickdunklee.com	City of Boulder, CO -renter	80301	Modeling/ Communication / Working plan	<p>I have been following this issue with interest over the past year. Probably the most concerning issue is that there seems to be very little hard data in the news regarding what options are actually on the table. It sounds like a classic governmental move to put on blinders, hope for the best, and walk into a very dumb decision with a smug air of confidence to compensate.</p> <p>I would prefer that Boulder doesn't go down this irresponsible path. a 5 megawatt (peak) series of hydro plants is no replacement for a 229 megawatt natural gas/coal plant. Wind and solar aren't always available. Making up for the difference by borrowing from Xcel would be hypocrisy. I am especially concerned as living in the Gunbarrel area, Boulder is basically trying to force us to live with a poorly-thought-out decision after it has already been made.</p> <p>Not to mention the number of tech companies (and hospitals) that REQUIRE reliable electricity. Cobbling together a grid instead of trusting the energy provider that has been doing this business for over a century is about the dumbest thing I've ever heard of. You will lose many tech companies going down this path. Servers want reliable power. Boulder won't be able to deliver this anymore.</p> <p>I grew up in a solar/wind powered alternative energy home (with generator backup for the times when the sun didn't shine) 100% off the grid. It was a wonderful experience, but we had to make sacrifices. No air conditioning, no central heat. Wood fired stove for heat, propane refrigerator. Microwave, vacuum, washer and dryer had to be planned to run at peak solar output. Trying to convert an entire city and surrounding areas at the rapid pace proposed is dubious at best, and absolutely insane at worst. Not to mention you would lose the support of the network of major energy provider repair crews. How does Boulder propose to handle rebuilding our electric grid the next time a big storm blows half of it over?</p> <p>Once the blackouts start, my family will pack up and leave.</p> <p>By the way, I find it kinda funny, if you municipalize the electricity, the gas will still be Xcel. Citizens will then be receiving two paper bills instead of one. Not a very green maneuver. I suppose it would help keep the USPS in business, however.</p> <p>If there is any other information with hard evidence showing how any of the proposed plans would actually be functional or possible, I would appreciate links/documents. I have tried digging high and low and other than vague mentions of, "we have looked at x plans and they are all promising," I've not seen any hard data to explain how Boulder plans on doing the impossible and somehow keeping it affordable and reliable.</p> <p>Sincerely, Nick Dunklee</p>
EnergyFuture	4/8/2013	Judith King	judith.king199@gmail.com	City of Boulder, CO	80301	Modeling/ Communication / Working plan	<p>Let's remember why we voted to have the city explore the possibility of establishing a municipal electric utility. It was to aggressively reduce the use of carbon-based fuels in order to limit the greenhouse gas emissions contributing to climate change. That objective is important enough to me that I would even be willing to pay more for my power. Yet the charter we approved directs the city to ensure that such a utility would be able to provide reliable power to its private and commercial customers at no more than what we would be paying our current provider, Xcel. As an ordinary citizen I have been following this decision process: reading the 38 page report submitted to the city on 2/26/2013 by the city staff detailing the initial analysis performed with input from many experts; hearing how the models and assumptions were developed; and taking the opportunity to give feedback at the 3/13/2013 Open House.</p> <p>I am confident in the process to date, and urge the City Council to take the next step on April 16 to further analyze and refine the options this summer.</p> <p>I also want to compliment the city staff on their excellent work so far.</p> <p>Judith V. King 5000 Butte #199 Boulder, CO 80301 303-440-9250</p>
EnergyFuture	4/9/2013	Margi Ness	mariness@me.com			Modeling/ Communication / Working plan	<p>Council Members,</p> <p>I am unable to attend the Council meeting next week when you vote on whether to continue the exploration of Boulder's own utility company. I am one citizen who is impressed with the work the City staff has done thus far. Their conservative predictions look great and I urge you to vote to continue the process.</p> <p>Thanks for all you do.</p> <p>Margi Ness Floral Drive Boulder</p>
EnergyFuture	4/9/2013	Rob Jackson	robertclysejackson@gmail.com	City of Boulder, CO		Modeling/ Communication / Working plan	<p>Hello City Council,</p> <p>I just want to send a short note of encouragement towards maintaining the desires of the public to localize our energy utility. From what I understand the reviews and models for how Boulder could successfully take control of our energy situation are glowing. I believe that not only can Boulder do this, but we can also serve as a beacon for other forward-thinking communities to follow.</p> <p>What good is democracy if a giant corporation swipes our interests and vote right off the table? Let's be the change we want to see.</p> <p>Thank you, Rob Jackson --- Rob Jackson Co-Founder, Free to Be TV www.freetobe.tv Boulder, Colorado</p>
Partnership							
EnergyFuture	2/15/2013	Reuben Munger	reuben.munger@gmail.com	City of Boulder, CO		Partnership	There is a middle path. Let's spend our money on the generation and service mix we want not on buying wires. - mainly I just want to be on the email list.

Council	3/7/2013	Bill Hayward	billhayward@usa.net			Partnership	<p>Dear Council Members,</p> <p>I would like to thank you for your ambitious efforts to expand electrical generation from renewable sources via municipalization. Newspaper reports suggest that you are still looking for a compromise with Xcel that would avoid complete municipalization while boosting green generation. I would like to suggest that 1)Boulder enter into a net-metering agreement with Xcel; 2)Build a wind farm or farms--probably on the Eastern Plains--that would generate an amount of electrical energy equal to Boulder's annual usage; 3) Leave the grid maintenance and base-generation to Xcel; 4)Contract with Vestas to site, construct, and maintain our new wind farms.</p> <p>This would allow us to essentially go 100% green without years of battles with Xcel.</p> <p>I hope you consider this compromise.</p> <p>Christopher Hayward 303-455-1977</p>
EnergyFuture	3/11/2013	Tim Wolf	tvdwwolf@me.com	Boulder County	80301	Partnership	<p>Why not collaborate with Xcel to build a wind farm near the old Rocky Mountain Flats and the current NCAR test windmill sight, including a transmission line to Boulder, so that we would not be buying wind energy from others but truly reducing Boulder's carbon footprint in a substantive way through our own dedicated wind farm? That could be an exciting alternative and, as you may realize(have personally shown Shaun McGrath and Tom Park this capability), Xcel is the world's leader in having massively reducing forecasting error for wind energy. Truly amazing and could very much be harnessed and leverage to Boulder's benefit and without risking huge amounts of capital and taking operating risks that Boulder has neither the financial resources nor expertise to lead. Would be very happy to discuss this further. Thanks so much. Tim Wolf</p>
Open House	3/13/2013			City of Boulder, CO		Partnership	<p>Seems like we will get one monopoly over another monopoly. A better monopoly? Maybe the whole US power system needs to be deregulated as in many parts of the world. Just like Reagan broke up the Bell System, maybe there is a totally different approach. Maybe boulder should join with all communities and petition the State and Central Govt. to remove all the cumbersome/antiquated rules and regulations. It would be chaos for 20 years, but then ...</p>
Open House	3/13/2013		Mahaffey10@aol.com	City of Boulder, CO		Partnership	<p>(1)I think this was an effective forum. (2) I would recommend Focusing really hard on a partnership with Xcel in which Xcel would provide at least most of the desirable elements and continue to run and manage the system. (3) The charter metrics chart input should include shorter 5-10 year verse 20year period. (4) Once the final path forward is laid out it should be voted on by citizens.</p>
Open House	3/13/2013			City of Boulder, CO		Partnership	<p>I am very happy with Xcel. They are extremely reliable. I don't trust the models that the city has provided (i.e. we'll have cleaner energy at less cost) and I think the city should negotiate with Xcel to provide a joint electric utility.</p>
EnergyFuture	3/22/2013	Peter Wayne	Phwayne@gmail.com	City of Boulder, CO	80304	Partnership	<p>I would like to encourage city council to pursue a partnership with Xcel Energy, rather than create a municipal utility. After reviewing the materials, it seems financially more practical and efficient to work with xcel and our current infrastructure to accomplish the goals set for sustainable energy.</p>
Renewables/ solar rebates/ energy efficiency/ GHG emissions							
EnergyFuture	1/10/2013	Scott Bischke	scott@emountainworks.com	Bozeman, MT		Renewables/ solar rebates/ energy efficiency/ GHG emissions	<p>Looking to Boulder as we consider methods of alternative energy production to offset Bozeman's carbon footprint. I am a CU grad in ChemE, and an active citizen participant in the creation and implementation of Bozeman's Climate Action Plan. Best, Scott</p>
EnergyFuture	2/4/2013	jason	jasone1973@gmail.com	Richmond, VA		Renewables/ solar rebates/ energy efficiency/ GHG emissions	<p>I'm always interested in hearing about new energy concepts and developments. I don't know if you have any developments along the lines of ""Free Energy"", but it has been done before. Nikolai Tesla and Lester Hendershot are the 2 most well-documented cases. Lending further credibility to their studies would be the suppression tactics used by big oil lobbyists to keep their ideas from reaching the public. Might be worth looking into. I wish you the greatest success in your endeavors. Regards, Jason</p>
EnergyFuture	2/16/2013	Edward R. Arnold	era@pobox.com	City of Boulder, CO		Renewables/ solar rebates/ energy efficiency/ GHG emissions	<p>I looked at the document about the City's ideas for partnering with Xcel. Energy storage & portability is key to success of any renewable energy project. The only mention I saw of energy storage was in regard to people using the battery in their electric car to provide backup for a building. Is that all the City is offering on the topic of energy storage?</p>
EnergyFuture	2/21/2013	John Kristjanson	jkristjanson@solarcity.com	Boulder county-Lafayette		Renewables/ solar rebates/ energy efficiency/ GHG emissions	<p>Hello. I work in the residential solar industry. My question is; if Boulder does create it's own power company what will happen to customers of mine that are under contract with Xcel Energy in Xcel's Solar Rewards Program? Will the new power company honor those Xcel Incentive Commitments?</p> <p>Thank you, John Kristjanson 720-624-9158</p>
EnergyFuture	2/22/2013	KC	k.copeland@comcast.net	City of Boulder, CO		Renewables/ solar rebates/ energy efficiency/ GHG emissions	<p>As part of reduction of carbon emissions and improved environmental quality what about banning the burning of wood as a fuel source within the city limits? What is the impact of wood burning emissions on our local air? Terrible if you live next to someone who burns green, wet wood inefficiently.</p>
EnergyFuture	3/8/2013	Matthew Duchek	meduchek@gmail.com	City of Boulder, CO	80303	Renewables/ solar rebates/ energy efficiency/ GHG emissions	<p>I support all of the 'no coal' options. I support raising rates to reduce GHG emissions by either increased efficiency or increased production from renewables.</p>
EnergyFuture	3/9/2013	Robert Valastak	bobvalast@aol.com	Boulder County	80301	Renewables/ solar rebates/ energy efficiency/ GHG emissions	<p>I have read that if Boulder municipalized electrical energy it would result in up to 50% renewable energy. Please encourage us by informing us what the Boulder kilowatt usage is and how many solar panels or wind turbines would be necessary to achieve that goal.</p> <p>I'm looking forward to receiving more information to share with my neighbors.</p> <p>Thank you, Robert Valastak</p>
Council	3/11/2013	David Bartlett	david.bartless@colorado.edu			Renewables/ solar rebates/ energy efficiency/ GHG emissions	<p>Dear Council,</p> <p>I am concerned that few consider that nuclear power has any future. Hence nuclear power is usually ignored in the debate over municipalization. Perhaps some on Council would consider attending the second of our two colloquia this week.</p> <p>Cheers, David (David F. Bartlett, Emeritus Physics Prof).</p>
EnergyFuture	3/12/2013	Steve Annecone	_email_climb@earthnet.net	City of Boulder, CO	80305	Renewables/ solar rebates/ energy efficiency/ GHG emissions	<p>I strongly support Boulder proceeding with municipalization and being in control of our energy future. I believe this process should include strong emphasis on supporting new rooftop solar systems via credits and rebates, and figuring out a way to continue supporting existing systems that were partially funded by Xcel. I'm not excited about the very poor rate per kW-H they pay for excess power generation relative to what they charge per kW-H when we buy from them.</p>

EnergyFuture	3/13/2013	Bruce Cromar	by.cromar@att.net	Boulder County	80301	Renewables/ solar rebates/ energy efficiency/ GHG emissions	Although the goal to use renewable energy to provide Boulder and the surrounding area with electric energy, I don't believe it can be done cost effectively and that the home owners will be stuck with an expensive energy system. I don't believe we (the citizens of Boulder should be doing this just because it sounds great to use renewable energy no matter what it cost us. I would like the city council to not vote for this project.
Open House	3/13/2013		p.billig@comcast.net	City of Boulder, CO		Renewables/ solar rebates/ energy efficiency/ GHG emissions	Has the city considered wholesaling solar panels to residents/landlords to increase the amount of solar energy generated locally? I think some of the modeling should consider this type of local generation
Open House	3/13/2013			City of Boulder, CO		Renewables/ solar rebates/ energy efficiency/ GHG emissions	(1) relying on natural gas to achieve lower GHG emissions. Consider using wind and solar instead of Nat. Gas. (2) where is incentive for co-generation? (3) what is incentive for neighborhood power generation? (4) what new/innovative technologies are being considered? (4) what about district heating?
Open House	3/13/2013			City of Boulder, CO		Renewables/ solar rebates/ energy efficiency/ GHG emissions	Option 2 & 3--w/ w/out coal --> The balance of natural gas and coal or just natural gas GHG's may not be much different unless methane is captured during natural gas extraction. Also consider water use in electrical generation--water is going to be another big factor as our climate continues to warm. Fracking uses a lot of water--please include this factor too in future analyzes great job! thanks!
Open House	3/13/2013			City of Boulder, CO		Renewables/ solar rebates/ energy efficiency/ GHG emissions	Thank you city staff and volunteers and consultants for creating the models, initial report and citizen communications!! I am enthusiastic about the city pursuing a municipal utility--either we can do it and create a great, flexible, innovative utility--or the possibility will push Xcel to be more responsive and innovative. But I have more faith in the former. As a consumer I want to do what I can to make this happen! (I am willing to pay more to get to more renewables faster; my primary concern is to reduce carbon emissions!
Open House	3/13/2013			City of Boulder, CO		Renewables/ solar rebates/ energy efficiency/ GHG emissions	concerned about amount of natural gas--don't want more fracking! Wind and solar are better choices than natural gas (due to fracking!)
Open House	3/13/2013		carter.maher@watershed-school.org	City of Boulder, CO		Renewables/ solar rebates/ energy efficiency/ GHG emissions	I think we shouldn't completely cut out Xcel of the loop. But, eventually we would. As well as start funding/researching in renewables
Open House	3/13/2013		heather.henfrey@gmail.com	City of Boulder, CO- rents a home		Renewables/ solar rebates/ energy efficiency/ GHG emissions	I am so excited about the possibilities of ramping up renewable energy production. I am confident that the city could run a utility effectively and I am not at all worried about reliability and don't think that is a threat. I do think that reducing GHG emissions should be a major goal but keeping rates manageable should also matter...Boulder is expensive enough as it is! I worry that if we do stay with Xcel that they won't ramp up renewables enough or quickly enough! If you need any help with community outreach, let me know. I helped CEA with this back when we voted 2BZC!
Open House	3/13/2013		carissahp@gmail.com	City of Boulder, CO- rents a home		Renewables/ solar rebates/ energy efficiency/ GHG emissions	I support municipalizing boulder. Not only should we have local control of our energy, we should have local control over big energy companies in boulder--Gas and Oil. (i.e. Fracking). If we cannot ban fracking, we need laws to keep them out as it is not in our best interest to be fracked. Also we need aggressive initiatives for solar panels on homes and businesses. We need to set a green energy standard We have a lot to gain from this as a tourist destination and an environmental innovator. These are billions in revenue generated by cutting edge businesses in boulder as well as tourism. It is a destination City and we should uphold our status by going green. Someone needs to take a lead. just like Chicago has- to make this a green city! Thank you for working so hard.
Open House	3/13/2013			City of Boulder, CO- rents a home		Renewables/ solar rebates/ energy efficiency/ GHG emissions	I support Boulder taking local control of our utilities. I want more aggressive green energy like Germany and even Spain are doing. If our utility company (Xcel) is going too slow, let's do it ourselves. Set an example and maybe other cities will follow. Way to go. Thank you. Also we need to ban Fracking!
Open House	3/13/2013		kenecon2004@yahoo.com	City of Boulder, CO- rents a home		Renewables/ solar rebates/ energy efficiency/ GHG emissions	do not want partnership with Xcel that seeds any control to Xcel or slows the rate of substituting efficiency's renewables for fossil fuels. A utility is a public service. It's inefficient and inequitable to leave such a service in the control of a private for-profit corporation. Xcel's locked into coal--boulder can do better.
Open House	3/13/2013			City of Boulder, CO-Works		Renewables/ solar rebates/ energy efficiency/ GHG emissions	I think that Boulder should invest in renewable resources
Open House	3/13/2013		playsboyce@msn.com			Renewables/ solar rebates/ energy efficiency/ GHG emissions	100% in Favor! I would also be willing to pay more for more renewables. If the % of renewables could be increased I would be happy to shared the cost with the rest of Boulder
EnergyFuture	3/15/2013	Hilton Fitt-Peaster	hilton@TheCVD.com	Boulder County	80303	Renewables/ solar rebates/ energy efficiency/ GHG emissions	With municipalization, WHAT will happen concerning the long term SolarRewards contracts with Xcel? And HOW will that happen? WHEN will that happen? Thank you.
EnergyFuture	3/19/2013	Stan Brown	stanbrown@comcast.net	City of Boulder, CO	80305	Renewables/ solar rebates/ energy efficiency/ GHG emissions	We oppose fighting Xcel to establish a Boulder City muni for several reasons. First, the City will fight court battles for years spending millions of dollars rather than increasing our use of renewables during that time period. Timing is critical but the Council does not seem aware of that. Second, Xcel will in our opinion be far ahead in terms of the amount of renewables supplied. It is not that Xcel favors doing so but rather due to state rules which force it upon them. That is the way to get over the mandated 30% renewables in the future. We strongly doubt a Boulder muni will reach 30% in the next decade. Just look at the record of muni's in the country - few even reach 10% renewables in their mix. So we'd suggest using all the money that will go into fighting Xcel to set up more solar systems in the city and to work toward establishing targets by state legislation that go beyond 30%. As an aside, the argument that the city can do better because it will not have to provide profits for Xcel is ridiculous. That argument could be used for government to take over any or all businesses. In fact Xcel's profits are at least controlled by gov't whereas Comcast's are not. If the aim is to save us some money, why has the Council not worked to control the constant price increases by Comcast?

Service Area

Energy Future	1/17/2013	Sherry Hart	sherryhart@comcast.net	Boulder County		Service Area	I would like to know if my home at 6723 jay rd is being considered for annexation to boulder city. I moved away from town to be in the county and i am NOT interested in being part of city of boulder. How can i stay informed? thank you, Sherry Hart
Energy Future	2/14/2013	Philip Wegener	philip@philipwegener.com	Boulder County	80306	Service Area	Hello Heather. As a county resident within an enclave on this map you have drawn I will be happy to be part of the new city electric utility. I am in no rush to be incorporated into the city. Thanks, Philip Wegener.
Webmail	2/15/2013	Mike Dorsey	jdorsey6224@msn.com	Boulder County		Service Area	I read in the Camera that as a resident of Gunbarrel, I am going to be part of your proposed utility municipalization and that I have been mailed a letter explaining this. I never got a letter. Please mail it to me at Mike Dorsey, 7035 Yampa Court, Boulder, CO 80301. I don't like the idea of being included when I didn't get to vote!
EnergyFuture	2/15/2013	David and Teresa Elliott	elliott-dtbgn@comcast.net	Boulder County, unincorporated		Service Area	We do NOT want to have any part of the Boulder energy program. We prefer doing business with Xcel Energy and feel that the City of Boulder should concentrate on City business!! Quit wasting time, money and resources trying to replace a more efficient and already working program. We are NOT inside city limits and DO NOT believe that you should have the right to force us to participate in your energy plan especially since we were NOT allowed to have a vote. If the City of Boulder voted for it- then LEAVE US OUT OF IT. And we DO NOT want to be annexed into the city and don't think you should have the right to annex us just to force us to participate in your ""project"".
EnergyFuture	2/17/2013	Barry S Baer	Colonelbsb@aol.com	Boulder County		Service Area	As a resident who lives outside of Boulder served by one of the substations are seeking to take illegally. We were not allowed to vote for or against what I consider to be a very bad idea that did not receive really a mandate to move forward given the vote that was taken. There should be another vote with all affected citizens. To do other wise I believe is unconstitutional.
EnergyFuture	2/18/2013	Douglas Beltman	beltand22@gmail.com	City of Boulder, CO		Service Area	I have just reviewed the service map, and we are not in the city but are within the projected service map. We were not provided the opportunity to vote on this important issue. Your engineers may have decided that ""serving the entire area currently served by these substations is the best way to ensure reliability and the most technically optimal option"" , but they're making that decision from the perspective of the city, not those outside of the city. What the city should have done is first determine the possible service map, and then everyone within that area should have been given the opportunity to vote on the issue. I would appreciate hearing the city's perspective on why the city thinks this action is fair and appropriate to those outside of the city, and the legal basis for the city's position on this matter. Thank you.
EnergyFuture	2/20/2013	steve sergeson	sergeson@q.com	Boulder County		Service Area	please sign me up As longtime greater boulder county residents we have avoided the Boulder City comedy show that features numerous beurocratic inefficiencies intended to change the social norm. How about that smart grid! For over 3 decades we have had reliable, cheap gas and electric. Now with no input we are being subjected to a risky city plan to save the planet. Please keep your folly inside the city limits.
EnergyFuture	2/20/2013	Dinah McKay	dinah.mckay@colorado.edu	Boulder County-Gunbarrel/Twin Lakes area		Service Area	I have read lately that annexation of projected service areas outside the current Boulder city limits will not be necessary to create the energy municipality. I have two questions: 1) What would change for homeowners in these Boulder County areas if we were annexed to the City? (What would be the pros and cons of annexation?) 2) If we are included in the service area but not annexed, would we ever be subject to higher rates than current homeowners within the City limits? How much input would we be able to have or not?
Council	2/26/2013	Laura Bloom	laurafromboulder@aol.com	Boulder County	80301	Service Area	Dear Boulder City Council, I've lived in Powderhorn in Gunbarrel since 1984. Years ago, we went through several attempts at annexation by the city to bring us into the county. We fought hard against it and everyone I know remains staunchly opposed to annexation. I have no strong feelings one way or the other about the Excel vs city-run utility issue. I don't know enough - nor believe I ever could - to make an intelligent decision about it. I suspect it's a very complicated issue. But, I can tell you one thing. Don't annex county residents and force us to abide by the city's doings when we have no say in the matter. Don't annex us period. We don't want it, nor do we need it. And, I understand it may even be illegal. We didn't have the right to vote on the municipalization plan. And, we may have no say in decisions made if we remain county. It rings of "taxation without representation". So please keep this in mind when you decide how to proceed with this matter. Thank you very much. Laura Bloom 5920 Gunbarrel Ave., Unit E Boulder, CO 80301
Council	2/26/2013	Mark Wshner	marcwishner@comcast.net	Boulder County	80301	Service Area	I wanted to draft a note to whom it may concern since I will not be able to attend the current meetings in regards to the city take over of Xcel energy and the effective condemnation procedures which will force me to be subject to the controls of the city when I am located in the county and cannot vote or have a say in what happens to my utility provider. I am adamantly against this usurpation of my rights and urge you to NOT proceed with this plan which amounts to taxation without representation. I urge you to hear and understand that this is not proper and against the wishes of my family and my neighbors. Please consider our under heard voices and vote NO to the municipalization scheme. Best regards, Marc Wishner 6034 Scotswood Ct. Boulder, Co. 80301
Council	2/27/2013	Bill Hollander	billyhollander@gmail.com	Boulder County	80301	Service Area	Dear County Commissioners, I am writing about the disturbing situation whereby county residents are being railroaded into the Boulder City electric municipalization scheme without the ability to cast a vote on this controversial issue. This is a plan hatched by a misguided city council with an agenda and a preconceived solution, using public resources to justify that preconception. I oppose this scheme and I call upon you to represent the interests of the thousands of other county residents who should have the right to vote on an issue that affects them as this one will. As you remember, the proposal to go forward and "investigate the feasibility" passed Boulder city voters by a narrow margin. County residents' voices need to be heard as well. The vote would very likely have gone the other way had it been open to the whole county. Is that the reason we county residents were not allowed to vote? Sincerely, Bill Hollander 5012 Valhalla Dr. Boulder, CO 80301 303-519-8684
Energy Future	2/27/2013	Joyce Snapp		Boulder County	80308	Service Area	City of Boulder: I have read your letter and at this time I would like to inform you that we are not interested in Future energy program. Soy ou can count me out. Sincerely, Joyce Snapp

Energy Future	2/27/2013	Steve Pomerance	statepom335@comcast.net			Service Area	<p>Hi Bob,</p> <p>I have been watching the discussion about out of city electric service, and am curious if anyone has overlapped the maps of optimal electric service area with the current out of city water service area.</p> <p>As I remember, every property that has out of city water has an agreement to annex upon request. So it seems like it would be useful to put one map on the other, since most of the out of city residents on the electric service map are in areas that, as I remember, already get water from the city. But I could be wrong about that, as e.g. the area east of 60th south of Arapahoe may not have city water.</p> <p>So, anyway, if you have an electronic map of the water service area that would be very useful. Let me know.</p> <p>Thanks, Steve Pomerance</p>
EnergyFuture	2/28/2013	Louis Novak	lknovak42@yahoo.com	Boulder County (Gunbarrel)		Service Area	<p>Hello,</p> <p>In looking at the new service map of areas to be included in the cities proposed local electric utility, we found that the Gunbarrel area we reside in is included. We have not received any correspondence or communication from the City although Xcel has sent us a letter. We would like to hear what the City has to say. Is there correspondence we should have received? For the record, we did receive a form letter back in November 2012 signed by the the City Manager. Can we assume that we are on a mailing list for future updates? Please respond to this message as soon as possible.</p> <p>Thank you, Lou and Katy Novak</p>
Council	3/4/2013	Eric Olson	eolson@stroller.com	Boulder County	80301	Service Area	<p>Dear Ms Lewis:</p> <p>I have attached a letter describing some of my concerns with the proposal. I am a Boulder County resident that has been recently informed that I will be included in the service area for this proposed Muni. I look forward to your reply.</p> <p>Best regards,</p> <p>Eric Olson 4408 Wellington Road Boulder, CO 80301 eolson@stoller.com</p>
Energy Future	3/4/2013	Lauren Hager	laurenhager@hotmail.com	Boulder County		Service Area	<p>Wants a vote on this for non city residents.</p>
Council	3/6/2013	Alan Wilson	alanwilsonx1@gmail.com	City of Boulder, CO	80301	Service Area	<p>Boulder City Council,</p> <p>Below is a note I have sent to the County Commissioners voicing our concern over the Pending Municipalization of electrical service outside City Limits: Our voice needs a fair hearing and Vote.</p> <p>Alan Wilson.</p> <p>March 6, 2013 Honorable Boulder County Commissioners,</p> <p>We reside in the Gunbarrel area on Old Post Road and are deeply concerned about being "forced" into the City of Boulder's takeover of the Xcel power grid without the opportunity to have had a vote on this plan and future costs, maintenance and other issues.</p> <p>At the very minimum, we should have a voice before any inclusion of non-city residents are forced.</p> <p>Alan D. Wilson IEEE Fellow 7222 Old Post Road Boulder CO 80301 303 530 4619</p>
EnergyFuture	3/7/2013	Bill Fox	bwf1894@gmail.com	Boulder County	80301	Service Area	<p>I do not want to be annexed into the City of Boulder or pay higher energy rates as a result of the City of Boulder municipalization of the electric utility. Xcel has been a very reliable provider of electric service and I was not given the opportunity to vote on this project.</p> <p>Regards, Bill Fox</p>
EnergyFuture	3/11/2013	Karen Dunn	lpkadunn@msn.com	Boulder County	80503	Service Area	<p>Only the City of Boulder people got to vote on a municipal run energy program instead of Xcel. After the vote you let it be known that some unincorporated areas, such as Gunbarrel Greens and Niwot are on your city grid and will have to switch to what ever the City of Boulder chooses. WHY WAS UNINCORPORATED BOULDER COUNTY NOT ALLOWED TO VOTE IF IT AFFECTS US?</p>
EnergyFuture	3/11/2013	Tim Wolf	tvdwwolf@me.com	Boulder County	80301	Service Area	<p>1) how could you possibly envision providing service to those outside of Boulder who, as yet, have not voted on the municipalization question? Shouldn't we/they have exactly the same rights as those who were able to vote in last year's election? To do otherwise may be illegal and certainly appears unethical and tyrannical?</p> <p>Tim Wolf (303) 478-3551</p>
EnergyFuture	3/11/2013	Mark Fuller	mark_fuller@centurylink.net	Boulder County	80301	Service Area	<p>We live in Boulder county and not the city. I just read that the city is planning on bringing us into their "Municipalization " weather we want it or not. How can the city do that without our being able to vote on it? We demand the right to have a vote on this.</p>
Council	3/13/2013	Beth Rauch	etrauch@comcast.net	Boulder County	80303	Service Area	<p>I'm unable to attend the meeting at the West Boulder Senior Center tonight on Boulder's municipalization plan. I've already sent you a long email on our feelings about the city forcing unincorporated areas into their plan. This meeting looks to me, from what I read of what the city council has said about it, to be nothing more than the city council giving themselves an opportunity to pretend to be interested in the opinions of those affected. The council has already made up their minds and have no interest in opinions that differ from theirs. They seem to be holding this meeting only to try to convince the population objecting that they should change their minds. The council wants to talk; they don't want to listen. I hope a lawsuit will ensue if the city moves forward with this forced municipalization on those who were not given the opportunity to vote on the issue, which I fully expect they will do, regardless of what they hear from the population affected!</p> <p>Elizabeth Rauch 6073 Reserve Drive Boulder, CO 80303</p>
Council	3/13/2013	Charles gower	walnutmain@att.net	Boulder County		Service Area	<p>the county deserve a right to vote if we are to be billed and required to pay for our utilities.</p>

EnergyFuture	3/13/2013	Linda Litchford	litchfor@comcast.net	Boulder County	80303	Service Area	<p>What are the boundaries of proposed electrical utility municipalization in unincorporated Boulder County? We have no vote in city of Boulder projects. I do not want my property included in your electrical scheme!</p> <p>In addition to email reply, I would like a map of this proposal sent to me and published in the newspaper.</p> <p>Linda Litchford 7827 Andrews Way Boulder CO 80303 303 499.4374</p>
EnergyFuture	3/13/2013	Dave Bedwell	gerstmeyer@gmail.com	Boulder County	80301	Service Area	I'm offended that you would be arrogant enough to include me in your "proposed service area". I have owned my home in Boulder County for almost 40 years, and I'm happy with the service provided by Xcel Energy. I had no say when the City of Boulder approved "municipalization". If you try to drag me in to your dream world, I plan to join with my neighbors (and Xcel Energy) to sue your ass. Maybe you should have had a lawyer review your plans to include non-voting property owners in your boondoggle. Permit me to offer to you the same critique that I have given to sports officials over the years when they were obviously watching a different game than I was, "Hey, Ref! You're missing a good game!" Dave Bedwell
EnergyFuture	3/13/2013	Richard Keck	richard@keck.us.com	Boulder County	80301	Service Area	I am 100% opposed to municipalization. I was opposed to it before I learned my county residence might be incorporated into the program because I believe it is bad for Boulder. Now that I am learning I might be subjected to a plan that I would have voted against, if I would have had an opportunity to vote, I'm truly frustrated.
Open House	3/13/2013			Boulder County		Service Area	(1) Council really comes across as not willing to consider the off-ramps. They want their utility come anything. (2) County residents were not allowed to vote on this idea, but now we may be forced to be a part of it, really unfair. (3) deeply concerned that as a county resident, we will be last on the "fix" list when lines go down. (4) I know the muni-effort has been a major focus of the city for the past years plus, how much money has tax payers already spent on salaries that is hidden? (5) I really think the city and county residents would be much better served by working with Xcel to go toward greener energy generation. Boulder, if it forms its own utility, will be able to "feel good" about being virtuous, ignoring that the "dirty" electricity generation has been pushed elsewhere. (6) Feels like the city is trying to expand its freedom--that's why I moved to the county and now the city is following me there.
Open House	3/13/2013		silveradough@msn.com	Boulder County		Service Area	(1) will you publish the "concerns" posted and # of dots market on each--including added comments? (2) If city of boulder goes ahead with this plan, are they confident enough in their #'s to guarantee non-city residents their rate will NOT exceed Xcel's for 20 years? Will the city bear the cost if they are wrong?
Open House	3/13/2013		bwf1894@gmail.com	Boulder County		Service Area	I am concerned that residents that own property outside Boulder city limits that are part of the proposed service will be charged higher rates than Boulder City residents. We do not want annexation. We do not want higher electric rates than Xcel or Boulder City residents. County residents need several representatives on the decision making boards and the electric utility board if we will be served by the City of Boulder electric. If renewable energy is planned, we do not want solar farms, wind farms on city open space located in the county so the county residents have to look at it.
Open House	3/13/2013			Boulder County		Service Area	We are strictly against switching our electric power from Xcel to Boulder City. (Kent Riese and Martha)
Open House	3/13/2013		buhler@ieee.org	Boulder County		Service Area	I do not work for Xcel or have family or friends that do. With the takeover of Xcel property (substations etc) how is the loss of property tax base accounted for by the city and the county? Will property tax rates in city and county have to be raised to compensate? Will labor affect this?
Open House	3/13/2013			Boulder County		Service Area	We did not get a vote in the county that vote in the city was less than 200 to pass. There are 6,000 in the county who are affected and I am sure if they voted we would not be here tonight.
Open House	3/13/2013		jbironisjr@aol.com	Boulder County		Service Area	This is very similar to our early country where there was taxation without representation. Boulder is dictating and we in the county have little or no say on the issue(s)
Open House	3/13/2013			Boulder County		Service Area	Very concerned that I had no vote in this process and will not going forward. If my property is to be included in the city's electric utility--I and all others who are in the same situation, (i.e. the affected county residents) should be able to vote on whether a utility is created and/or whether to be included. The idea that boulder will create renewable sources is specious. It will merely gain boasting rights that it has bought up renewables from elsewhere.
Open House	3/13/2013			Boulder County		Service Area	Utility w/out representation. Not fair and hopefully illegal to include non-residents in the service area. No representation going forward. City council does not represent me. I don't vote for them. Advisory board is not an answer--is your analysis of the cost of condemnation realistic?
Open House	3/13/2013			Boulder County		Service Area	We live in the County. It is wrong for the city to force the people in the County to have city municipalization that will raise our utility rates. The people in the County need to vote on this.
Open House	3/13/2013		maryl@LHVC.com	Boulder County		Service Area	The fact that the city of boulder wants to create its own power company and not allow all of the people who would be affected by this decision is a violation of my voting rights. I want a say in how my power is provided.
Open House	3/13/2013		gtextoris@comcast.net	Boulder County		Service Area	County residents are being forced to join without a voice or forum to air our opinions. I do not believe the city can operate as efficiently or reliably as the private sector. The city recreated a major public media campaign and barely convinces 50% in boulder to choose municipalization. They should be required to make an equal effort for the county residents affected.
Open House	3/13/2013			Boulder County		Service Area	County representation is unfair.
Council	3/13/2013	Michael Davison	medhere@msn.com	Boulder County		Service Area	<p>Dear City Council and Commissioners,</p> <p>The last memo I got, we had adopted a representative government in the United States, right? How is it then, as I did not have the voting rights? First, I did not have the right to vote for City Council, Then I did not have the right to vote for this over-reaching and wrong-headed "Municipalization" bill. Now, I am informed that an annexation attempt is not far off?</p> <p>Isn't this the same City government that tells me after 20 years of tax collection they won't re-pave the road out here because there is no money?? Not the best record of being "stewards in good faith" and now you expect Gunbarrel and other residents to believe this is in OUR best interest?</p> <p>In a word, this is all VERY CRIMINAL and will fight this with EVERY effort.</p> <p>Sincerely, Michael E Davison</p>
Open House	3/13/2013			City of Boulder, CO		Service Area	Can the City condemn the substations without the consent of the customers?
Open House	3/13/2013			City of Boulder, CO		Service Area	(1) County residents should have been allowed to vote on this. (2) I'm not sure all costs (the legal costs for the court case) are represented in the rate options. Seems too optimistic.
Open House	3/13/2013			City of Boulder, CO		Service Area	I would like the opportunity to be able to hear other comments for and against, although not being allowed to vote on this concept, have not given me the opportunity to really be a part. Comments at this state are just that. How influential can we be at this point--will the information gathered at this time be given the same consideration as those who were afforded the "right" opportunity to be considered a pertinent part of this by way of a vote. A voice is important for all who will be affected by this decision--what type of democracy is it we live in where those afforded a voice can determine an outcome for those not allowed the vote--this seems to be a lesson in what the democratic process is all about.
EnergyFuture	3/14/2013	Carol Gerlitz	cgerlitz@colorado.edu	Boulder County	80301	Service Area	<p>I attended the open house Wednesday, March 13. Although I'm generally in favor of municipalization, I still have the following question.</p> <p>Since I now live outside the city, will I be charged higher rates for city-provided energy just because I'm in the county? I believe this happens now with water and sewer. And I definitely pay a higher rate for my recreation center pass. I've lived in Boulder County since 1965, most of that time within the city limits, and I shop primarily in Boulder. Therefore, I've paid a lot of taxes in the city. I'm a senior citizen, and I don't like the idea of higher energy rates because I live one block outside the city limits.</p>

EnergyFuture	3/14/2013	Micheal Sickbert	msickbert@aol.com	Boulder County	80303	Service Area	I was not allowed to vote on this measure. If allowed, I would have voted against it. I do NOT want my property annexed into the City. I do NOT want my property condemned. If this project continues, PLEASE find a way to implement it where county residents can remain as county residents.
Council	3/14/2013	Ed Chavez	chavez5557@comcast.net	Boulder County	80503	Service Area	Under what authority can the City of Boulder condemn property outside the city limits? Please send me a copy of that authority. Thank you. Ed Chavez 5557 Mt Audubon Pl Longmont, Colorado 80503
EnergyFuture	3/18/2013	Joanne Simenson	simenson_joanne@hotmail.com	Boulder County	80303	Service Area	If the City Council votes to municipalize, I request there be a November 2013 ballot question asking if voters approve municipalization. The voters would be of the City of Boulder and of properties outside of the Boulder city limits that are part of the proposed service area. I request the ballot question be that simple. A lot of information is now available that was not available in 2011. Also, a lot of voters of surrounding areas were not allowed to vote in 2011.
EnergyFuture	3/19/2013	Mary E. Collins	maryecollins@yahoo.com	Boulder County	80503	Service Area	Will Gunbarrel Estates be annexed into the City of Boulder before or after you include us in your plan? Will the homeowners in Gunbarrel Estates have a vote on switching from Xcel to Boulder energy? Most of what I read mentions electricity but will gas service also be included? I say Let Us Vote on this issue. Mary Collins
Council	4/1/2013	Nora Beelner	nora.beelner@gmail.com	Boulder County		Service Area	To all council members and county commissioners. We live outside the city of Boulder in unincorporated Boulder County. WE WANT IT TO STAY THAT WAY! In a letter we received from the City of Boulder we are led to believe that the City would NOT force ANNEXATION of unincorporated residences and businesses. We want your assurance as part of any plan and potential future action that annexation of unincorporated Boulder County residents or businesses will NOT be a part of the municipalization through condemnation or any other process. It should be noted that we NEVER had an opportunity to vote in 2011 on the municipalization plan. As business owners in Boulder, we also do not have a say in the municipalization plan but will be subject to the effects. The cost of maintaining a City owned Electric Utility includes repair and maintenance of infrastructure. When a storm comes and poles are blown down Xcel has responded 24 hours a day 7 days a week with as much equipment as it took to restore service as quickly as humanly possible. The Fourmile Fire was an example of the effort Xcel made to restore power in a record amount of time, pulling crews in from other parts of the state. Could the City of Boulder promise the same level of service? Who would assist? The Colorado Public Utilities Commission would have very limited authority over rates. What assurance would there be that rates would always remain at or lower than Xcel rates? What recourse would a customer have if the rates were to seem unreasonable? Thank you for your consideration of our concerns, Patrick & Nora Beelner Boulder County Residents/Boulder Business Owners
Council	3/13/2013	Micheal Sickbert	msickbert@aol.com	Boulder County	80303	Service Area	Greetings, I am a resident of Boulder County, and was therefore not allowed to vote on the energy municipalization issue. My property and power service will be affected by this change if it were to occur. I am opposed to it and believe I should have the right to vote on an issue that affects me, my family and my property. Best Regards, Micheal Sickbert 5375 Pennsylvania Ave. Boulder, CO 80303 303-443-1585
Energy Future	3/27/2013	Irwin Seidman		City of Boulder, CO	80306		Dear Boulder Energy Future, In the most recent water bill I received, the City requested feedback on energy future. Simply put, the answer is clear, "if it ain't broke, don't try to fix it." My wife and I have resided in Boulder for many years, raised a family, and have been very happy with the service and charges of Public Service Company of Colorado and then Xcel Energy. There are many problems faced by the City of Boulder, including the traffic flow, the Police Department scandals, the potholes, the ever increasing costs of water, the alleged conflicts of interest of city officials, the miserable job with snow removal, the sale and use of marijuana, underage drinking, etc. The City should try to solve such problems, rather than try to take over a highly efficient energy run operation, setting up a new bureaucracy, and spending of millions of dollars of taxpayer money for surveys and studies and buying machinery and facilities already in place and functioning well. It is amazing to me how our city council delves into national and international issues which should be of no concern to a municipal entity, but fails to resolve the day-to-day municipal issues it faces, while wanting to take over a highly efficient energy operation such as Xcel Energy. Very Truly Yours, Irwin Seidman, RMR

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THE MEMBERS OF THE WORKING GROUP TO EXPLORE AN XCEL ENERGY/CITY OF BOULDER PARTNERSHIP

Sanders (Skip) Arnold has been the Executive Director of Energy Outreach Colorado, one of the largest organizations of its kind in the country and the only non-profit in Colorado that raises funds for energy assistance since 2003. Prior to joining Energy Outreach, Skip enjoyed a 25-year career at Xcel Energy (and its predecessor companies New Century Energies and Public Service of Colorado). His positions included vice president of Customer Care, and vice president and controller for the Retail Business Unit. Skip serves on the board of directors of the National Fuel Funds Network, and the National Low-Income Energy Consortium, both based in Washington D.C.; he also is a board member of Colorado Energy Forum and is a member of the governor-appointed Colorado Commission on Low-income Energy Assistance. A native Coloradan, Skip is a graduate of the University of Colorado, where he received a bachelor's degree in business and an MBA.

Tom Asprey is a retired electrical engineer, with 27 years of experience at Hewlett Packard and Intel designing hardware and software computer systems, including electronic instrument systems and integrated circuits, as well as developing and extensively using modeling software tools. Tom is currently an independent researcher and has spent considerable time investigating clean, sustainable energy. Tom holds a B.S. in Electrical Engineering from New Mexico State University.

Eric Blank is the former director of the Energy Project of the Land and Water Fund of the Rockies (now Western Resource Advocates), a regional non-profit clean energy advocacy group that has helped shape energy policy in the Intermountain West for the past ten years. More recently, Eric co-founded Community Energy, Inc., a new business that develops and markets clean energy technologies, like energy efficiency and wind power, to end-use electric customers in competitive electric markets. Eric has been involved with energy policy since 1982, and has published and presented widely on energy issues. He has a J.D. from Yale Law School and an M.Sc. in Economics from the London School of Economics.

Ann Livingston is the Director of Market Development for Snugg Home, a developer of energy efficiency analysis software. Ann is responsible for working closely with municipal and government energy efficiency offices and utility Demand Side Management programs to explore business relationships for Snugg Home as a software provider. Before joining Snugg Home, Ann was the Sustainability Coordinator for Boulder County, where she led efforts to develop and implement the ClimateSmart Loan Program. She played a key role in developing the Sustainable Energy Plan, the county's Zero Waste Plan, Commercial Green Building Energy Codes, enhanced Residential Energy Action Program, the BetterBuildings grant programs, and the comprehensive ClimateSmart Education and Outreach program. Ann has a BA in English from the University of Florida, as well as a J.D. and interdisciplinary Graduate certificate in Environmental Policy from the University of Colorado.

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Pete Lorenzen, IBM Vice President, Global SO Transition/Transformation & Quality Assurance, IBM Colorado Senior State Executive & IBM Boulder Senior Location Executive. Pete began his career with IBM in 1982. As part of IBM's outsourcing organization from 2007 through June 2008, Pete managed a 6,000-person organization based in Bangalore, India, providing remote IT services to approximately 175 customers across Asia Pacific (AP); Europe, the Middle East and Africa (EMEA); and the Americas. In 2012, Pete began serving as an active member of the University of Colorado Leeds School of Business advisory board.

Sean Maher is the Executive Director of Downtown Boulder. Sean has been active in Boulder's business community since 1989. Most recently, he served as Director of the Boulder Economic Council where he co-founded the Boulder Innovation Center and launched Boulder's first business incentive program. Prior to the BEC, Sean headed the Small Business Development Center at the Chamber of Commerce. Before joining the Chamber, Sean brought the first Ben & Jerry's franchise stores to Colorado and founded a multi-unit retail business featuring gourmet foods made in the Rocky Mountains. He was also a partner in Terra Communications, a marketing communications firm serving national clients. Prior to his entrepreneurial ventures, Sean worked as a marketing consultant with Sterling-Rice Group. He holds a Master of Business Administration degree from the University of Colorado and a marketing degree from the University of Montana.

Matt McMullen is the Director, facilities Management & Sustainability at the University Corporation for Atmospheric Research (UCAR). Matt has over twenty years of experience in the design and construction fields. Prior to joining UCAR, Matt owned and operated an architectural design/build firm of 15 employees specializing in sustainable residential, retail and commercial architecture in the western region of the United States and Hawaii. Matt received a B.A. in Environmental Design and an M.A. in Architecture from the University of Colorado and an M.S. – Real Estate & Construction Management from the University of Denver. Matt is a licensed architect in Colorado, California and Texas and holds AIA, LEED-AP and NCARB professional designations. He is also a licensed real estate broker associate in the state of Colorado. On a community level, Matt has served and is currently serving on several City Council-appointed boards, commissions and task forces, including his current appointments as Chair of the Downtown Management Commission and Chair of the Civic Use Pad Task Force IV.

Diana L. Moss is Vice President as well as a Director and Senior Research Fellow of the American Antitrust Institute. She specializes in the economics of antitrust, regulation, and energy and natural resources. Diana was a senior Staff Economist and coordinated competition analysis in the Office of Markets, Tariffs and Rates, Division of Corporate Applications, Federal Energy Regulatory Commission from 1995 through 2000. From 1989 through 1995, Diana consulted in private practice. She has published and spoken widely on energy regulation and antitrust issues and is also adjunct professor at the University of Colorado, Department of Economics. Her PhD. in Mineral Economics was earned at the Colorado School of Mines in 1989. Diana joined AAI as a Senior Research Fellow in September 2001.

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John Nielson is Energy Program Director for Western Resource Advocates, a non-profit environmental law and policy organization with offices in the West. WRA has developed strategic programs focusing in three areas, water, energy and lands, each of which addresses curtailing climate change. John has worked at WRA as an economist and policy advisor since 1995, and has been the Energy Program Director since 2000. He is a leader in the western environmental community on the relationship between energy policy and air quality, and has served as an expert witness in regulatory proceedings around the region involving utility resource planning, electric industry restructuring, renewable energy, energy conservation, and green marketing. John holds a B.A in mathematics and economics from the University of Colorado at Boulder and M.A. and M. Philosophy degrees in economics from Yale University.

John Tayer is the President and CEO of the Boulder Chamber of Commerce. John served over a decade at Corden Pharma Colorado (formerly Roche Colorado Corporation) in various executive public affairs and community relations positions and is a former member of the Chamber's Board of Directors, as well as a former Board Chair. Prior to Corden, John worked directly for the city manager of Boulder as its Director of Policy Development and Intergovernmental Affairs Coordinator. John began his career in Washington as a Congressional Aide to U.S. Senator Brock Adams. John holds a Bachelor of Arts in Political Science from the University of Michigan and a J. D. from the University of Colorado School of Law. John recently resigned his position as a Director of the Regional Transportation District, representing the Boulder area.

Will Toor is the director of the transportation program for the Southwest Energy Efficiency Project (SWEET). Prior to joining SWEET, Will served as a Boulder County Commissioner from 2004 to 2012, where he spearheaded the effort to create and adopt a countywide Sustainable Energy Plan, the BuildSmart green building code, the EnergySmart program, and the ClimateSmart Loan Program. Before being elected County Commissioner, Will served as Mayor of Boulder from 1998-2004. He played a strong role in the development of the Boulder's community transit network, EcoPass unlimited access transit pass programs, and policies for denser, mixed-use urban infill development as an alternative to sprawl. Will represented both the City of Boulder and Boulder County on the Denver Regional Council of Governments (DRCOG) from 1998-2012, and served as chair in 2005. In his role at DRCOG, he successfully advocated for significant shifts in funding towards transit and bicycle/pedestrian infrastructure and led DRCOG in adopting sustainability principles including goals for reducing greenhouse gas emissions and vehicle miles travelled in the long range regional land use and transportation plans. He received his Ph.D. in physics from the University of Chicago in 1992, where he studied theoretical condensed matter physics.

Samuel P. Weaver is responsible for the engineering management and daily business operations of Cool Energy, Inc., a waste heat recovery company located in Boulder. Sam has led product development teams and engineering projects throughout his career, and has worked as a researcher and designer in the field of optics and optoelectronics. In addition to renewable energy, he has experience in a range of markets including telecommunications, data storage, and aerospace. Sam previously co-founded Colorado Photonics, a profitable small business

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providing telecom equipment distribution, and has led multiple engineering development efforts at startup companies during his career. Sam holds six U.S. patents and has authored numerous technical publications. Sam holds a B.S. in engineering and applied science from the California Institute of Technology, and is a member of the Board of Directors of the State of Colorado Clean Energy Development Authority. He is a current member of the Planning Board.

ATTACHMENT F: FRAMEWORK FOR VALUE-ADD ANALYSIS

RELIABLE ENERGY

RELIABLE ENERGY			
Paths to the Electric Utility of the Future			
Objectives	Baseline: Status Quo with Xcel Energy	Formation of a Local Electric Utility	Formation of a New Partnership with Xcel Energy
<p>Community safety, convenience, and prosperity all depend on the reliable delivery of electric power. The utility will deliver reliable electric power. The utility's foremost responsibilities will be to provide electric power that is high quality and dependable, support economic vitality, prevent service outages, and respond promptly to any service outage. Art. XIII, §178(c)(1).</p> <ul style="list-style-type: none"> Uses industry standard criteria (CAIDI, CAIFI, SAIDI, SAIFI) to track, predict and model system reliability; ensure strict compliance with the North American Electric Reliability Corporation (NERC), the federal agency charged with enforcing reliability standards for utilities. Goal 1d. 	<p>[SAMPLE RESPONSE]</p> <ul style="list-style-type: none"> Current reliability performance is in the top half of United States power providers based on standard industry criteria. <ul style="list-style-type: none"> System Average Interruption Duration Index (SAIDI): 85 System Average Interruption Frequency Index (SAIFI): 0.85 No known deficiencies in Xcel compliance with the North American Electric Reliability Corporation (NERC) regulations. Current reliability performance is not as good as Colorado Front Range municipal power providers such as Ft. Collins and Longmont. Reliability performance improvement might be secured through additional Colorado PUC regulation, provided other Colorado customers support such regulation. 	<p>[SAMPLE RESPONSE]</p> <p><u>OPPORTUNITIES:</u></p> <ul style="list-style-type: none"> City Council established reliability metrics that meet or exceed current Xcel reliability performance, including SAIDI and SAIFI and compliance with NERC regulations. Costs have been incorporated in the financial model for 1) separating from the Xcel system, 2) start-up of the utility, 3) capital replacement, 4) energy resources, and 5) the human, organizational and financial resources that would be needed for ongoing administration, operation, maintenance, monitoring, control, dispatch, project management, customer service and response. Reliability performance improvement, for example through meeting APPA Reliable Public Power Provider (RP3) compliance, could be secured based on support of Boulder customers. Financial modeling incorporates funding to secure improved reliability through the undergrounding of distribution circuits or other methods. <p><u>RISKS:</u></p> <ul style="list-style-type: none"> Startup and staffing of the new local electric utility will need to be carefully planned and executed to assure there are no disruptions in reliability. <p><u>OBSTACLES:</u></p> <ul style="list-style-type: none"> Validity of financial assumptions and modeling may affect financial capacity to secure improved reliability. 	<p><u>OPPORTUNITIES:</u></p> <p><u>RISKS:</u></p> <p><u>OBSTACLES:</u></p>
<p>Provides experienced and professional management of the local utility grid, including ongoing investment in maintenance and system improvement, and a strong customer-service ethic in responding to emergencies, daily maintenance and long-term grid investment. Goal 1a.</p>		<p><u>OPPORTUNITIES:</u></p> <p><u>RISKS:</u></p> <p><u>OBSTACLES:</u></p>	<p><u>OPPORTUNITIES:</u></p> <p><u>RISKS:</u></p> <p><u>OBSTACLES:</u></p>
<p>Creates redundant generation resources to ensure a stable energy supply; creates generation resources that provide high-quality electrical supply; and manages the peak load to minimize necessary investment in new generation resources. Goal 1b.</p>		<p><u>OPPORTUNITIES:</u></p> <p><u>RISKS:</u></p> <p><u>OBSTACLES:</u></p>	<p><u>OPPORTUNITIES:</u></p> <p><u>RISKS:</u></p> <p><u>OBSTACLES:</u></p>

ATTACHMENT F: FRAMEWORK FOR VALUE-ADD ANALYSIS

<p>Reduces reliance on fossil fuel sources that may be subject to supply shortages and price volatility – and in the case of renewables, intermittency; takes into account potential fuel supply risks and disruptions and provides suitable mechanisms to manage such risks. Goal 1c.</p>		<p><u>OPPORTUNITIES:</u></p> <p><u>RISKS:</u></p> <p><u>OBSTACLES:</u></p>	<p><u>OPPORTUNITIES:</u></p> <p><u>RISKS:</u></p> <p><u>OBSTACLES:</u></p>
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ATTACHMENT F: FRAMEWORK FOR VALUE-ADD ANALYSIS

FISCAL RESPONSIBILITY

Objectives	Baseline: Status Quo with Xcel Energy	Paths to the Electric Utility of the Future	
		Formation of a Local Electric Utility	Formation of a New Partnership with Xcel Energy
<p>The cost of electric power is a significant portion of business and household budgets. The utility will operate in a fiscally responsible manner, always being mindful that every expenditure will be reflected in customers' rates and will affect household budgets and business profitability. The utility will, while always honoring its obligations to bondholders, strive to maintain rate parity with any investor-owned utility whose service area would include the City of Boulder. Art. XIII, §178(c)(2).</p> <ul style="list-style-type: none"> Positions residents and businesses who are customers of the utility to receive predictable energy prices; provides a structure and process for continuous rate management to meet the changing needs of the community. Goal 2a. 		<p><u>OPPORTUNITIES:</u></p> <p><u>RISKS:</u></p> <p><u>OBSTACLES:</u></p>	<p><u>OPPORTUNITIES:</u></p> <p><u>RISKS:</u></p> <p><u>OBSTACLES:</u></p>
<p>Allows for full transparency in all charges included in energy rates; provides the ability to fully evaluate fuel cost price risks. Goal 2b.</p>		<p><u>OPPORTUNITIES:</u></p> <p><u>RISKS:</u></p> <p><u>OBSTACLES:</u></p>	<p><u>OPPORTUNITIES:</u></p> <p><u>RISKS:</u></p> <p><u>OBSTACLES:</u></p>
<p>Provides a path to maximize the use of high-value electricity such as on-site solar that coincides with peak power demand; creates renewable energy investment opportunities for Boulder residents and businesses customers and access to the associated benefits; and reduces the impact of market based fluctuations in fuel and labor expenses. Goal 2c.</p>		<p><u>OPPORTUNITIES:</u></p> <p><u>RISKS:</u></p> <p><u>OBSTACLES:</u></p>	<p><u>OPPORTUNITIES:</u></p> <p><u>RISKS:</u></p> <p><u>OBSTACLES:</u></p>
<p>Minimizes the risk to ratepayers from future carbon costs and legislation along with other environmental regulations such as mercury and particulate controls. Goal 3c.</p>		<p><u>OPPORTUNITIES:</u></p> <p><u>RISKS:</u></p> <p><u>OBSTACLES:</u></p>	<p><u>OPPORTUNITIES:</u></p> <p><u>RISKS:</u></p> <p><u>OBSTACLES:</u></p>

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ATTACHMENT F: FRAMEWORK FOR VALUE-ADD ANALYSIS

RATEPAYER EQUITY

Objectives	Baseline: Status Quo with Xcel Energy	Paths to the Electric Utility of the Future	
		Formation of a Local Electric Utility	Formation of a New Partnership with Xcel Energy
The utility will direct its efforts to promote ratepayer equity in all aspects of its operations. Rates charged by the utility will be designed to create a fair and equitable distribution among all users of the costs, replacement, maintenance, expansion, operations of facilities, energy, and energy conservation programs for the safe and efficient delivery of electric power to city residents and other customers. The utility will consider the effects of its programs, policies, and rates in the development of programs for low-income customers. Art. XIII, §178(c)(4).		<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>	<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>
Provides programs and incentives for all populations to participate in efficiency programs and distributed generation through efforts such as Community Solar Gardens, on-bill financing and choice of rate structure. Goal 6a.		<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>	<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>
Shelters Boulder residents and business customers from projected short- and long-term rate increases through fuel supply choices and demand-side programs; provides additional resources for affordable housing and multifamily units; optimizes local energy-related employment opportunities; considers the full range of social impacts of energy generation, transmission and distribution, including jobs created or lost and health risks to energy workers. Goal 6b.		<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>	<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>
Provides the ability to continually improve community input and energy literacy; helps communicate the link between personal choices and environmental and economic impacts; provides assistance to understand energy conservation and efficiency measures and their impact on economic concerns; supports neighborhood energy planning, and an overall understanding of energy efficiency, renewable generation and workforce development. Goal 6c.		<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>	<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>

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ATTACHMENT F: FRAMEWORK FOR VALUE-ADD ANALYSIS

ENVIRONMENTAL STEWARDSHIP & CLEAN ENERGY

Objectives	Baseline: Status Quo with Xcel Energy	Paths to the Electric Utility of the Future	
		Formation of a Local Electric Utility	Formation of a New Partnership with Xcel Energy
Preserving and protecting our natural environment goes well beyond producing clean energy. The utility will be a good environmental steward by working to reduce the environmental impact of its operations, including working to reduce the demand for electricity. Energy and power that is produced in an environmentally responsible manner requires that the city balance environmental factors as an integral component of planning, design, construction, and operational decisions. Art. XIII, §178(c)(5).		<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>	<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>
Reduces other pollutants such as mercury, particulates and various nitrous and sulfurous emissions; and considers the full range of environmental and health risks and costs associated with the fuel mix. Goal 3b.		<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>	<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>
Climate change and diminishing fossil fuel supplies, combined with the high cost of those fuels, are significant factors leading to the creation of the utility. The utility will strive to reduce reliance on fossil fuels, focus on sustainable alternatives, and seek new opportunities for producing clean energy. Art. XIII, §178(c)(3).		<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>	<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>
Considers all environmental and health costs of the associated fuel mix; maximizes utilization of the least carbon intensive fuel sources; supports local testing of new, innovative "carbon-free" and pollution reducing technologies; and provides the ability to accurately predict and set specific future targets for emission reductions based on demand side efforts and fuel sources along with the flexibility to continually decarbonize Boulder's fuel mix over time. Goal 3a.		<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>	<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>
Promotes current and future energy investments built on the Smart Grid infrastructure <u>intelligent grid modernization</u> in order to provide options to customers that further reduce emissions; encourages new and innovative ways to maximize <u>optimize cost-effective</u> investment in local distributed generation and considers new opportunities for energy storage, on-site generation and electric vehicle integration. Goal 3d.		<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>	<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>

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ATTACHMENT F: FRAMEWORK FOR VALUE-ADD ANALYSIS

ENERGY LOCALIZATION

Objectives	Baseline: Status Quo with Xcel Energy	Paths to the Electric Utility of the Future	
		Formation of a Local Electric Utility	Formation of a New Partnership with Xcel Energy
The city will deliver electric power services by means of an enterprise, as that term is defined by Colorado law. The city further declares its intent that the city’s electric utility enterprise be operated and maintained so as to exclude its activities from the application of Article X, Section 20 of the Colorado Constitution. Art. XIII, §178(c)(6).	N/A	<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>	<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>
Allows Boulder residents and businesses customers to have control over their energy resources by influencing which power and heat generation facilities are built in the Boulder region as well as resource planning and procurement; involves local workers and businesses; and creates opportunity for local input and decision making about rates, generation mix, efficiency and demand management efforts; supports incentives for distributed generation and decisions to implement innovative technologies. Goal 4a.		<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>	<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>
Creates new opportunities for local ownership in distributed energy generation through innovative program designs (clean energy clusters, zero energy districts, solar gardens, etc.) and new forms of financing vehicles (general improvement districts, Power Purchase Agreements (PPAs), third-party models, on-bill and PACE financing, etc.). Goal 4b.		<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>	<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>
Maximizes opportunities to partner with local companies to implement innovative energy generation, storage, conservation and pollution-reduction technologies; maximizes investment in local businesses; reduces financial out-flows to purchase fuel and technology from external sources; and allows local businesses to become part of the local energy supply infrastructure. Goal 5a.		<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>	<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>
Stimulates Boulder’s local economic competitiveness by ensuring stable and predictable energy rates; makes Boulder an attractive location for clean energy businesses and start-ups; capitalizes on the proximity of Boulder’s university and Federal research laboratories and other private sector and institutional partners; and provides incentives and benefits for clean energy clusters and innovative energy start-up companies. Goal 5b.		<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>	<u>OPPORTUNITIES:</u> <u>RISKS:</u> <u>OBSTACLES:</u>

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