



TO: Members of Council
FROM: Dianne Marshall, City Clerk's Office
DATE: March 19, 2013
SUBJECT: Information Packet

1. Call Ups

None.

2. Internal Information Item

A. 2013 Climate Action Initiatives and 2012 Energy Smart Progress Report

3. Boards and Commissions

- A. Landmarks Board – February 6, 2013
- B. Library Commission – January 8, 2013
- C. Library Commission – March 6, 2013

4. Declarations

None.



**INFORMATION PACKET
MEMORANDUM**

To: Members of City Council

From: Jane S. Brautigam, City Manager
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Debbie Fox, LEAD Contracts and Data Management

Date: March 19, 2013

Subject: Information Item: Update on Climate Action Initiatives

EXECUTIVE SUMMARY

The purpose of this memo is to provide City Council with an update on the following 2013 Climate Action related initiatives and work plan items including:

1. Updated budget report for Climate Action Tax
2. Commercial Energy Efficiency Strategy Update
3. Residential Energy Efficiency Program Update
4. 2012 year-end EnergySmart Progress Report
5. Climate Commitment Update

At the March 19 City Council meeting, an update on proposed changes to the building codes to improve energy efficiency requirements for both commercial and residential construction is scheduled.

FISCAL IMPACT

Work on these items is included in the city's work plan and budget.

COMMUNITY SUSTAINABILITY ASSESSMENTS AND IMPACTS

- **Economic:** The renewal of the CAP tax was approved by Boulder voters in November 2012. The funds collected from this tax are leveraged with Boulder County and Federal funds, to provide energy efficiency solutions for residential and commercial property owners in Boulder, saving energy and incentivizing property investments in energy efficient improvements. These services result in permanent improvements to Boulder's building stock and help reduce Boulder's reliance on external energy sources.
- **Environmental:** Reductions in greenhouse gas emissions related to energy use in buildings are the key environmental benefits from the CAP Tax.
- **Social:** At this point, the majority of Boulder's energy efficiency programs are voluntary and available to all Boulder businesses and residents. SmartRegs, which established energy efficiency requirements for rental properties, benefit tenants through energy efficiency improvements that both provide more comfort and reduced electricity costs. Additionally, a portion of the federal grant funding has been targeted to energy efficiency improvements in the city's low income housing projects.

BACKGROUND

The city's Climate Action Plan was originally approved in 2006. In November of that year, Boulder voters passed the Climate Action Plan (CAP) tax, the nation's first tax exclusively designated for climate change mitigation. City residents and businesses are taxed based on the amount of electricity they consume. In November 2012, Boulder voters approved a five-year extension of the CAP tax, with over 80 percent support.

The energy efficiency programs funded by the CAP tax to date have benefited from a partnership with Boulder County and the Department of Energy's Better Building grant. The \$25 million grant is shared with Denver and Garfield Counties, with Boulder County receiving \$12 million that is administered by the Boulder County Sustainability Office and will be expended in May 2013. The city, county and private sector partners are continuing to collaborate and leverage the program infrastructure built by the federal funding. Boulder County has committed general funds to provide basic county-wide EnergySmart services from June – December 2013. A portion of city CAP tax funds will supplement these funds, as described in the following section.

2013 BUDGET AND WORK PLAN

1. Climate Action Tax Budget

At a Dec. 11, 2012, Study Session, City Council members provided feedback on the 2013 work plan and overall budget allocation. Council members commented on the success and market penetration of the EnergySmart advisor service but expressed concern that the level of funding for the residential EnergySmart advisor service in 2013 may be too low to ensure a smooth

transition following the end of the federal grant. Staff committed to reviewing and refining the budget to ensure maintenance of the residential EnergySmart advisor service at adequate levels in 2013 while evaluating the best way to transition in 2014 to a program with significantly lower available funding.

As a result of funds remaining in the CAP tax account at year end 2012, staff has been able to supplement the 2013 residential energy efficiency program budget by approximately \$100,000. This will enable the planned funding allocation to other climate action areas to remain as originally reviewed with City Council in July 2012 while also meeting the identified transitional need. Below is the revised budget for 2013.

Program	2013	2012 Carryover	Total
Salaries and administration	\$175,189	\$200,767	\$375,956
Communications		\$45,552	\$45,552
Residential Energy Efficiency Services	\$370,000	\$40,506	\$410,506
Commercial Energy Efficiency Services	\$820,000	\$197,445	\$1,017,445
Market Innovation	\$275,000		\$275,000
Program Data Tracking and Reporting	\$175,000		\$175,000
Misc. Consultants	\$34,811	\$75,000	\$109,811
Funds in existing contracts		\$168,558	\$168,558
Total	\$ 1,850,000	\$ 727,828	\$ 2,577,828

The 2013 work plan includes staffing of 4.0 FTEs and a .5 temporary communications position funded by the CAP tax. The creation of the temporary communications position is intended to facilitate more coordination and strategic planning around how the city is sharing information and encouraging participation in its sustainability programs and partnerships. This position is half funded through the CAP tax, as described above, with the other half coming from the trash tax to provide communications support for zero waste efforts. In addition, as is the case with many high priority city efforts, the climate action work plan is supported by numerous other staff members in the city organization.

The 2013 planned expenditures, by program, are outlined below:

- a) **Ramp Up Commercial Energy Efficiency Initiatives** – The largest proportion of 2013 funds will be invested in commercial energy efficiency initiatives and services. This includes development of a commercial building energy rating and reporting (formerly called “benchmarking and disclosure”) ordinance, revisions to the *10 For Change* program and continuing and enhancing commercial EnergySmart in close collaboration with Boulder County Public Health (BCPH). In addition, this includes ongoing city organization efforts to “lead by example.”

Since the launch of EnergySmart in 2010, the city and its partners have worked to fine tune the balance between funding advisors and providing incentives. Advisors work with businesses and commercial building owners to identify energy efficiency retrofits that

best leverage both utility and EnergySmart rebates to make projects more cost effective and provide a reasonable payback period for their investment. The city contracts with BCPH to provide the commercial EnergySmart advisor service and to fund rebates for equipment upgrades.

The 2013 CAP commercial budget includes \$290,000 for advising services and \$375,000 for rebates. These funds supplement county-wide services and rebate funds. Over the last two years, BCPH and the city have learned that it takes, on average, approximately 8 hours for an advisor to provide efficient yet effective technical assistance to a commercial customer. This includes the time needed to identify efficiency opportunities; assist with completing an upgrade; seek bids from at least three qualified contractors; evaluate the proposals; ensure rebate eligibility of equipment; help complete paper work and utility consent forms; and follow-up on quality control of proper installation.

In 2013, deeper advising services are being specified to allow for utility bill analysis and additional energy use tracking using ENERGY STAR Portfolio Manager. The ratio of advisors to customers has balanced out to be one advisor for an estimated 100 customers a year. Another way to assess the appropriate level of service is to look at the ratio of advisors to rebates. In 2013, there will be an estimated \$550,000 in rebates available to commercial customers in Boulder. Based on experience, BCPH estimates that three and a half advisors will be needed to work on behalf of customers and their contractors to complete the projects associated with this level of rebates.

Metrics are tracked and services are adjusted to achieve the highest possible conversion from “advising to upgrades.” In 2012, conversion rates ranged between 31 to 38 percent. While this is not as high as in the residential sector, it is considerably higher than typical rates in the commercial sector (utilities usually experience 10 to 20 percent conversion rates for demand side management programs). The above average rate is due in large part to the advisor service model and additional financial incentives.

- b) **Enhance Residential Energy Efficiency Programs** – This strategy focuses on the continuation of residential EnergySmart and the implementation of SmartRegs. The advisor services will continue to be provided by Populus as part of the EnergySmart program administered by Boulder County. The city funding to Populus provides services to property owners seeking compliance with the SmartRegs ordinance, supplementing the grant and Boulder County funds to increase the EnergySmart capacity for residential customers in the City of Boulder, and providing rebates to help incentivize energy efficiency upgrades when possible. In 2013, these funds will be distributed as follows: \$186,000 for SmartRegs services, \$100,000 for rebates and \$110,000 for increasing EnergySmart advisor service capacity within the City of Boulder. After the federal grant funding ends in May, EnergySmart program capacity will be reduced throughout the county with program funding and service capacity reduced by 50 percent from current levels. The city’s supplemental funding is expected to defray some of this impact within the City of Boulder, by increasing this reduced program capacity for residential property owners in the City of Boulder by approximately 25 percent.

- c) **Stimulate Market Innovation** – This new program will solicit proposals for additional ways to reduce GHG emissions and is intended to spur local market innovation and economic vitality. Selected projects or programs would likely be required to achieve the same or increased cost effectiveness as programs already in place (about \$5 per ton of reduction over a 10-year lifetime). During the second quarter of 2013, staff will solicit stakeholder input and initiate design of this program. This will include working with the Environmental Advisory Board, selected community partners and local experts to develop program parameters, scope, evaluation criteria and process for soliciting proposals.
- d) **Improve Program Tracking and Evaluation** - This area of work is focused on developing a more systematic, transparent and consistent data tool for tracking the results and performance of climate action programs and initiatives. It will help inform not only what programs should receive ongoing funding but also how to most efficiently manage and refine programs in a more timely manner than has been possible in the past. Staff is in the process of hiring a data manager to move this area of work forward. It is also a key focus of the Climate Commitment RFP, described later in this memo.

2. Commercial Energy Efficiency 2013 Work Plan

Commercial energy efficiency efforts in 2013 will focus on EnergySmart advising and rebates (as described above), continued communication and outreach, and networking and recognition to businesses and building owners with the *10 For Change* and other business programs in addition to developing a commercial energy rating and reporting ordinance and program. Additional information on business programs and the rating and reporting program are provided below.

Business Sustainability Programs

As City Council was informed in 2012, the *10 For Change* program revamp is in progress. This effort is being led by a new interdepartmental staff team focused on improving business sustainability outreach and service delivery. This enhanced and collaborative effort is coordinated with the following city departments and divisions:

- Transportation in *Go Boulder*
- Water conservation in Public Works-Utilities
- Energy efficiency and zero waste in Local Environmental Action Division (LEAD)
- Sustainability requirements for the Flexible Rebate Program awarded through Economic Vitality

This staff team and its external partners (Boulder County and Boulder County Public Health), are evaluating how to implement best practices in delivering sustainability services to the business community. This is likely to include a collaborative effort to streamline business sustainability services and potential development of a shared program identity to ensure the customer understands and can easily engage with the complete host of services that will help them improve the environmental, economic and social sustainability of their business.

Commercial Building Energy Rating and Reporting

In 2012, City Council expressed support for a three-phased Commercial Energy Efficiency Strategy (CEES) that includes: expanded voluntary, incentive-based programs; a requirement for commercial building owners to rate and report their energy performance; and consideration of prescriptive energy efficiency measures and/or performance standards.

Pilot Program - To inform the development of the CEES program, the city launched a commercial building energy rating and reporting pilot program that ended in January 2013. The pilot program tested and evaluated three aspects of program development:

- An understanding of the time, effort and resources it takes building owners to rate their buildings' energy performance.
- Information to inform the size threshold of buildings where rating will make the most impact for long-term energy efficiency opportunities.
- Opportunities and challenges relating to access to, and format of, whole building aggregated energy use data.

The city hired McKinstry to evaluate the qualitative and quantitative data generated from the pilot program. The results are in an aggregate format to provide privacy of the specific building data collected by the voluntary participants. The key findings and recommendations were developed by McKinstry based on the information collected by pilot participants, data generated by Portfolio Manager for the participating buildings, participant surveys, and the BCPH quality assurance and quality control (QA/QC) report evaluating the data entered into the Portfolio Manager tool by the city contracted energy coaches.

The pilot program analysis included 40 buildings, representing 17 building owners and nearly two million square feet of space, with a median building size of just over 15,000 square feet. Approximately 70 percent of commercial buildings in the city are 20,000 square feet or less, accounting for about 20 percent of the total square footage. Thus, it's important to target larger buildings (greater than 20,000 square feet) since they have more "potential for capturing the bulk of the energy consumption of buildings, since energy consumption is commensurate with square footage, not number of buildings."¹

The pilot program report can be viewed in ATTACHMENT A. The pilot program participants (building owners, tenants and energy coaches) were required to take a short, on-line survey to provide feedback on their experience with the process. The following represents the major themes from this input:

- Building owners and tenants reported that the contracted energy coaches performed well and played a crucial role in simplifying the program and the rating and reporting process.

¹ City of Boulder Commercial Building Energy Rating & Reporting Pilot Program Report, prepared by McKinstry.

- Energy coaches reported having a good experience with the pilot program and felt that the program was effective.
- The process took about the time the coaches and building owners expected (average of seven hours per building).
- The energy coaches found data collection manageable for the most part.
- The Portfolio Manager tool is relatively easy to navigate when following the pre-determined protocol.
- Most energy coaches and tenants commented that the pilot helped them better understand their buildings' energy use and indicated that they are likely to continue to track it.

Some of the challenges and issues identified included excess paperwork; data collection and energy consent waivers and approval processes for multi-tenant buildings; nuances and comprehension of using the Portfolio Manager tool; and building owner and tenant sensitivity around disclosing building information to the city.

McKinstry made the following recommendations for moving forward:

1. Continue supporting a voluntary rating and reporting program similar to the pilot.
2. Provide more education and engagement opportunities (and possibly incentives) for building owners and tenants – this would help with the process and address disclosure concerns.
3. Enhance energy coach training to include lessons learned from the pilot and address data collection/entry and Portfolio Manager nuances (multiple meters, campus ratings, rating eligibility, etc.).
4. Provide energy coaches with energy savings estimates for a variety of potential improvement measures as a next step.
5. Cut down on paperwork, or include a flowchart of the process and paperwork required.
6. Investigate better ways to access whole building energy use data – i.e. potentially include utility data release in tenant lease, collaborate with Xcel Energy to set up an automatic electronic data transfer or online account, etc.
7. Investigate installing sub-meters and potentially offsetting some of the cost of purchase and installation.
8. Work with Xcel Energy to provide rebate and incentive programs for energy reduction in existing commercial buildings.
9. Continue to work with *both* building owners and tenants (partnering with programs such

as *EnergySmart* and *10 For Change*) to gather energy data and develop new incentive or regulatory programs – both the tenant and owner need to work together to create higher performing buildings.

10. Consider first targeting buildings of 50,000 square feet and above, since 49 percent of the commercial buildings located in the city is this size.
11. Consider implementing prescriptive energy standards for buildings over 50,000 square feet utilizing best-in-class efficiency programs such as re-commissioning, auditing, and utility spending analysis.

Next Steps

1. Continue the partnership with Boulder County and BCPH to provide enhanced Commercial EnergySmart advisor services that includes energy rating and reporting through the use of Portfolio Manager, and rebates for upgrades.
2. Apply the outcomes of the pilot program to inform the design of a commercial energy rating and reporting ordinance and program. This includes: building square footage thresholds for any future requirement; access to energy use data for an entire building; specifying the amount of historical data and exemptions; energy data points that the city is interested in collecting and how it will be used; timeline of compliance; and the city resources needed to administer and sustain the program.
3. Continue to scope the business process and resources for implementing and administering a successful energy rating and reporting program.
 - Staff is working with the Department of Energy to beta test a data management platform it is developing to manage and collect commercial building data. This effort is being executed specifically to assist local and state government management of energy rating and reporting program data. Additional data warehousing capabilities are built into the software and the city is currently testing its functionality.
 - Staff is following the planned release this summer of an improved version of EPA's ENERGY STAR Portfolio Manager. It is important for the city to use and understand the upgrades as part of any new program development.
4. Work with the city of Berkeley and other partnering agencies to develop an Office Building Benchmarking Guide for local governments. This project was awarded a grant from the Urban Sustainability Directors' Network Opportunity Fund.
5. Apply for the Massachusetts Institute for Technology, Community Innovators Lab, Green Economic Development Initiative (MIT GEDI). The MIT GEDI project is looking to collaborate with cities on the economic development aspects of commercial energy efficiency. If the city is accepted as a participant, this effort will provide economic development research and analysis on the local energy efficiency industry. Staff has identified a specific focus of research and development that would lend itself to further market transformation for the optimization or re-commissioning of HVAC equipment for

small to medium size buildings.

6. Refine the details and timeline for the stakeholder engagement process and begin seeking input on the pilot program outcomes and development of a commercial building energy rating and reporting program. Staff is coordinating the timing of stakeholder engagement with efforts underway related to Boulder's Energy Future and the exploration of potential municipalization to ensure that the business community is not overwhelmed or confused by these different energy-related efforts. Staff plans to return to council in the fall for input and guidance on preliminary policy options.

3. Residential Energy Efficiency Program Work Plan

For the residential EnergySmart and SmartRegs 2013 work plan, program funds for this year will be focused on maintaining the existing level of service for property owners seeking compliance with the SmartRegs ordinance, supplementing grant and Boulder County funds to increase the EnergySmart capacity for residential customers in the City of Boulder, evaluating the current program to identify a path for transitioning the program to reduced public funding, and providing rebates to help incentivize energy efficiency upgrades when possible.

Strategic Planning

While continuing this work through 2013, the city will be issuing a request for proposals (RFP) to engage a strategic program analysis consultant. The intent of this project is to review and assess the efficacy of city, county and consultant staff's role in the existing SmartRegs and residential EnergySmart initiatives, and to develop options for prioritizing funding sources and staff time in the interest of creating a long-term sustainable structure for these programs that maximizes energy efficiency improvements, ensures the cost effectiveness of program delivery, and informs the appropriate level and forms of public subsidy as well as cost recovery (fee-based) options or other market-driven supports.

The chosen consultant will assess the effectiveness of the current processes in place, staff roles, uses of funds, and the city's relationships with its public sector, private nonprofit and for-profit sector partners and make suggestions for a permanent structure to begin in 2014. The RFP scope will be finalized in the first quarter of 2013 and work will begin in the second quarter. Aiming to have results by the third quarter of 2013, these findings will then be used to inform the budget and staff planning for 2014.

SmartRegs

After two successful years of implementation, staff is working to create efficiencies in the compliance process this year. In addition, SmartRegs reporting to City Council will be streamlined and incorporated into the overall EnergySmart reporting, as the two programs are closely linked. SmartRegs reporting will be decoupled from rental license enforcement reporting and follow a quarterly track moving forward; the first of which will be in July of 2013. Additionally, staff is working with partners and internal staff to implement efficiencies in the SmartRegs process, launching a new system for SmartRegs inspector support, and beginning development of a new training tool for G-license (SmartRegs) inspectors. Additional program

refinements may be identified and implemented as a result of strategic planning effort described above.

Residential Outreach Strategies

During the first quarter of 2013, results and analytics on past outreach efforts were compiled to document both effectiveness and potential areas for improvement in 2013. LEAD's emphasis on direct contact at the community level proved to be an effective way to interface with Boulder residents, and in 2012, this resulted in over 1,700 one-on-one conversations oriented around the Climate Action Plan (CAP). A strategy to streamline messaging with an umbrella CAP brand resulted in better organized, more refined messaging and materials for both direct contact at events and a variety of social media outlets. A means of tracking the number of contacts and materials distributed over the course of the season was also established. While the number of contacts at events and visibility of social media messaging cannot be equated directly to behavior change (representing a primary obstacle to measuring true outreach effectiveness), it is believed that these efforts contributed to the positive public perception of the city's CAP, as reflected in the overwhelming electorate support for renewing the tax in November 2012.

Based on the 2012 lessons, staff recommends refining future outreach efforts based on proven Community Based Social Marketing (CBSM) strategies to further pursue and track actual behavior change. Direct contact is essential to driving behavior change, but staff wishes to pair this approach with other CBSM principles to work more strategically to align these efforts with limited city resources. To address this staff will be developing a multi-year strategy with pre-determined behavior change goals and timelines. The strategy will include:

- a baseline evaluation of current behaviors to enable future measurement of the strategy's effectiveness and determine barriers to change;
- pursuit of more targeted conversations with specific segments of the Boulder community, as opposed to general educational presence at events;
- development of relationships with key local organizations; and
- use of CBSM techniques such as commitments and barrier removal.

4. 2012 year-end EnergySmart Progress Report

The commercial and residential 2012 EnergySmart accomplishments have been coalesced into an updated “at-a-glance” report that provides year-end information. The year-end reports for both programs can be found in ATTACHMENT B. Highlights include:

Commercial EnergySmart reached 83 percent of the goal for businesses receiving advising services and 89 percent of the goal for number of services delivered. Almost half of the businesses (1,550) located in commercial buildings in Boulder have participated in EnergySmart².

Residential EnergySmart reached 75 percent of the goal for participating units (units having received at least an advisor consultation) and 80 percent of the goal for units receiving at least one upgrade. Both owner occupied and rental units are included in the participation goal, and while the SmartRegs inspections goal was reached, not all rental owners chose to utilize the EnergySmart pathway as was originally anticipated.

Owner-occupied enrollment reached about 86 percent of its goal (1,520) with 1,309 enrollments at the end of the year, while rental enrollment reached about 72 percent of its goal (5,280) with 3,814 enrollments at the end of the year. An additional 1,224 rental units completed an inspection outside the EnergySmart program, surpassing the SmartRegs inspection goal of 5,000 with 5,038 inspections completed total.

Rental units demonstrated a 38 percent conversion from advising to action, similar to commercial units where there is a split incentive between building owner and renter, and where property owners are likely to undertake an audit to assist in investment planning rather than at the time when they are ready to make that investment. By contrast, 75 percent of owner occupied units—where these factors are not present—took action to make at least one energy efficiency investment based on the outcome of their audit. Also of note, approximately 45 percent of rental units inspected were compliant at the time of their initial SmartRegs inspection, therefore not requiring the property owner to invest in further upgrades.

Some additional highlights not noted in the year-end reports:

Elevation Credit Union’s Energy Efficiency Loans

- Elevation Credit Union’s Energy Efficiency loans, backed by the Better Buildings grant, processed \$472,476 loans in Boulder County, with \$113,211 loans issued to city of Boulder residential and commercial customers.

² 9,751 city of Boulder business licenses, 5,398 are active or pending within the city limits, 3,280 of those are physically located² in commercial, industrial, mixed-use zoning districts.

Commercial EnergySmart

- Greenhouse Gas (GHG) Emission Reductions: Countywide, 8,966 metric tons of carbon dioxide (CO₂) will be saved annually as a result of the EnergySmart services, and 5,446 metric tons of CO₂ will be saved annually in Boulder (60%).
- Boulder businesses and building owners have received over 500 rebates, totaling over \$800,000, including \$300,000 in CAP tax funded rebates and incentives.
- The city released \$75,000 in additional CAP rebates for large property owners investing in at least three or more upgrades on multiple Boulder properties.
- Over one-third of the completed upgrades have a lead source indicated in the Customer Management System (CMS). The two main sources are door-to-door advising (37 percent) and contractors (20 percent). This information reinforces how important both the advisor and contractors' roles are in the energy efficiency market transformation efforts.

Residential EnergySmart

- Greenhouse Gas (GHG) Emission Reductions: Countywide, 6,135 metric tons of carbon dioxide (CO₂) will be saved annually as a result of the residential EnergySmart services, and 4,214 metric tons of CO₂ will be saved annually in Boulder (69%).
- The city reached and surpassed goals for SmartRegs inspections and compliance at the end of 2013, with the majority of this activity occurring within the EnergySmart program. For 2012, a benchmark was set for 5,000 units to receive the initial SmartRegs inspection by the end of the year. The second benchmark was for 2,500 units to be certified compliant with SmartRegs. As of January 4, 2013, 5,041 units were inspected and 2,619 were deemed compliant.
- The city launched an air sealing and insulation promotional rebate in the fourth quarter of 2012, and piloted new methods of outreach to message the promotion. There was a slight increase in enrollment towards the end of the year, during a time that is typically slower.
- The promotional rebate continued through January 2013 and distributed a total of \$76,000 to homeowners making air sealing and attic insulation improvements this winter.

5. Climate Commitment Update

Boulder's renewed Climate Commitment will build on the city's successful Climate Action Plan (CAP) to craft a more integrated approach to Boulder's post-Kyoto climate action efforts. The new Climate Commitment will establish the structure and priorities for long-term greenhouse gas

(GHG) or carbon emission reductions through quantitative targets and goals across key focus areas such as energy, buildings, urban planning, transportation, solid waste, water, agriculture and forestry; as well as a high-level roadmap for longer-term implementation strategies and transformational change needed to achieve the ultimate goal of carbon neutrality. The Climate Commitment is envisioned as a dynamic process rather than a static, stand-alone plan—a roadmap and monitoring/reporting system with interim targets that can be revisited based on modeling and new information to achieve the community’s long-term climate action goals within the overall context of comprehensive sustainability.

The city has been making progress toward the renewed Climate Commitment over the past several months, including hiring a consultant and other tasks, as described below:

Core components of the scope of work include:

1. Review and refine Climate Commitment focus areas to create compelling goals that inspire expanded participation.
2. Expand community awareness, engagement and action around expanding implementation of climate mitigation activities communitywide.
3. Create a unified data gathering, management and reporting platform that enables all city departments and relevant programs to effectively integrate and participate in tracking GHG and other climate related factors.
4. Establish the communitywide GHG protocol and develop the new baseline and inventory.
5. Set realistic goals for energy efficiency demand side management initiatives and programs to enhance effectiveness and pilot new innovation and market transformation efforts.
6. Address community adaptation and resiliency strategies.

In addition, Community Planning and Sustainability recently hired a new Senior Environmental Planner, Brett KenCairn, with extensive experience in demand side management, renewable energy, ecosystem management, and community planning. Brett will be the project manager for the Climate Commitment. Working with an interdepartmental team, part of the effort will include identifying ways to implement climate mitigation actions in city operations and monitor and report on these actions as part of the larger city Climate Commitment.

The Climate Commitment Team is currently selecting a consultant team to provide extensive scientific and technical support in addressing critical issues and lessons learned from the first stage of Boulder’s climate related efforts and develop compelling ways to engage the community. Two specific task areas are outlined for focus with this consultant team, and the specific scope will be developed with the selected firm:

Climate Commitment Planning and Community Engagement

1. Goals and Targets—Refine, refocus and unify Boulder’s Climate Commitment goals and targets—both short-term (1-5 years) and long-term (6-40 years).
2. Best Practices--Identify related best practices and state-of-the-art efforts around the world that could augment or enhance Boulder’s existing policies and initiatives.
3. Community Engagement—Engage and involve the community developing the goals and strategies, and set the foundation for long term action to achieve the Climate Commitment goals.

Data Tracking, Management & Reporting

1. Data Development and GHG Inventory—Coordinate with Climate Commitment planning efforts to insure the selection of clear, comprehensible, and measurable metrics for tracking and evaluating GHG and other climate mitigation outcomes.
2. Data Management & Reporting System—Build a comprehensive data tracking, management and reporting system that can be integrated across all relevant city departments and functions.
3. Ground Truth Objectives—Inform and support the Climate Commitment Team in developing realistic and achievable GHG reduction strategies that recognize the different scales and time-frames associated with each strategy.
4. Translate Technical Terms to Community Language—Support community engagement through translating complex technical issues into accessible, meaningful and actionable terms for community residents and stakeholders (e.g., individual per capita measures).
5. Foster Collaboration—Support collaboration and joint initiative with other leading climate action initiatives.

The city has shortlisted three consultant teams for final consideration. Community partners will be invited to participate in discussion with these shortlisted firms and, once a firm is selected, input to the scope. The finalists have a range of exciting and potentially powerful new tools and approaches to augment Boulder’s existing programs and approach. Among the features we anticipate adding through these collaborations include new interactive climate impact/climate benefit tools that will enable both city staff and community residents to get immediate feedback on the impact of choices and actions; new approaches to reaching and engaging community residents in climate action efforts; best practices from around the world that build upon Boulder’s progress to-date; and new approaches to financial leverage and market transformation that can magnify the benefits of actions taken by the city and community.

Community Engagement—The city is forming a community working group similar to the working groups that have proven so valuable in the previous CAP update work and in the Municipalization Exploration Study process. This group will provide additional expertise and perspective to help shape the work effort, including outreach and engagement activities. This group will include both technical and scientific subject matter specialists as well as people representative of key constituencies that can help guide an inclusive and effective process to engage groups such as youth, lower income households and businesses. The Climate Commitment Team will work with the Environmental Advisory Board to solicit potential members for this group. The community outreach and engagement work will be further supported by both the city’s own communications team as well as be a part of the Task 1 consultant work plan described above. This effort will coordinate closely with the Energy Team’s Municipalization outreach program to create one coherent and mutually reinforcing outreach and engagement program.

Climate Commitment Implementation Timeframe

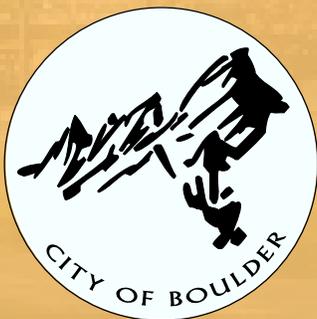
- | | |
|----------------|--|
| February-March | <ul style="list-style-type: none"> Formalize Interdepartmental Team Host Smart Growth America Cool Planning Workshop (3/4 – 3/5) Select consultant team |
| April-June | <ul style="list-style-type: none"> Refine scope of work, work plan and schedule Form Climate Commitment Working Group Address GHG Communitywide Protocol Develop initial short- and long-term goals Analyze short- and long-term goals, including Carbon Neutrality Initiate community outreach and engagement |
| July—Dec | <ul style="list-style-type: none"> Council Study Session (July 30, 2013) Develop data management system Integrate metrics integration into master planning process field tested Recommend policy and programs Develop Climate Commitment framework |

City of Boulder



Commercial Building Energy Rating & Reporting Pilot Program Report

Prepared by McKinstry



**BOULDER, COLORADO
26 FEBRUARY 2013**

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1. Executive Summary

As a leader in sustainability and as part of its Climate Commitment, the city of Boulder (city) is currently implementing a commercial energy efficiency strategy to address the large impact its commercial buildings have on energy use and greenhouse gas (GHG) emissions. The purpose of this document is to report on findings and recommendations from the commercial building energy rating and reporting pilot program so that the city can continue to focus effectively on this strategy moving forward. The city has several programs in place that address energy efficiency which provides a great foundation for future programs.

Stated Objectives and Outcomes

The commercial building energy rating and reporting pilot program included a cross sampling of Boulder's private sector commercial buildings¹. This pilot program will inform participating building owners, tenants, and the city about how existing commercial buildings' use energy. It will also allow building owners and tenants to understand their buildings' energy performance, and, through the city and county *EnergySmart* advisor service or private sector energy consultants, help identify areas where energy efficiency improvements could save significant energy and money. Objectives of the pilot program include, encouraging and understanding the process of rating and reporting of energy use and helping to inform the development of a potential rating and reporting ordinance. In addition, to further lead by example, the city's most energy intensive facilities were rated as part of Phase 3 of its Energy Performance Contracting program with McKinstry.

Aggregated Pilot Building Summary

A total of 43 private commercial buildings participated in the city's pilot program, yet at the time of this report, only 40 buildings had completed the process. To protect the privacy of the pilot participants, results of the program were aggregated. Of the 40 buildings included in this analysis, the median site Energy Use Intensity (EUI)

was 87. The EUI of a building is a calculation of how much energy is consumed per square foot. The lower the EUI, the less energy the building consumes per square foot. A national sampling of similar buildings (created using Energy IQ – a building indexing tool created by the Lawrence Berkeley National Laboratory) showed a median EUI of 86 – very close to the pilot median of participating buildings. ***When compared nationally to similar building types, the pilot program buildings proved to be average in terms of energy efficiency.***

In addition, the city's eligible pilot commercial buildings had a median ENERGY STAR rating of 81. ENERGY STAR is a joint program of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE) that was developed to save money and protect the environment through energy efficient products and practices. Portfolio Manager is the online tool administered by the ENERGY STAR program to track and manage energy use. An ENERGY STAR rating is a rating from 1 -100 that addresses how efficiently buildings use energy, relative to similar buildings nationwide. A rating of 50 indicates average energy performance, while a rating of 75 or better indicates top performance. Of the 40 participating buildings, 19 were able to receive an Energy Star rating with a median rating of 81; it can be said that these buildings are top performers on a national scale.

It should be noted that while all of the 40 buildings had enough data to calculate a building EUI, only 19 buildings were able to receive an ENERGY STAR rating. This can be due to a number of factors including:

- 1) The data entered into Portfolio Manager did not cover a consecutive year of energy consumption;
- 2) The building's space type did not match an existing EPA building designation (e.g. office, hotel, retail, data center, etc.); or
- 3) The building did not meet the EPA's

¹ The majority of public schools are located in residential zoning; only buildings located in commercial, industrial, mixed-use and public zoning districts were included in this analysis.

minimum operating characteristics (e.g. at least 5,000 square feet, operating at least 30 hours per week, contains at least one full-time worker, etc.).

It also should be noted, as particularly relevant to this set of buildings, that while mixed-use properties are eligible for an ENERGY STAR rating, if the building has more than half of its square footage dedicated to retail space, it is not eligible for a whole building² ENERGY STAR rating.

The median, (rather than the mean) was used to represent the buildings' performance to account for statistical outliers in the collected data. Since, in this case, the buildings' performance data was not symmetrically distributed (i.e. skewed), using a median to represent the buildings' collective performance displays a more accurate representation of collective performance.

While the aggregated results of the participating commercial buildings show average performance, a larger number of participants would be necessary to give statistical validity to this conclusion. The 40 buildings that participated in the pilot program only represent about five percent of the total square footage of private commercial buildings within the city. Aggregating and analyzing a larger number of buildings compared to the total number of commercial buildings would yield a more informative set of data, and provide valuable opportunities to analyze the data for a greater number of correlations and comparisons on a local and national level. In addition, because this pilot was voluntary, it's possible that energy conscious building owners were more likely to participate, further skewing the results.

Key Findings, Trends, and Issues

Results

The most common building type in the pilot program was office buildings. Of the 40 participating buildings, 20 were office buildings; this is not surprising as office buildings are the most common type of commercial building across the United States. The combined gross square

footage of the participating pilot commercial buildings was just under two million square feet, with a median gross square footage per building of just over 15,000 square feet. Considering about two-thirds of all the private commercial buildings throughout the city are under 20,000 square feet, this sampling is an accurate representation of the majority of commercial buildings in the city in terms of total building size.

However, it is important to note here that while two-thirds of private commercial buildings are under 20,000 square feet, these buildings only represent one-fifth of the total gross square footage of commercial buildings. This pilot has accurately reflected energy consumption of buildings by size, **but targeting larger buildings (above 20,000 square feet) has more potential for capturing the bulk of the energy consumption of commercial buildings, since energy consumption is commensurate with square footage, not number of buildings.**

Commercial buildings in the pilot program were built between 1891 and 2011 with the (hypothetical) average building being built in 1971. Upon closer analysis, the majority (over 50 percent) of participating buildings were built between 1960 and 1990.

It would be fair to say that the data collected during this pilot is most representative of a building profile of 15,000 square foot office buildings built between 1960 and 1990. It should be noted that the mean (average) building size that participated in the pilot was 46,000 square feet. Again, due to the asymmetrical results of the data collected, the median (15,000 square feet) is a better representation of the size of the buildings in the pilot.

To address energy consumption in the majority of square footage across Boulder's commercial building portfolio, it is critical to target buildings above 50,000 square feet for reporting and rating. Typically, buildings above 50,000 square feet also have a better return on investment for energy efficiency upgrades due to higher initial total energy costs.

² Whole building energy use takes into account all energy sources

Process

In terms of overall design, implementation and process, the pilot program proved successful. The surveys taken by the pilot's participating building owners, tenants and energy coaches resulted in the following qualitative information:

- The building owners and tenants reported that the contracted energy coaches did a skillful job and played a crucial role in the program and in the energy rating and reporting process;
- The energy coaches reported to have had a good experience with the pilot program and felt that the program was effective;
- The process took about the time the energy coaches and building owners expected (seven hours on average, per building);
- The energy coaches found data collection manageable, and Portfolio Manager relatively easy to navigate when following the pre-determined protocol;

In addition, most energy coaches and building owners provided feedback that this program helped the owners understand their energy use. Many indicated that they would continue to track their energy use and potentially implement upgrades to their facilities. Noted challenges included excess paperwork, data collection and energy use consent waiver/approval issues (especially for multi-tenant buildings), nuances and comprehension of Portfolio Manager, and sensitivity around disclosure.

Recommendations

Based on the pilot program results, it is recommended that the city continue with a voluntary energy rating program similar to the pilot program; the key process findings stated above demonstrate the success of the pilot program process. Recommendations to improve the energy rating and reporting process as part of a city-wide program or ordinance include the following:

- Provide more educational and engagement opportunities (and possibly incentives) for building owners and tenants – this would help with the process and address disclosure concerns;
- Enhance energy coach training to include lessons learned from the pilot and address data

collection and entry and Portfolio Manager nuances (multiple meters, campus ratings, rating eligibility, etc.);

- Provide energy coaches with energy savings estimates for a variety of potential improvement measures as a next step;
- Cut down on paperwork, or include a flowchart of the process and paperwork required;
- Investigate better ways to access whole building energy use data (i.e. potentially include utility data release in tenant lease, collaborate with the Xcel Energy to set up an automatic electronic data transfer or online account, etc.);
- Investigate installing sub-meters and potentially offsetting some of the cost of purchase and installation;
- Continue to work with both building owners and tenants (e.g. *EnergySmart*, *10 For Change*) to gather energy data and develop new incentive or regulatory programs – both the tenant and owner need to work together to create higher performing properties;
- Since 49 percent of the commercial buildings located in the city have square footage over 50,000 square feet, it is important to especially target larger building types for rating and reporting;
- Consider implementing prescriptive energy standards for buildings over 50,000 square feet utilizing best-in-class efficiency programs; such as, recommissioning, auditing, and utility spending analysis; and
- Study capabilities of the 2013 Portfolio Manager release prior to proceeding with a formal commercial energy rating and reporting program.
- Based on limitations of data collected in Portfolio Manager an additional recommendation is included in **Appendix 1**.

2. Background and Context

6

Commercial buildings represent just under one-fifth of U.S. energy consumption, with office space, retail space, and educational facilities representing about half of commercial sector energy consumption. The top three end uses in the commercial sector are space heating and cooling, and lighting, which represent close to half of commercial site energy consumption³. From this information, it is easy to pinpoint where the opportunities are to decrease energy use from commercial buildings, yet many cities are still figuring out the right course of action. There are many players in the commercial building sector, from building owners and representatives to property managers and tenants; as a result, it can be difficult to create energy efficiency programs and policies that address these intricate relationships and the various stakes each entity has in each commercial building.

The city of Boulder is a leader in sustainability and is currently implementing a commercial energy efficiency strategy. The purpose of this document is to report on findings and recommendations from the commercial energy rating and reporting pilot program so that the city can continue to implement an effective commercial energy efficiency strategy moving forward.

Energy Rating Benefits and Successes

As a first step, cities are beginning to rate energy use in the commercial building sector and are finding that knowledge is power. Aside from voluntary programs such as the city's *10 For Change* and *EnergySmart*, a number of cities including Austin, Texas, Washington, DC, Seattle, Washington, and most recently Minneapolis, Minnesota are mandating energy rating and reporting. A few cities such as Berkeley and San Francisco, California, and New York City are going a step further by mandating prescriptive measures and/or performance standards in addition to energy rating and reporting.

In New York City, the city found that it could reduce greenhouse GHG emissions by up to 20 percent if inefficient buildings were brought up simply to the median Energy Use Intensity (EUI)⁴

in its building category. The city also found that the older building stock was more energy efficient than the newer building stock.

These energy rating and reporting policies vary by:

- Building type and size;
- Information being disclosed;
- Timeline for compliance; and
- Additional measures that go beyond ratings and reporting.

Even though there are variations, the adopted policies all share common goals. These are:

- Understanding the existing energy performance of their city or state's existing commercial building stock;
- Building a national database of building performance information and tools; and
- Sharing that information as appropriate to encourage energy efficiency improvements.

This type of information is critical in developing effective energy efficiency policies for the commercial building sector.

All other cities that have adopted energy rating and reporting ordinances use ENERGY STAR Portfolio Manager. Supported by the United States Environmental Protection Agency (EPA) and Department of Energy (DOE), the free online tool generates a Statement of Energy Performance using entered energy data, which includes a performance rating (1-100) and/or EUI and comparisons to similar building uses throughout the country. These building ratings are normalized through analysis of a variety of factors, including: geographic location (and,

³ Source: U.S. Department of Energy Buildings Energy Data Book.

⁴A building's EUI is calculated by taking the total energy consumed in one year (measured in kBtu) and dividing it by the total floorspace of the building (measured in square feet). Generally, a low EUI signifies good energy performance. (Source: ENERGY STAR)

therefore, weather), building size, use, occupancy and so forth. **More than 28 billion square feet – about 40 percent of the country’s inventory – now use Portfolio Manager to monitor and report energy performance.**

City of Boulder Energy Efficiency Programs

In 2006, the city of Boulder’s Climate Action Plan (CAP) identified that energy use makes up 76 percent of the community’s GHG emissions. The electricity consumption of the industrial and commercial sectors accounts for nearly 83 percent of those emissions. In response to this information, the city established several programs for businesses and commercial building owners to begin addressing this issue. Throughout the past five years, the city’s commercial energy efficiency programs and services have evolved to increase their effectiveness. See **Appendix 2** for more background on the city’s commercial energy efficiency and CAP programs.

7

3. Commercial Building Stock in the City of Boulder

8

Commercial buildings' energy use varies due to several factors, including building size, geographic location, occupancy and use. Therefore, accurate commercial building information is essential to an efficient and successful energy rating and reporting program. This type of data is also critical for identifying the buildings that would be subject to future requirements and for contacting those buildings' owners. Once the

owners begin rating and reporting, this database serves as a tool for tracking energy use and compliance after the ordinance is adopted and reporting begins. The city has access to a variety of business and commercial property information but found that Boulder County's property tax database provided the best available information. See below for Boulder's commercial building stock and its breakdown by sector.

Private Sector Commercial Building Breakdown

Includes buildings classified as the following types from the property tax database as: church, hospital, hotel, retail, private-owned commercial, and commercial condominiums. Number of buildings and square footages estimated based on zoning & city limits.

Size Category	Total SQFT	Number of Bldgs	% Total SQFT	% Total Number of Buildings	Proportion of total private sector buildings, square feet
< 1,000	35,344	69	0.10%	4.26%	
1,000 - 4,999	1,273,455	437	3.60%	27.01%	
5,000 - 9,999	2,449,221	340	6.93%	21.01%	96% of sq. ft. 69% of bldgs.
10,000 - 19,999	4,212,723	300	11.91%	18.54%	89% of sq. ft. 48% of bldgs
20,000 - 29,999	4,198,069	173	11.87%	10.69%	77% of sq. ft. 29% of bldgs.
30,000 - 39,999	3,257,714	92	9.21%	5.69%	66% of sq. ft. 18% of bldgs.
40,000 - 49,999	2,540,362	57	7.18%	3.52%	56% of sq. ft. 13% of bldgs.
50,000 and above	17,390,654	150	49.19%	9.27%	49% of sq. ft. 9% of bldgs.
TOTAL	35,357,542	1,618			

City of Boulder Owned Facilities*

Size Category	Total SQFT	Number of Bldgs
<1,000	3,713	7
1,000 - 4,999	56,165	19
10,000 - 19,999	251,900	20
20,000 - 29,999	174,066	7
30,000 - 39,999	103,876	3
5,000 - 9,999	87,108	14
50,000 and larger	732,436	6
TOTAL	1,409,264	76

**Based on zoning and city limits*

**Other Public Sector
Commercial Buildings***

Type	Total SQFT	Number of Bldgs
Federal	319,735	5
State	37,917	7
County	770,925	16
RTD	77,449	2
UCAR	569,309	10
University - Private	74,336	2
University - State	8,367,921	75
TOTAL	10,217,592	117

**The majority of the public schools are located in residential zoning*

Total Commercial Buildings*

Type	Total SQFT	Number of Bldgs
Private Sector	35,357,542	1,618
City of Boulder	1,409,264	76
Other Public Sector	10,217,592	117
Total	46,984,398	1,811

**Based on zoning and city limits*

4. Pilot Program Background and Building Characteristics

Pilot Program Background

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The commercial building energy rating and reporting pilot program included a cross sampling of Boulder's private sector commercial buildings. This pilot program will inform participating building owners, tenants, and the city about how existing commercial buildings use energy. It will also allow building owners and tenants to understand their building's energy performance, and, through the city and county *EnergySmart* advisor service or private sector energy consultants, help identify areas where energy efficiency improvements could save money. In addition, to further lead by example, the city of Boulder's most energy intensive facilities were rated as part of Phase 3 of its Energy Performance Contracting program with McKinstry (see Section 8 for results). Objectives of the pilot program include encouraging and understanding the process of rating and reporting of energy use and helping to inform the development of a potential rating and reporting ordinance. See **Appendix 3** for more information and background on the commercial building energy rating and reporting pilot program.

Pilot Program Buildings' Characteristics

The private sector pilot program had **43 buildings participating, representing 17 building owners; at the time of this analysis only 40 buildings had completed the process and were included.** Below is a breakdown of the 40 buildings' characteristics in terms of number of buildings in each size category. Also noted is eligible rating in Portfolio Manager, and diversity of space type.

Participating buildings include the following space types that receive an energy performance rating (ENERGY STAR rating, on scale of 1-100, 100 being the most efficient) in Portfolio Manager:

- Data Center
- House of Worship
- Warehouse
- Retail
- Office
- Senior Care Facility
- Hospital (specialized nursing facility)
- Schools

Participating buildings include the following uses that receive an Energy Use Intensity (EUI) score in Portfolio Manager:

- Fitness Facility
- Manufacturing
- Restaurant

Pilot building participants had diverse characteristics, such as:

- Large industrial buildings
- Residential use converted to commercial use
- Multi-tenant buildings
- Various energy use meter configurations
- Various ages
- A campus of buildings

	Building Size (sq. ft.)						
	1,000-4,999	5,000 - 9,999	10,000 - 19,999	20,000 - 29,999	30,000 - 39,000	40,000 - 49,999	> 50,000
Number of Commercial Buildings in Pilot Program (40)	4	5	13	2	1	2	13

5. Aggregated Results of the Pilot Program

On the following pages are the aggregated data results of the pilot program displayed as site EUI, source EUI, and ENERGY STAR rating. While all 40 of the buildings that were included in the pilot program were able to generate a site and source EUI, only 19 buildings out of 40, qualified for an ENERGY STAR rating. As revealed in the results, many buildings did not qualify for an ENERGY STAR rating for a variety of reasons.

The pilot buildings have been displayed for both site EUI and source EUI charts so as to provide a better understanding of each building's on-site efficiency as well as its total energy demand. Since an ENERGY STAR rating is calculated based on a building's source energy consumption, and many of the buildings did not qualify for an actual ENERGY STAR rating, the information displays all three measures of energy consumption separately.

Definitions For Reference⁶ :

Site Energy: The total energy consumed at the building location regardless of fuel type, measured in kBtu / square foot / year.

Source Energy: All of the energy used in delivering energy to a site, including power generation and transmission and distribution losses, to perform a specific function, such as space conditioning, lighting, or water heating, measured in kBtu / square foot / year.

ENERGY STAR Rating: A rating of energy performance on a scale of 1–100 relative to similar buildings nationwide, calculated using source energy.

Aggregate Site Energy Use Index

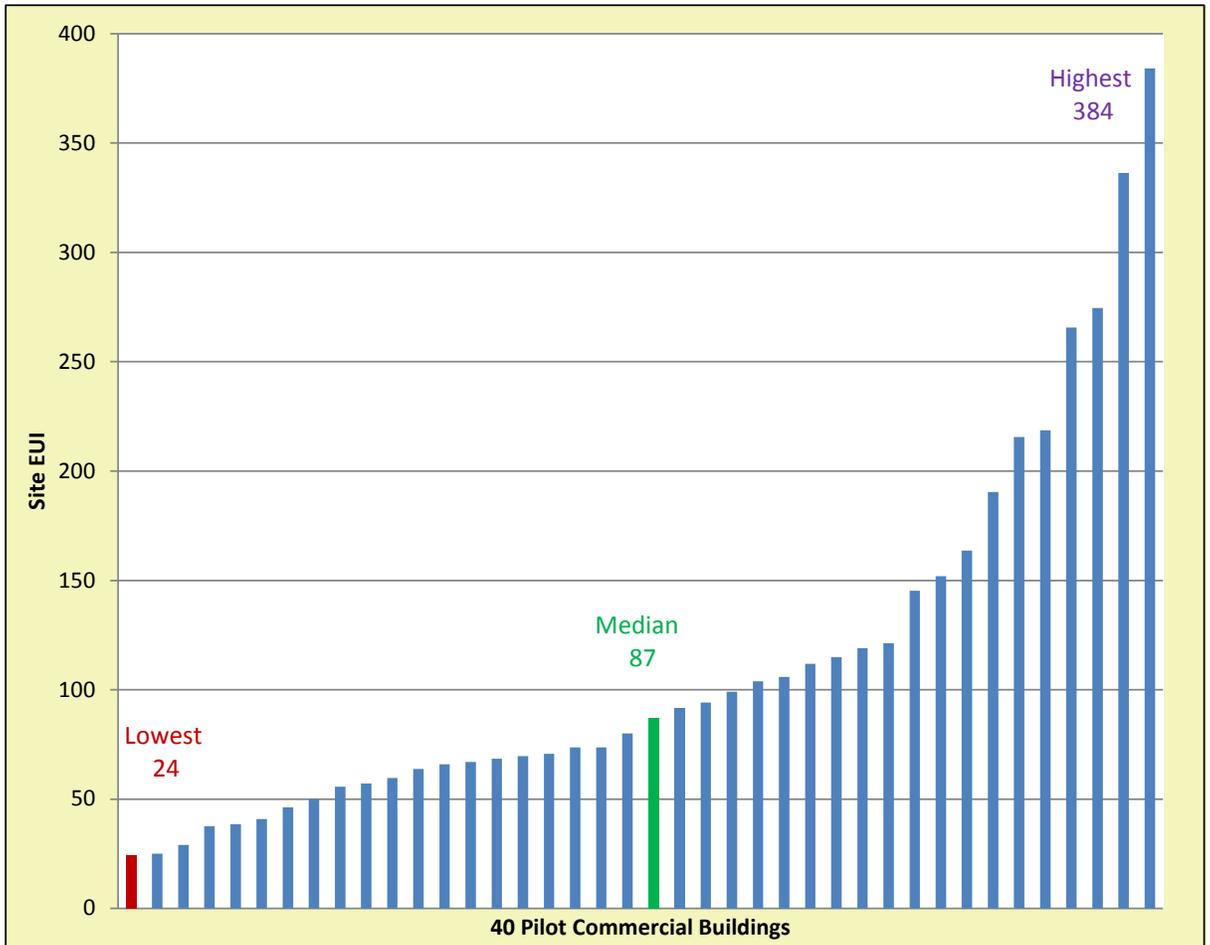
Among the 40 private commercial buildings that participated in the pilot program, the range of site EUIs went from 24 to 384 with a median site EUI of 87. Compared to a national average site EUI of 86 (see Section 6), this demonstrates that the pilot buildings are about average in terms of energy efficiency.

This wide range of EUIs indicates that there is a large amount of energy efficiency potential within this portfolio, and is likely indicative of a larger portfolio of commercial buildings inside the city. Since a site EUI measures energy consumption per square foot, the chart on page 12 highlights that there are a number of buildings that have an opportunity to improve their energy efficiency relative to their peers. Nineteen buildings represented in the chart are above the median range, indicating that these would likely have the most potential for cost-effective efficiency improvements.

⁶ For a further explanation of the differences between site and source energy visit the EPA's Portfolio Manager description page at www.energystar.gov

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40 Pilot Commercial Buildings Aggregate Site Energy Use Index

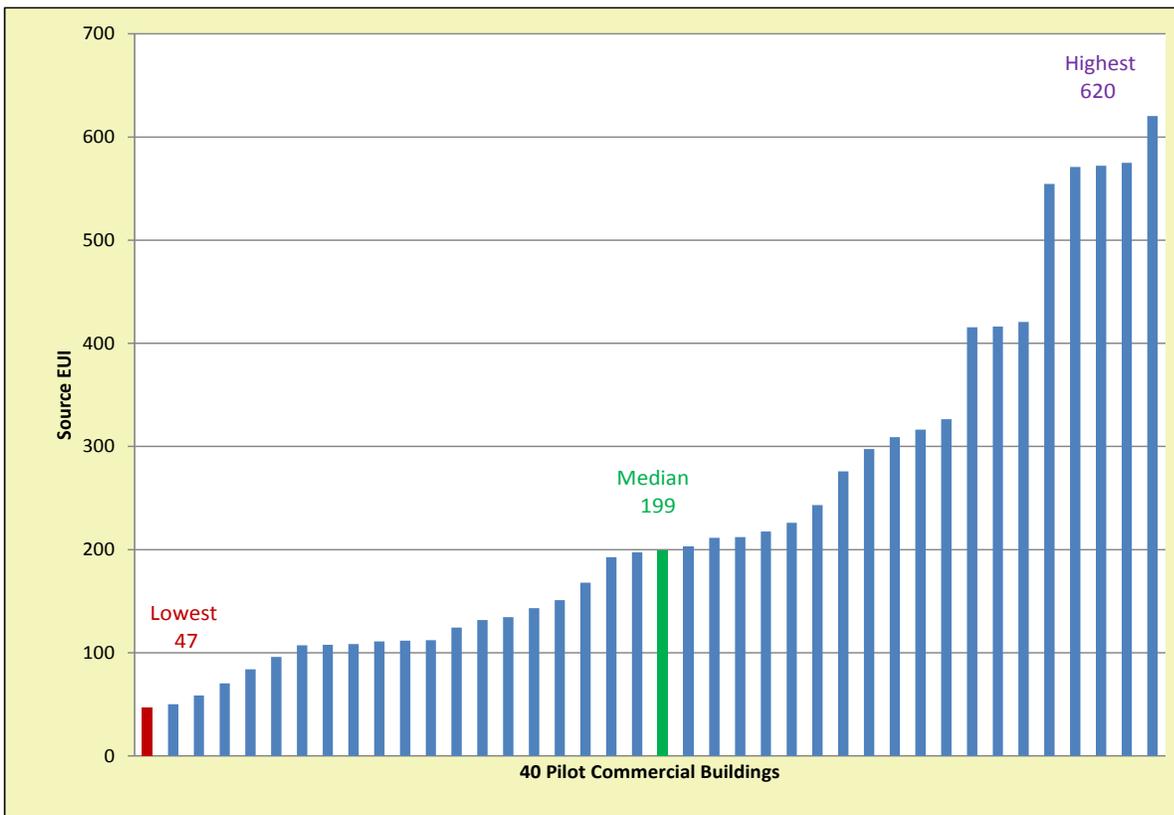


Aggregate Source Energy Use Index

Among the 40 private commercial buildings in the pilot program, the range of source EUI scores is 47 to 620 with a median source EUI of 199. Since source EUI accounts for total energy demanded from the raw fuel source for a creating a watt of electricity and on average, three watts are needed to deliver one watt of usable electricity – the numbers reflected below are much higher than site EUIs. While on-site efficiency (as reflected by site EUI) is extremely important, source energy takes into account a

building’s total energy footprint. Preferred fuel choice (electricity or natural gas typically) has a large impact on a building’s source EUI. As seen from the very wide range of EUIs below, there is a large opportunity for improving source EUI (which will, in-turn, improve a building’s ENERGY STAR rating since the score is calculated based on source EUI). Nineteen buildings represented in the chart below are above the median range indicating that these would likely have the most potential for total energy demand improvements.

40 Pilot Commercial Buildings Aggregate Source Energy Use Index



Aggregate Energy Star Rating

Again, among the 40 buildings in the pilot program, the range of ENERGY STAR ratings is from 13 to 97 with a median ENERGY STAR rating of 81. This median suggests exceptional performance, clearly demonstrating that the buildings participating in the pilot program are top performing buildings on a national scale. However, it appears from the small number of buildings that qualified for an ENERGY STAR rating, that this sampling is skewed toward higher performing buildings. More so, it's also possible that since participation in the pilot was voluntary, energy conscious building owners were more likely to participate.

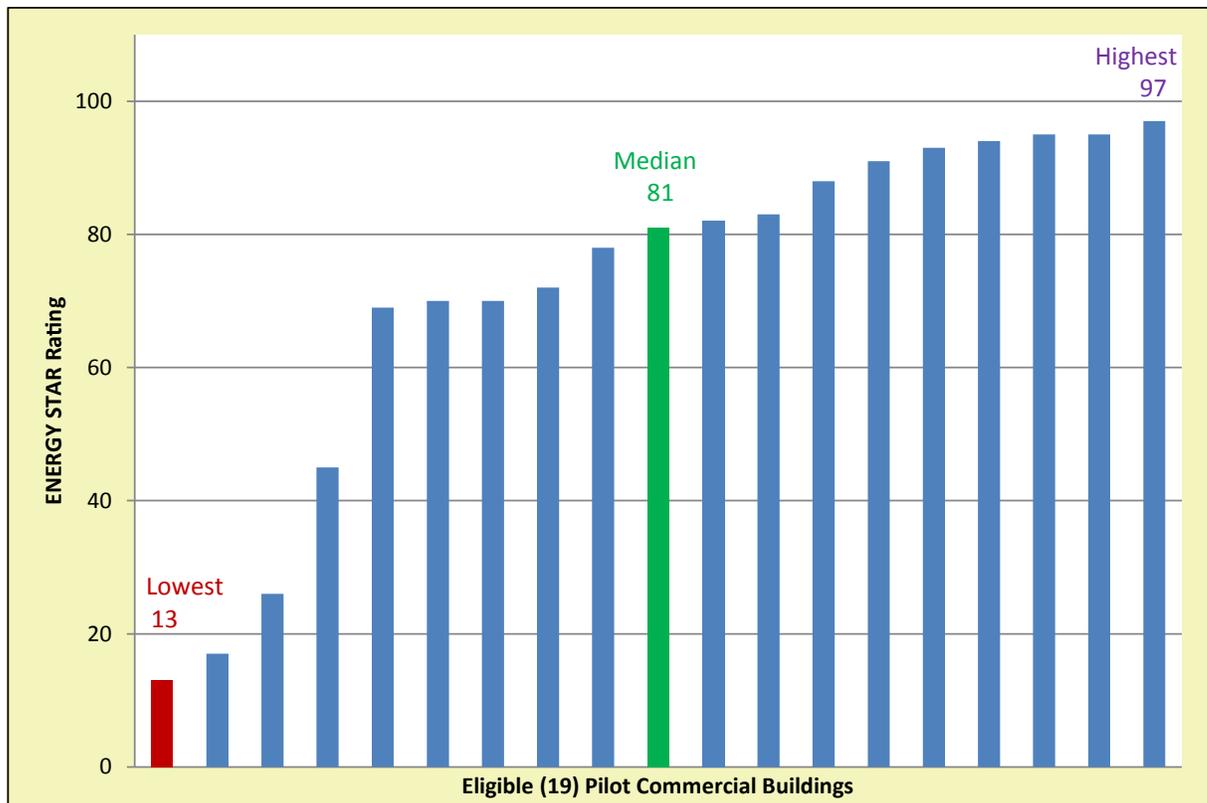
This may also be due to those buildings being eligible for ENERGY STAR Leader Certification (earning a 75 rating or above) – requiring a Professional Engineer to review and correct any incorrect data entered into Portfolio Manager that would disqualify the building for an ENERGY STAR rating. As is stated below in the results,

fewer buildings were eligible for an ENERGY STAR rating for a number of possible reasons. Building ineligibility can be due to the following:

- 1) The data entered into Portfolio Manager did not cover a consecutive year of energy consumption;
- 2) The building's space type did not match an existing EPA building designation (e.g. office, hotel, retail, data center, etc.); or
- 3) The building did not meet the EPA's minimum operating characteristics (e.g. at least 5,000 square feet, operating at least 30 hours per week, contains at least one full-time worker, etc.).

It also should be noted, as particularly relevant to this set of buildings, that while mixed-use properties are eligible for an ENERGY STAR rating, if the building has more than half of its square footage dedicated to retail space, it is not eligible for a whole building ENERGY STAR rating.

40 Pilot Commercial Buildings Aggregate Source Energy Star Rating



*Note: ending dates of generated ENERGY STAR ratings differ

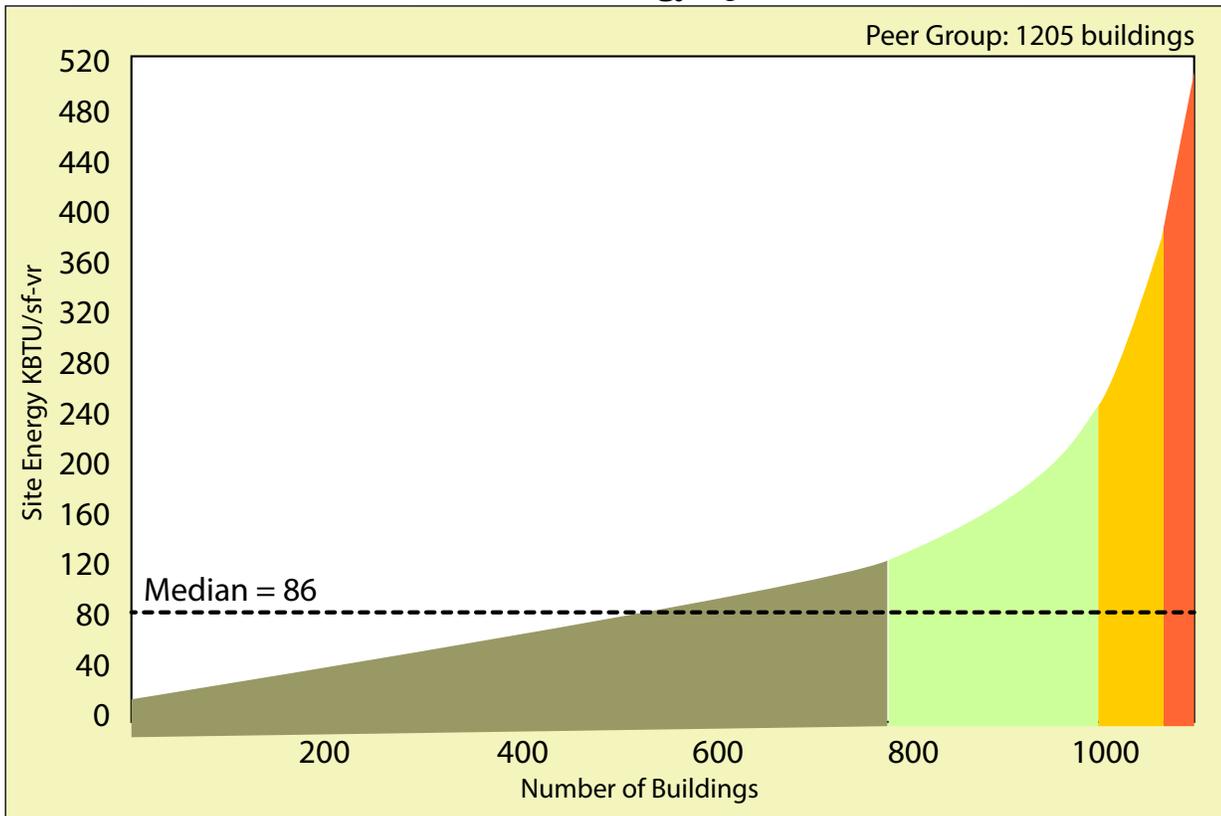
6. Factors that Contribute to Energy Consumption in Commercial Buildings

There are many factors that contribute to energy consumption in commercial buildings. A building's efficiency is determined in part by the building's vintage, use type, geographical location, fuel type, size, operational procedures, and energy-related equipment.

Across the United States, a building's efficiency can be determined by its EUI as compared with buildings of similar characteristics. The most comprehensive survey of commercial buildings' efficiency was completed by the Energy Information Administration (EIA) in 2003. This was called the Commercial Building Energy Consumption Survey (CBECS).

In comparing the participating pilot buildings within the city of Boulder with those in the United States, the pilot buildings consume about the same energy per square foot as similar use (office, retail, schools, etc.) buildings on a national level. The median site EUI (as seen in the aggregate results) was 87; a comparison of similar buildings nationally had a median site EUI of 86 – very close to the pilot program median. Below is a national sampling of similar buildings (created using Energy IQ – a building indexing tool created by the Lawrence Berkeley National Laboratory (LBNL)).

LBNL Energy IQ



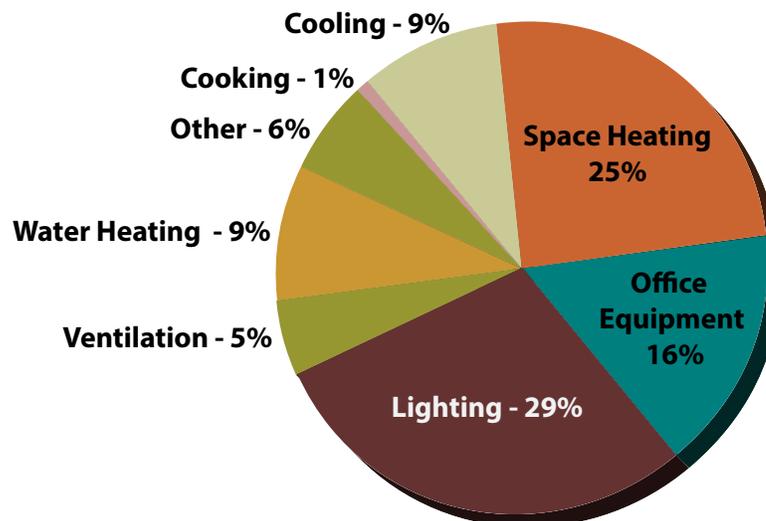
Source: Lawrence Berkeley National Laboratory

The majority of buildings that participated in the pilot program were office buildings. The pie chart below illustrates how these types of buildings primarily use energy. Commercial office buildings are the most common building type within the United States (consuming 17 percent of all the energy in the commercial building sector). These buildings all use energy for relatively the same thing, and have similar end-use breakdowns as shown below. By understanding how and where these buildings use energy, the city can promote specific programs targeting, for example, lighting or space heating. Much of this targeting is already being done with the commercial *EnergySmart* program.

Building Size

The two most common building sizes in the pilot program were buildings between 10,000 – 19,999 square feet (13), and over 50,000 (13). However, the median building size was 15,000 square feet, and 70 percent of the buildings in the pilot program were under 50,000 square feet. While two-thirds of all private commercial buildings within the city are less than 20,000 square feet, these buildings only represent one-fifth of the total gross square footage of private commercial buildings. This pilot has accurately reflected energy consumption of buildings by size, but targeting larger buildings (above 20,000 square feet) has more potential for capturing the bulk of the energy consumption of commercial buildings, since energy consumption is commensurate with square footage not number of buildings. Typically, buildings above 50,000 square feet also have a better return on investment for energy efficiency upgrades due to higher initial total energy costs.

Average Energy End-Use In Office Buildings Across The United States



Source: Energy Information Administration

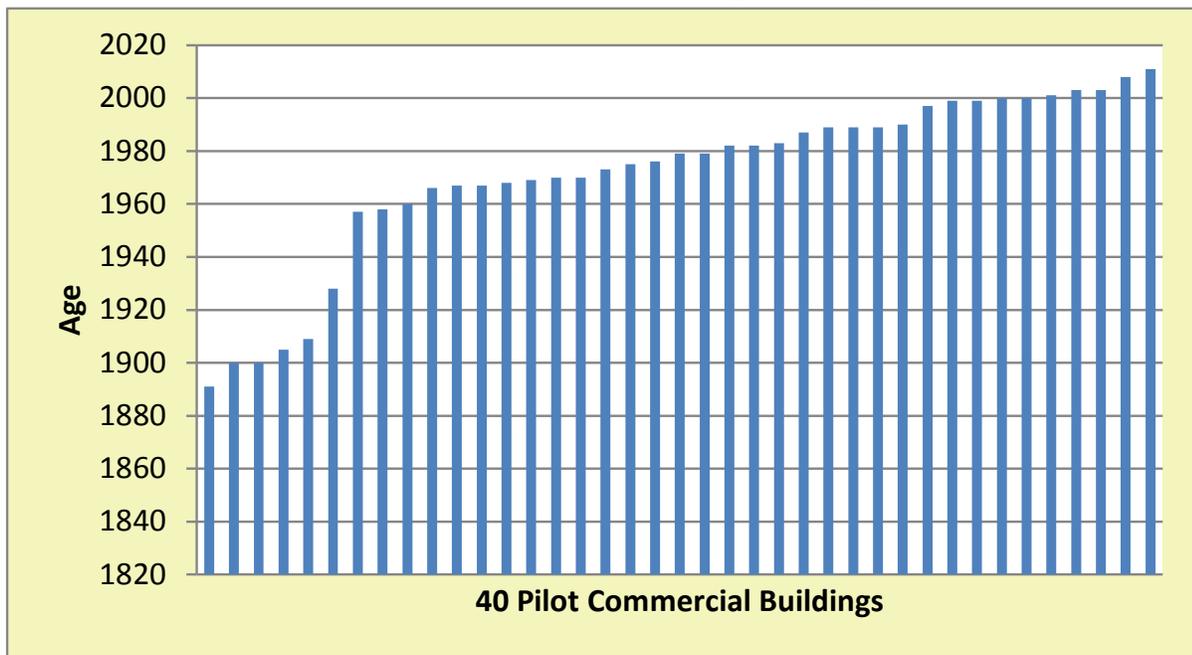
Geographical Location

The geographical location of a building is a key contributing factor to how much energy that building will consume on a national or world-wide scale due to the different climate zones in which a building can be located. For example, a building located in Atlanta will consume much more energy for air conditioning than a building located in Boulder, which has a much more temperate climate. While there is not climate differentiation within the limits of the city, the distribution of building efficiency provides anecdotal information on the location of efficient or inefficient buildings. More data would be required to draw any correlation between building efficiency and location; however, it is recommended that a geographical analysis be done once more commercial building performance data is available.

Building Vintage

Age is also a key indicator of the performance of a building since architecture and construction practices vary over time. These practices have a great influence on a building's ability to be energy efficient. For example, a building built in the early 1900s was limited to load-bearing walls, leaving less room for exterior windows along a building's façade. However, through advances in engineering, buildings built in the second half of the century were able to be structurally-sound independent of the exterior walls. This allowed architects the ability for a much larger number of windows (e.g. window ribbons). Typically, while increased window to wall ratios allow for more natural daylight inside a building, the higher window to wall ratio, the less efficient the building is due to lack of insulation. Within the pilot participants, buildings were built between 1891 and 2011. The distribution of building age is seen in the below chart.

40 Pilot Commercial Buildings' Vintage



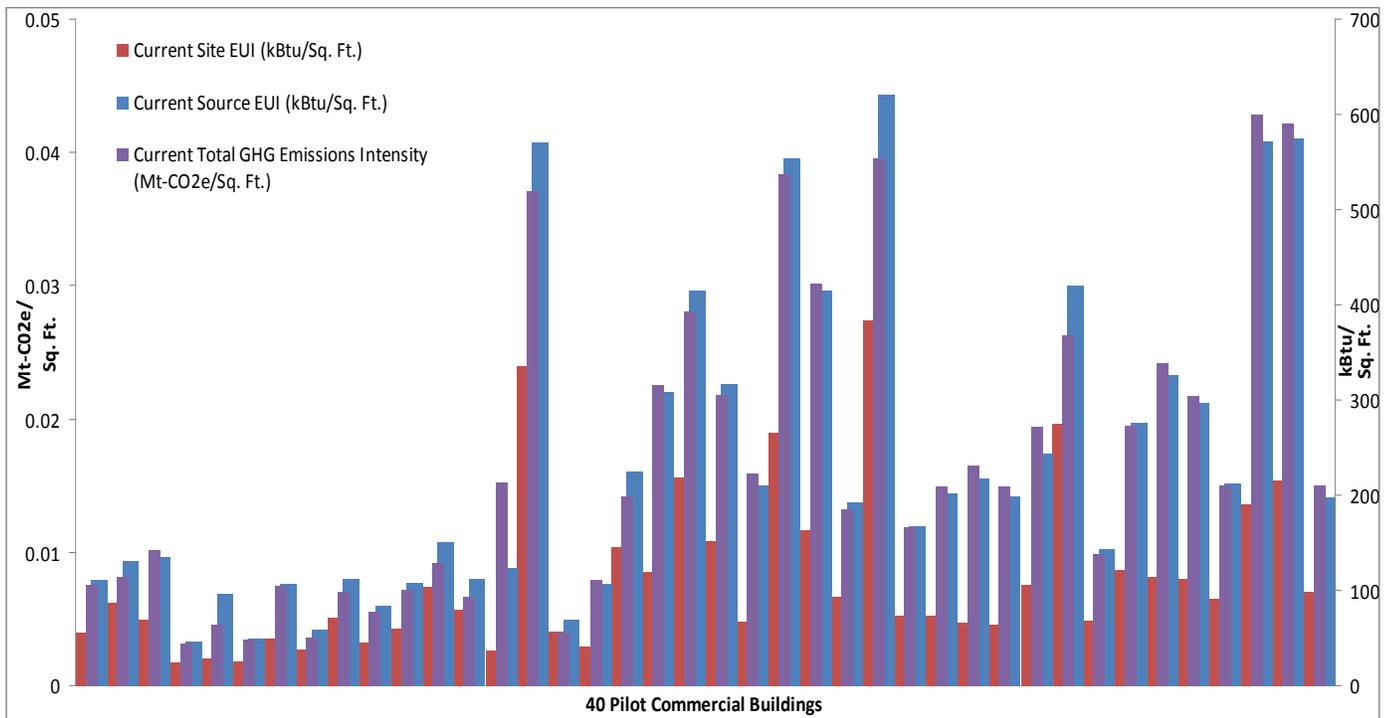
The vast majority of carbon emissions into the earth’s atmosphere are energy-related, stemming from the combustion of fossil fuels. Curtailing these emissions is crucial to mitigating climate change. In the United States, the transportation and industrial sectors each use about a quarter of all the energy consumed, while buildings consume nearly half in the course of heating, cooling, ventilating, and lighting their spaces. Worldwide, buildings account for nearly 16 percent of all energy consumption. And with little of the building stock being built new—from two percent of U.S. commercial floor space to as much as 10 percent in India—most opportunities to improve efficiency over the next several decades will be in the existing building stock.

The city of Boulder has recognized that GHG emissions are an extremely important issue

facing us all. The city’s commitment to addressing GHG emissions is evidenced by its Climate Commitment, will set out to achieve climate neutrality by a specific date. To achieve carbon neutrality, the city must address its commercial buildings as a top priority.

The city of Boulder is no exception to these national and worldwide trends. The median annual GHG emissions per building among the 40 participating commercial buildings was 291mt-CO₂e per year, which is equivalent to annual GHG emissions from 56 vehicles. As shown below, source EUI is closely correlated to GHG emissions intensity (GHG emissions per square foot) due to the fact that both benchmarks account for the source of energy; site EUI only accounts for on-site energy use, or what is shown on utility bills.

40 Pilot Commercial Buildings Energy Use and GHG Emissions Intensities



7. Pilot Process Feedback

Process and Energy Coach Background

As mentioned previously, the city contracted with the Colorado Green Building Guilds (Guild Commercial Building Energy Coach Association to provide assistance to participating commercial buildings owners.

The energy coaches worked with the building owner and tenants to perform the following scope of work:

- Acquire appropriate consent forms to access utility bill data on assigned building(s)
- Collect utility data to input into Portfolio Manager and share it with the city's Portfolio Manager Master Account
- Request and complete online surveys required as part of the pilot participation, that involved soliciting feedback from building owners, tenants, and coaches for each building
- Complete energy rating completion form with signature from the building owner
- Submit all relevant documentation to Guild staff for accurate invoicing purposes to the city

The energy coaches were given thorough instructions for each of these items in the form of a predetermined protocol to ensure all information was collected and feedback was received to extract as much qualitative information as possible from the participants.

The next section details feedback from the energy coaches on this pilot process, both through a feedback session facilitated by city staff (14 participants), as well as through an online survey (26 responses). The following sections include feedback from building owners and tenants; as well as, Boulder County Public Health who provided a Quality Control/Quality Assurance (QA/QC) analysis.

Process Feedback: Energy Coaches

Overall, the energy coaches had positive feedback about the commercial building energy rating and reporting pilot program. When asked a few general questions about the program, responses from energy coaches surveyed included:

- 60 percent thought the energy rating pilot program was effective in providing useful information about the buildings' energy use
- Over 90 percent would recommend this program to others
- 70 percent felt that retrieving the energy use data was not difficult due to the fact the businesses were assisting them with the utility
- Most felt that the process took the amount of time they expected, maybe a little bit more in some instances (7 hours reported as the average per building)

Pilot Process

The majority of energy coaches (75 percent or higher) agreed or strongly agreed that this energy rating pilot program increased building owners' understanding of:

- Commercial building energy use;
- The energy rating process;
- The value of energy use tracking and benchmarking a building performance; and
- The importance of energy efficiency programs for commercial buildings.

The majority of energy coaches (70 percent) indicated that it was very likely that the building owners they worked with were going to continue to track energy use. Reasons for this included the following:

- Interest in energy use and how to save money
- Interest in tracking ongoing building performance, especially if they implement upgrades

- Useful tool for tracking and measuring progress
- Helpful in:
 - meeting and tracking goals to reduce energy use
 - making the case for potential upgrades
 - reducing energy costs
 - promoting efforts

The minority of energy coaches expressed that some building owners were too busy to rate their own buildings, or they didn't have a lot of energy saving opportunity (as they pass cost on to tenants), or because some buildings were small (<5,000 square feet) they were not even ENERGY STAR ratable (although the energy use intensity could be a helpful benchmark).

Overall, the majority of energy coaches had few major problems throughout the energy rating and reporting pilot program. However, there were noted challenges in the pilot program including the following:

- Excess paperwork;
- Rating multiple buildings on one campus;
- Rating eligibility/requirements; and
- Time spent collecting data and meeting with and/or getting approvals and signatures from building owners.

Data Collection

When asked what specific challenges the energy coaches had in collecting energy use data, the results were as follows:

- 46 percent of the energy coaches surveyed selected “no challenges”
- 40 percent reported “time required to retrieve energy use data from utility”
- 35 percent selected “other”
 - Under “other”, a few additional challenges were noted, including the time it took working with utility account representatives (many didn't know their account representative or how to get in touch with Xcel), collecting gas data when it was through a different provider, and how to address buildings with vacant spaces and new tenants

- 23 percent of the remaining selections related to working with tenants on collecting data and signing the utility disclosure

- 20 percent selected “determining appropriate energy data to enter into Portfolio Manager”

The majority of energy coaches (nearly 80 percent) didn't work with tenants to collect energy use data; however those that did report some questions about why this is a city program and raised some concern about releasing data to the city. On a few multi-tenant buildings, there were tenants that were difficult to track down; it was time consuming and troublesome to identify and coordinate with the appropriate authority in that business to sign a consent to disclose form.

To address energy use data retrieval issues, energy coaches employed a variety of different tactics including the following:

- Working directly through the utility account representative
- Working with the building engineer or property owner
- Coordinating directly with other utilities (gas) for information
- Sending a “Statement of Good Standing” to Xcel to expedite process when working on multiple buildings at once
- Setting up the business accounts on Xcel's website (My Account feature)

Using Energy Star Portfolio Manager™

In general, energy coaches had a good experience working with Portfolio Manager. Of the energy coaches surveyed, 65 percent reported that Portfolio Manager was not difficult to use, followed by 35 percent reported it was somewhat difficult to use. There were some challenges with using Portfolio Manager that were noted, including issues with graphical display and usability as well as confusion about how to handle mixed use spaces (when to use “other” category), buildings with multiple meters, a campus of buildings, industrial buildings, and buildings with solar photovoltaics and net metering. Despite these challenges, Portfolio Manager was reported to be a fairly user-friendly and useful tool for both the energy coaches and building owners.

General Improvements or Suggestions Moving Forward

The energy coaches noted a few potential improvements or suggestions for an energy rating pilot program overall, including the following:

- Provide more educational and engagement opportunities for the building owners and tenants, including energy challenges across buildings
- Provide more information on building classification (address meter issue) and entering data in Portfolio Manager for a campus
- Clarify rating eligibility requirements – when you can get an ENERGY STAR rating or not – how to accurately measure square footages of spaces and what the resulting classification should be
- Include buildings that have less than 50,000 square feet – most larger building owners are already making energy efficiency improvements, and it provides more opportunities
- Collect energy data before start of program, or allow more time in the buildings
- Involve less paperwork, or a flowchart of the process and paperwork required
- Implement energy rating and reporting ordinance in a gradual, tiered way
- Look into low cost data logging to make reporting easier
- Investigate incentives for energy coaches or building owners
- Recommend utility data release forms in tenant lease, and/or set up an automatic data transfer, online account, etc.
- Portfolio Manager needs a more comprehensive list of buildings that can be classified and better visual display/graphics (note: this is coming in 2013 – see subsection 4 for more details)

Notable Observations

Through this pilot process, the energy coaches made a few interesting observations. The first is that the tenants seemed to like the idea of rating the building they are in, however the owners were not as interested in rating the building they

own. Who decides to be rated through a voluntary program? This brings up the split incentive issue, which is the addressed for the residential sector through SmartRegs, but hasn't been addressed for the commercial building sector. If a commercial building energy rating and reporting ordinance was considered, the building owners wouldn't have a choice about rating their building, thus creating energy use transparency for current and potential tenants. Questions did come up about why the city wants this information and what they were going to do with it.

In terms of education, the energy coaches felt it would be helpful to have online tutorials regarding the following how-to topics:

- Read and analyze energy bills
- Use Portfolio Manager
- Utilize cost effective case studies
- Estimate savings from the most common improvement measures

All of which could be part of a permanent program, subsidized or provided by the city.

Process Feedback: Building Owners and Building Tenants

Building owners and tenants also had positive things to say about the pilot program. From the survey results, both owners and tenants surveyed indicated that the pilot program was either very effective or somewhat effective in providing useful information about their buildings' energy use; they also said they would definitely or probably recommend energy rating to others. Both owners and tenants surveyed responded that the process of retrieving energy use data wasn't too difficult, and took about the time they expected or less (between 1-to-5 hours per building).

Of the building owners and tenants surveyed (18 owners and 5 tenants), about half hadn't participated in any of the city current sustainability programs, with around half participating in either *EnergySmart* or water conservation programs, followed by a few that are involved with Partners for a Clean Environment (PACE), *GO BOULDER*, U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED), or *10 For Change*.

Almost all building owners reported that understanding the energy use of their building(s) was very important to them, and agreed that the pilot program increased this understanding. Almost all building owners ranked identifying cost effective upgrades to improve energy efficiency and identifying cost savings resulting from reducing energy use as important, and most agreed that this program helped them accomplish both. The majority of those surveyed rated enhancing the sustainability and knowing the energy performance of their building(s) as very important, while the majority of owners ranked the importance of offering tenants an energy efficient space to lease. Building tenants had similar reported results for ranking the importance of the above statements. **Almost all building owners agreed that the information from this program was well worth the time spent gathering the data, and over half reported that the information would be helpful for marketing.**

While initially some building owners reported to have had concerns around staff time and resources, disclosing information, and interrupting tenants during the pilot program, all of their concerns (and similar tenant concerns) were addressed. When asked about using Portfolio Manager, building owners reported the following:

- 55 percent reported Portfolio Manager was not difficult to use
- 45 percent reported Portfolio Manager was somewhat difficult to use
- Over 80 percent reported that they definitely or probably would continue to use Portfolio Manager to track energy performance

A few challenges building owners reported during the process included, allocating resources and staff time and learning how to use Portfolio Manager (highest) to finding comparable buildings to benchmark, retrieving energy use data, and scheduling time with their energy coach (lowest). The largest problems noted were obtaining data from Xcel and having to go through tenants to access this data.

Overall comments from building owners included positive reviews for the energy coaches around their expertise, responsiveness, and knowledge; they also noted that the pilot program was immensely helpful and would have taken much more time to do something like this on their own.

The majority of comments from tenants included similarly rave reviews of the energy coaches. They noted that the pilot program was the catalyst they needed to engage their landlord on making energy efficiency improvements and hope the program goes forward. There was feedback that some tenants were concerned with disclosing their data to the city. They also noted that more assistance and expertise around next steps and larger improvement recommendations would be helpful, and there was some difficulty in working with tenants on obtaining data from Xcel Energy.

Process Feedback: Boulder County Public Health

The Boulder County Public Health (BCPH) Business Environmental Sustainability Team provided recommendations to help the city develop an Energy Rating Pilot Protocol (Protocol) for the energy coaches to use as a guideline for entering data into Portfolio Manager. BCPH also provided Quality Assurance/Quality Control (QA/QC) on the Portfolio Manager accounts and associated ratings that were entered by the energy coaches participating in the pilot. Note that *EnergySmart* advisors from BCPH also provide energy rating and reporting with Portfolio Manager for Boulder businesses and building owners as part of the advisor service and pilot. However, the QA/QC was only performed by them on the participating buildings that the energy coaches were working with in the pilot.

In general, BCPH found that the coaches performed very well in working with the businesses, gathering utility data, and entering it into Portfolio Manager according to the Protocol. The Protocol was developed to ensure that the data going into Portfolio Manager was consistent and standardized for quality reporting purposes. Lessons learned center around the difficulties of obtaining permission from tenants, and of obtaining a Portfolio Manager rating due to unsupported building types, small square footage, data gaps, and metering peculiarities. In practice, an energy rating and reporting program may need to use the easier-to-obtain source or site energy use index (EUI) metric in Portfolio Manager as a workaround to these limitations. Some of the software idiosyncrasies may be addressed in the anticipated 2013 upgrade of Portfolio Manager (see below).

Results of the ratings include:

- Seventeen of the 40 original pilot buildings were reviewed by BCPH. Six received an ENERGY STAR rating of 70 or higher (four achieved scores over 90); two of the buildings received a score below 15.
- Eight of the buildings were not eligible to receive a Portfolio Manager rating. Six of those were because more than 10 percent of the square footage was of a use type for which Portfolio Manager currently does not offer a rating (e.g. restaurant, manufacturing, recreation, vacant).

Most energy coaches did an excellent job of following data entry protocol, with some exceptions regarding naming protocols for facilities and spaces, which may have been due to the Portfolio Manager accounts having been created prior to the pilot by a property owner or building occupant. The energy coaches did well working around intricate metering and subdivided property types and quickly learned how to obtain data from the utility once they had the necessary approvals. Utility data was generally complete and sufficient to generate at least an EUI.

2013 Portfolio Manager Update

The Environmental Protection Agency (EPA) is planning to release an updated version of Portfolio Manager in summer of 2013. There is currently not much detail on the date when it is expected to be released, but it is assumed the updated version will resolve a number of the minor user hurdles mentioned above such as the graphical interface and the rigidity of the Username/Account Name.

The 2013 Portfolio Manager upgrade is expected to roughly coincide with the release of the updated Commercial Buildings Energy Consumption Survey (CBECS) data for 2011. Portfolio Manager metric calculations will not change with the 2013 upgrade. If 2011, CBECS data eventually replaces the current 2003 baseline against which buildings are compared, this may mean that Portfolio Manager ratings and EUI scores may change.

Due to the many changes coming to Portfolio Manager, it is recommended that the fully-launched 2013 upgrade be evaluated and its capabilities considered when further developing the city of Boulder's commercial building energy rating and reporting program.

8. City of Boulder Facilities

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As part of its commitment to lead by example and Phase 3 of the Energy Performance Contract, 28 city of Boulder's most energy-intensive facilities are being tracked and rated by McKinstry using their database, which is linked with Portfolio Manager. Energy rating can be used to track performance and help prioritize energy efficiency improvement measures.

The two water treatment plants and the wastewater treatment plant will be rated after the Portfolio Manager upgrade is complete in the summer of 2013. The upgraded system has been developed to support these space types; therefore, at the time this report was written, only 25 facilities were rated or scored and reported.

Characteristics of City of Boulder Facilities

These 25 city facilities represent the majority of total energy use across all city of Boulder owned facilities. Below is a breakdown of the buildings' characteristics in terms of size, eligible rating in Portfolio Manager, and diversity of space type.

Participating city facilities include the following space types that receive an energy perfor-

mance rating (ENERGY STAR rating, on scale of 1-100, 100 being the most efficient) in Portfolio Manager:

- Office
- Water Treatment & Distribution Utility (coming in 2013⁷)
- Wastewater Treatment (coming in 2013⁶)

Participating city facilities include the following uses that only received an energy use intensity (EUI) score in Portfolio Manager:

- Fire Stations
- Police Station
- Recreation Centers
- Service Centers
- Libraries

In addition, the 25 city facilities that were rated or scored in Portfolio Manager have diverse characteristics, such as:

- Various energy use meter configurations
- Various ages
- Mixed space types within a facility

	Building Size (sq. ft.)						
	1,000-4,999	5,000 - 9,999	10,000 - 19,999	20,000 - 29,999	30,000 - 39,000	40,000 - 49,999	> 50,000
Number of City Facilities in Pilot Program (25)	4	5	7	4	1	0	4

^{6,7} At this time, McKinstry does not have the capability to rate water and wastewater treatment facilities; however this capability will be developed in conjunction with the Portfolio Manager upgrade scheduled for later this year.

Results and Process for City of Boulder Facilities

Aggregate results reported that the median site EUI of city owned facilities was 79, with four out of six rated facilities scoring above a 75. Compared to a national average site EUI of 86, this demonstrates that city facilities are above average in terms of efficiency (which should be the case since these results were calculated after the completion of the Energy Performance Contract). See **Appendix 4** for aggregated site and source EUIs; as well as, ENERGY STAR ratings for eligible facilities.

In terms of process, acquiring whole building energy use data can be easier for the city of Boulder buildings than in the private sector because of the lack of complicated situations where buildings share meters and have multiple and varied tenant spaces. Also, the city staff is knowledgeable about the meter configuration at each building, which is helpful. However, the city buildings are less likely to be ratable, that is, fall into space type categories supported by Portfolio Manager. Of the 25 facilities benchmarked, only six were ratable and all were offices. Two more office buildings would have been ratable, but they included either a dance studio or an equipment workshop that measured larger than 10 percent of the gross square footage, thus eliminating them from receiving a rating.

It is important to be exhaustive about ensuring that all energy meters have been included in Portfolio Manager. There are two approaches, and both should be investigated where possible.

1. Facility management understands the physical meters themselves;
2. Administrative staff understand the utility bills, where usage is recorded.

Energy use data can be acquired directly from the utility providers (in spreadsheets or PDFs formats of utility bills and, in the best case, online) and/or from utility bills received by the building occupants. Attention needs to be paid to the units used on the bills, which can vary

with natural gas. It is feasible that someone not familiar with electricity units could confuse kW and kWh readings on utility bills, some of which have many line items of each unit.

The focus should be on making sure energy use data is not only accurate, but it is also vital that Portfolio Manager receives the correct space attributes. For facilities that aren't eligible for a rating, only the gross square footage is important; however, for ratable spaces several other parameters are necessary. Tracking these requires organization, because benchmarking is an ongoing process, repeated regularly.

Each attribute is associated with an effective date required by Portfolio Manager, and this must be recorded carefully, as well as the attribute itself. For example, there were 100 computers and 125 workers on a shift on Jan., 1, 2012. On Aug. 15, 2012, those numbers changed to 105 computers and 156 workers. Portfolio Manager's rating calculations take into account when those numbers changed in the 12-month period for each rating, as well as the values themselves. The city of Boulder will need to decide how often building owners will update their attributes to balance a system that is not too cumbersome with one that is accurately using Portfolio Manager. Well-designed worksheets can help the collection of the attributes, with no room for misunderstanding. When collecting data, it's worth thinking through the intent of Portfolio Manager when interpreting the questions. How many people are typically using the building and affecting its performance, rather than simply how many are on the payroll. The EPA's Portfolio Manager website has Frequently Asked Questions that can be consulted. It is a sprawling website and is due to be overhauled at the same time as Portfolio Manager's upgrade this June.

In general, McKinstry found the utility provider helpful in sharing energy use data but their accessibility varies a great deal. However, Xcel Energy has very rigorous privacy rules about the transfer of information, in conjunction with encrypted emails that disappear after seven days.

9. Conclusion

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The old adage “you can’t manage what you can’t measure” holds true when it comes to building energy consumption. The city of Boulder’s commercial building energy rating and reporting pilot program is a testament to the fact that when building owners start to keep track of their energy consumption through a tool such as ENERGY STAR Portfolio Manager, they start to see tangible opportunities to reduce energy consumption.

The results of the pilot program have given some insight into the efficiency of commercial properties in the city of Boulder as compared to a national scale. However, the amount of participating properties represents only a small portion of the total number of commercial buildings within the city limits. Due to the small sample size, caution should be taken in extrapolating this data as key indicators for the entire city commercial portfolio. As is described in the recommendations section, broadening this rating and reporting program to a larger number of buildings would yield broader insight into how and why commercial buildings use energy, and, more importantly, bring visibility to decision-makers on how to reduce energy consumption.

In analyzing the aggregate data collected through ENERGY STAR Portfolio Manager, a few key indicators stand out:

- The median site EUI for the pilot commercial buildings was 87 (79 for city owned facilities) which is close to the national average EUI of 86
- The median source EUI for commercial pilot buildings was 199 (163 for city owned facilities)
- The median ENERGY STAR rating for pilot private commercial buildings was 81 (79 for city owned facilities), demonstrating above-average performance
- The median GHG emissions for commercial pilot buildings was 291 mt-CO₂e
- Only half of the buildings reported through ENERGY STAR Portfolio Manager received an actual ENERGY STAR rating due to incompatibility between percentage of space types and ENERGY STAR rating eligibility requirements
- The majority of commercial buildings that received an ENERGY STAR rating were top performing buildings when compared to similar buildings nationally
- In general, the data collected from the 40 pilot buildings is most representative of a building profile of 15,000 square foot office buildings built between 1960 and 1990

Acknowledgements

As stated previously, the pilot process went very well and is a recommended approach for a future energy rating and reporting program, with recommendations noted for energy coach training, education and incentives, access to utility data, and the data collection and approval process.

The city of Boulder would like to sincerely thank the following parties and organizations for making the Commercial Energy Rating and Reporting Pilot Program successful:

- **Participating commercial building owners and their tenants**
- **Colorado Green Building Guild – Commercial Building Energy Coach Association**
- **Boulder County Public Health – Business Environmental and Sustainability Team**
- **Boulder Chamber and Boulder Economic Council**
- **Cadmus and Nexant**

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Appendices

Appendix 1 - Additional Recommendation

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While the information gathered by the Portfolio Manager is extremely useful for understanding building operations and efficiency as compared with other buildings of similar characteristics, it is impossible to understand what building system types (e.g. lighting type, HVAC system, and mechanical distribution) are in place in more efficient or less efficient buildings. In addition to utilizing Portfolio Manager, the city should consider utilizing an asset rating program for commercial properties. An asset rating focuses on the energy performance of a building's com-

ponent parts, enabling direct comparisons of performance among similar buildings regardless of hours of operation, tenant behavior, how well the systems are operated and maintained, and other factors that can have significant impacts on energy consumption. Asset rating of a building's systems (such as lighting, heating and cooling, and insulation) in terms of their energy efficiency offers a different way to objectively value property, creating a new way to value high-performance systems.

Appendix 2 - City of Boulder Energy Efficiency Programs

In 2006, the city of Boulder's Climate Action Plan (CAP) identified that energy use makes up 76 percent of the community's GHG emissions. The electricity consumption of the industrial and commercial sectors accounts for nearly 83 percent of those emissions. In response to this information, the city established several programs for businesses and commercial buildings to begin addressing this issue. Throughout the past five years, the city's commercial energy efficiency programs and services have evolved to increase their effectiveness.

Commercial services prior to 2008 focused on business and property owner communications. This outreach was designed to inform and assist commercial properties of the demand-side management (DSM) programs offered through Xcel Energy. As a result of this outreach, the "split incentive" barrier (i.e., those responsible for paying energy bills are different from those responsible for making the capital energy efficiency improvements decisions) became evident, at which point, the city, with assistance from private sector partners, created the *10 For Change* program which caters to business tenants. This program is a voluntary challenge for participating businesses to reduce their energy use by 10 percent.

Through a robust community engagement process in collaboration with Boulder County, some existing emission reduction strategies were retooled in 2009 based on the model of "Two Techs and a Truck" – a one-stop shop for residents, businesses and property owners to access information, resources and rebates. A CAP Commercial Technical Team was formed to help develop a concept and model for the commercial/business sector. This work and the existing Partners for a Clean Environment (PACE) Program laid the foundation for the commercial *EnergySmart* program, funded through the American Reinvestment and Recovery Act and implemented in partnership with Boulder County.

Beginning in 2010, the city and partners committed to expanding CAP services beyond communications, outreach and programs to connect

property owners to existing rebates. Several new programs and services were designed and piloted to help businesses and property owners overcome barriers and support their efforts to invest in efficiency.

The successful programs included technical assistance that evolved into energy advising services that were incorporated into *EnergySmart*, which launched in 2011. Since 2011, *EnergySmart* has provided over 2,200 commercial services and rebates to more than 1,700 businesses and property owners in the city. Of the customers receiving advising service, 40 percent have undertaken projects and received over \$800,000 in *EnergySmart* rebates including \$300,000 in CAP tax funded rebates and incentives, and avoided over 5,000 mt-CO₂ emissions. This is equivalent to the GHG emissions avoided by 1,000 cars not being driven for one year.

In 2012, the City Council discussed moving forward with a three-phase commercial energy efficiency strategy that includes:

- Expanded voluntary and incentive based programs;
- Implement a regulatory policy that would require commercial energy rating and reporting; and;
- Eventually, require prescriptive energy efficiency measures and/or performance standards

The intention is to continue the highly successful advisor model, with *EnergySmart* advisors working directly with participants to identify energy efficiency and money saving opportunities.

Later in 2012, staff proposed a pilot program for the fourth quarter of 2012 to inform development of the commercial energy rating and reporting ordinance and program. In addition to a pilot program for private sector commercial buildings, the city of Boulder organization is leading by example by rating its own facilities as well.

Appendix 3 – Pilot Program Background

Pilot Program Objectives:

- To encourage the energy rating and reporting of energy use in a variety of commercial buildings in Boulder.
- To understand whole building energy use and the performance of commercial buildings calculated by an energy rating tool that is becoming the national standard throughout the country, U.S. EPA's ENERGY STAR Portfolio Manager.™
- To help inform the development of a potential energy rating and reporting ordinance by:
 - Rating a cross-sample of commercial building sizes and types
 - Evaluating the time/resources needed to rate commercial buildings
 - Understanding the access to energy use data and the challenges associated with receiving aggregate whole building usage data

Pilot Program Desired Outcomes:

To better understand:

- The size threshold of buildings where rating will make the most impact for long term energy efficiency opportunities.
- The time, effort and resources it takes a building owner to rate their buildings' energy performance.
- The access and format of whole building aggregated energy use data.

Pilot Program Timeline

In December 2012, staff initially reported to City Council that the commercial energy rating and reporting ordinance work plan would consist of three phases. Initial research and identification of issues began in 2012 and has been completed. The second phase (January through Fall

2013) involves refining approaches and developing ordinance options. During the final (third) phase of the work plan (Fall through Winter 2013/2014), City Council will provide preliminary direction on the ordinance options.

Pilot Program Design

Staff developed the pilot program with significant input from local energy professionals, *EnergySmart* staff, and professionals and staff from other communities that currently have energy rating and reporting programs.

Pilot Program Implementation Steps:

- 1) The city contracted with the Colorado Green Building Guild (Guild)'s Commercial Building Energy Coach Association to provide assistance to participating building owners. The energy coaches signed a nondisclosure agreement as part of the contract, and were compensated on a per building basis.
- 2) Boulder County Public Health provided Quality Control/Quality Assurance (QA/QC) on energy coaches work with pilot participants and data inputs to Portfolio Manager and as part of the annual *EnergySmart* contract with the City
- 3) Staff reached out to prospective building owners through the following methods:
 - a) *EnergySmart* and *10 For Change* participants
 - b) Economic Vitality contacts and past Flexible Rebate Program participants
 - c) Colorado Companies to Watch awardees
 - d) Press releases
 - e) Energy coach outreach
 - f) Staff presentations at outreach events:

-
- i) Boulder Tomorrow
 - ii) Commercial Brokers of Boulder
 - iii) Boulder Area Realtor Association
 - iv) Colorado Green Building Guild
- 4) Before a building owner applied for the program, the building was screened for eligibility based on the size and use of the buildings already participating.
 - 5) To streamline the pilot process, building owners were required to have complete participation of all tenants in the building in order for the building to participate.
 - 6) Energy coaches then worked with the building owner and tenants to access energy use data in one of three ways:
 - a) Sign a utility consent to disclose form to give the energy coach access to the energy use data
 - b) Provide hard copies of at least a full year of utility bills to the energy coach
 - c) Contact Xcel Energy's Business Solution Center to retrieve the data
 - 7) To address privacy concerns, tenants were required to sign a form acknowledging that the Portfolio Manager energy rating and/or EUI score would be shared with the City.
 - 8) The Portfolio Manager data entered by the energy coaches was required to be shared with the City's Master Portfolio Manager account used to collect shared data from individual building owners and surveys completed by the energy coaches, building owners, and tenants in order to complete the pilot process.

Appendix 4 - Aggregate Results of city of Boulder Facilities

Below and on the following pages are the aggregated data results for the city facilities, displayed as site EUI, source EUI, and ENERGY STAR rating. Only six (out of 25) of the city of Boulder facilities are ENERGY STAR ratable and all are of the office space type; their ratings range from 31 to 99. The other facilities are benchmarked with an EUI value with which they can be compared within their use group. That is, the three libraries can be ranked against each other to show which one uses the most or least energy per square foot. If libraries were a ratable space type, the rating would show how much energy each library used compared to other libraries across the country, normalized for weather, size, operating hours and other attributes, which would be very useful.

tend to use quite a bit less energy per square foot than recreation centers and more than or the same as libraries in Boulder. Comparing EUIs across different building use groups is difficult because of various issues connected to function and operation. Police and Fire Stations operate 24/7, whereas an office might have a 45 hour work week, and a recreation center might house a swimming pool that is heated. See below and on the following pages, for the reported site and source EUIs; as well as, ENERGY STAR ratings for eligible facilities.

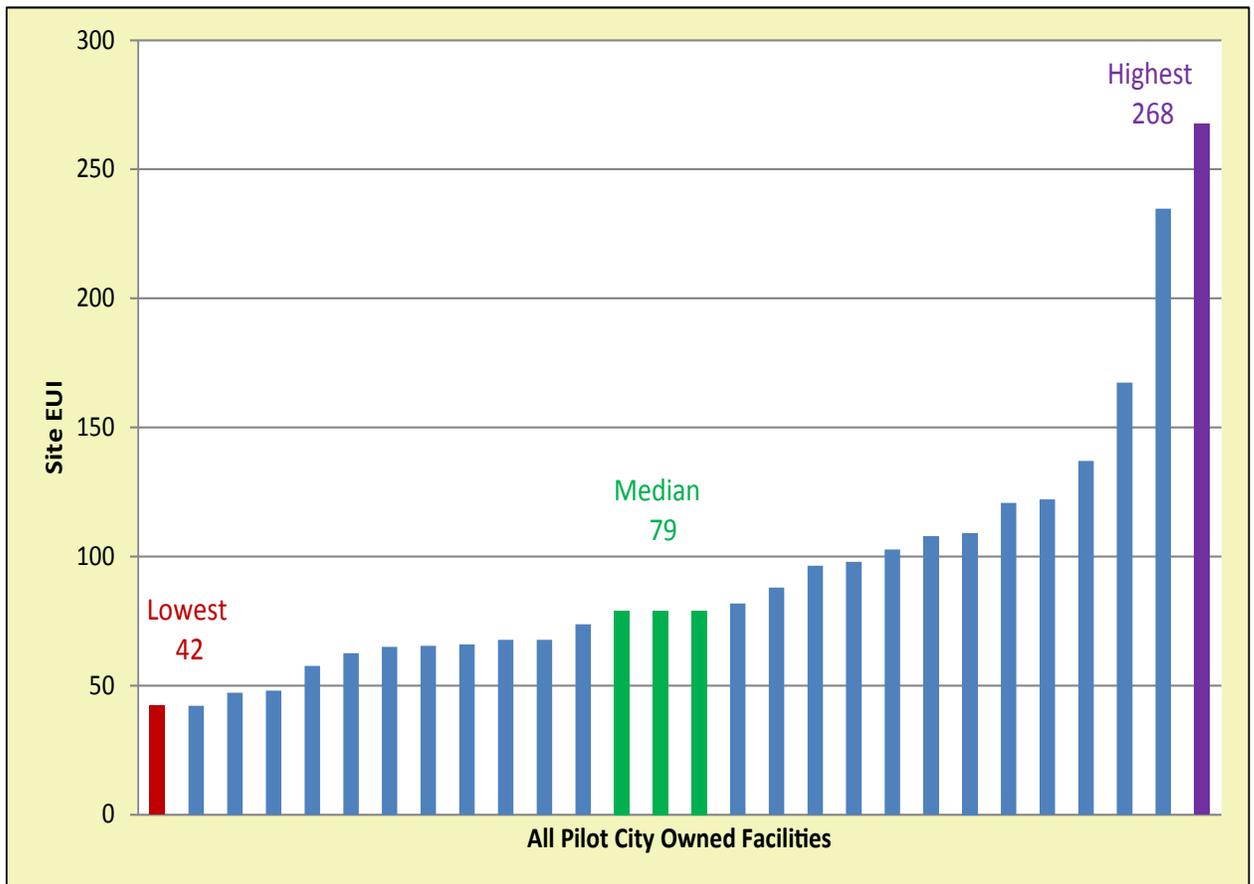
Aggregate Site Energy Use Index

Among city facilities participating in the pilot program, the range of site EUIs are from 42 to 268 with a median site EUI of 79, well below the national average EUI of 86.

As assumed, the results show that City offices

32

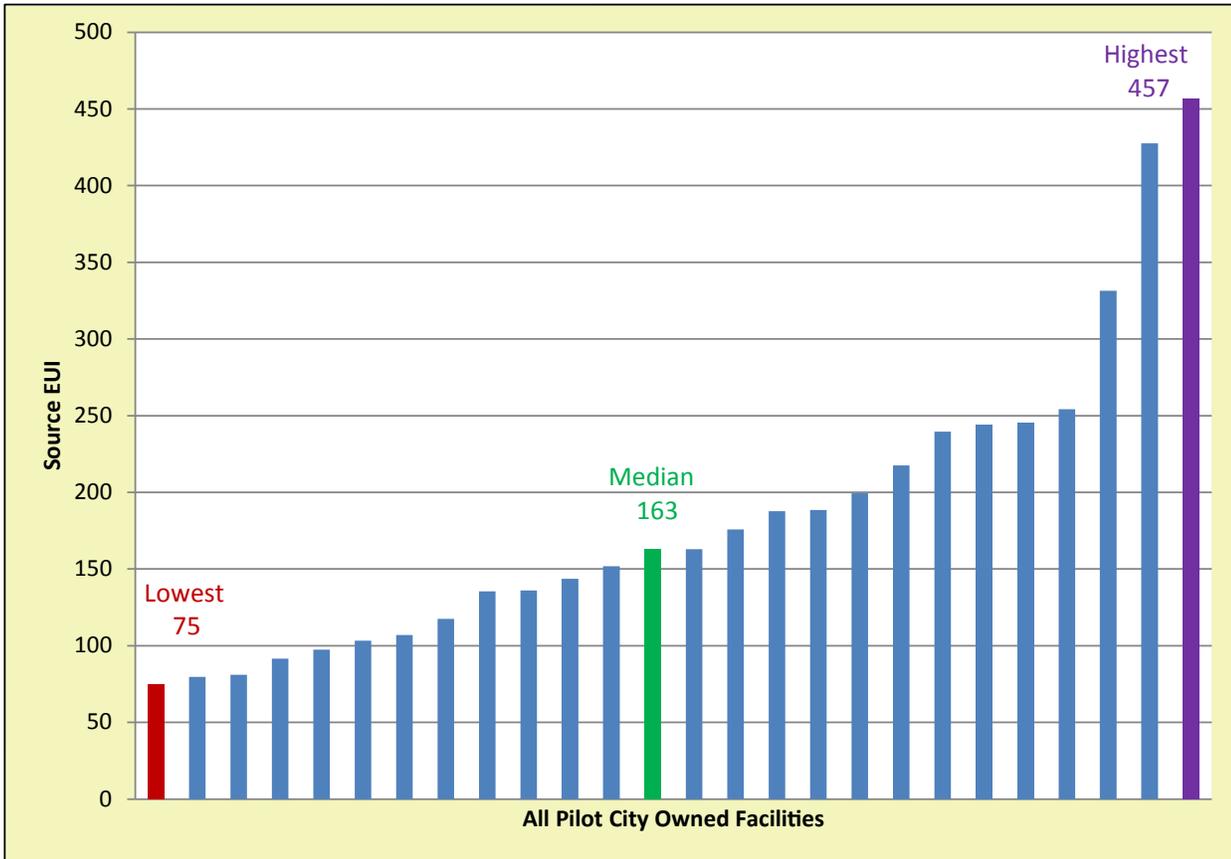
25 Pilot City Owned Aggregate Site Energy Use Index



Aggregate Source Energy Use Index

Among city facilities participating in the pilot program, the range of source EUIs are from 75 to 457 with a median source EUI of 163.

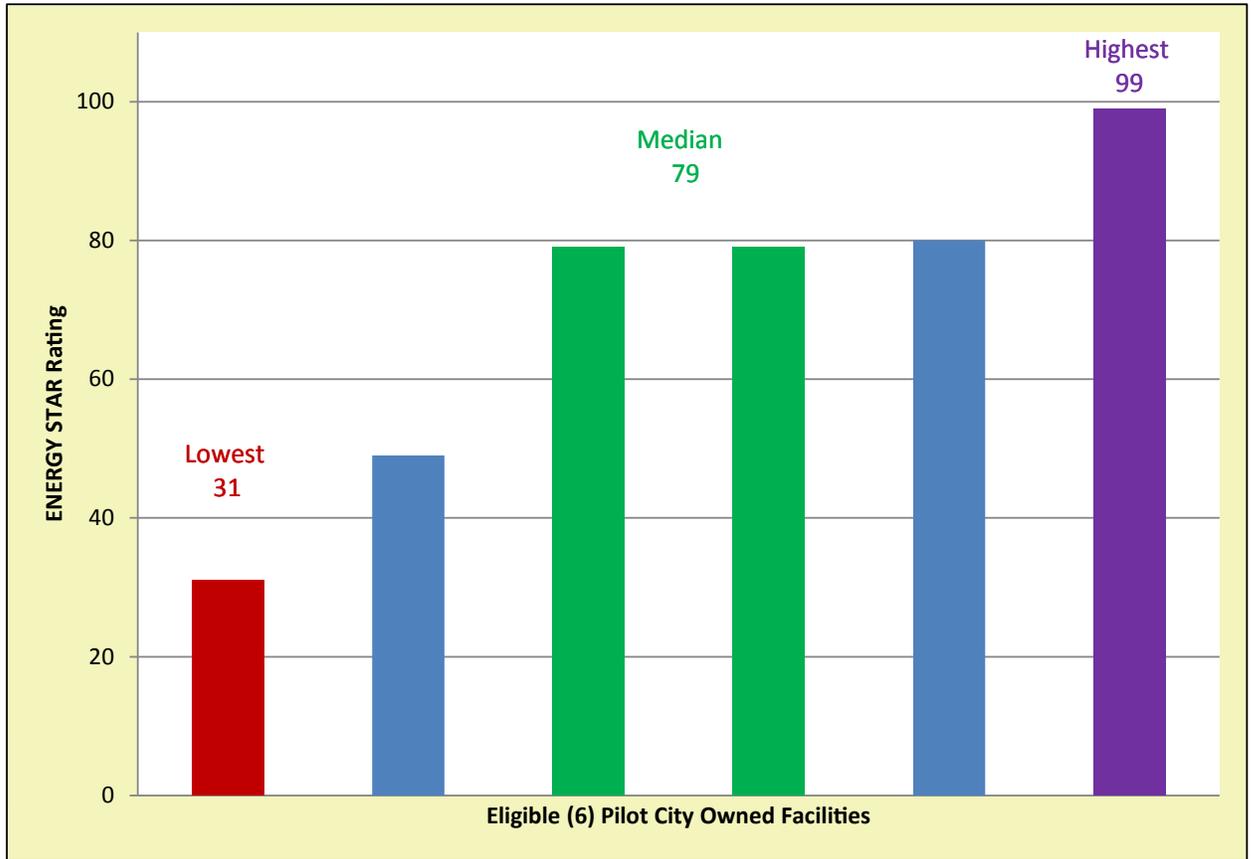
25 Pilot City Owned Facilities Aggregate Source Energy Use Index



Aggregate Energy Star Rating

Among city’s facilities participating in the pilot program, the range of eligible ENERGY STAR ratings went from 31 to 99 with a median ENERGY STAR rating of 79.

25 Pilot City Owned Facilities Aggregate Energy Star Rating



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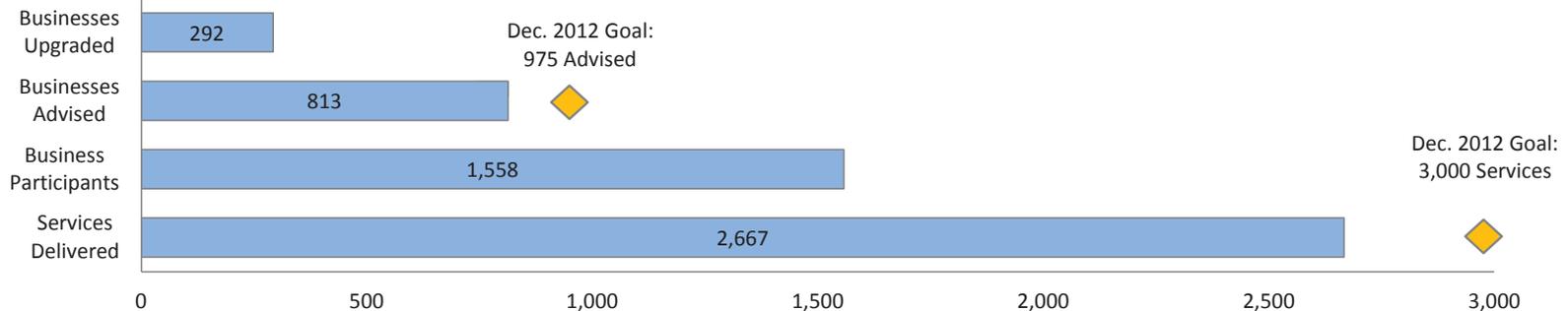


COMMERCIAL EnergySmart Progress Report: through December 31, 2012

This page summarizes progress to date since October 2010 in achieving Boulder's energy efficiency goals through commercial EnergySmart services. The EnergySmart program was conceived and developed through a joint effort of the city and community members, and is now delivered countywide in partnership with Boulder County and the City of Longmont. The progress reported here is only for services delivered within the City of Boulder. For more information, visit www.EnergySmartYES.com.

PROGRESS TOWARD GOALS

PARTICIPATION IN ENERGYSMART BY BUSINESSES OR PROPERTY OWNERS



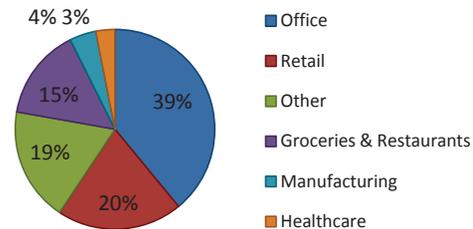
IMPACT

WORK COMPLETED		LEVEL OF INVESTMENT		DEEMED ANNUAL SAVINGS FROM UPGRADES & QUICK INSTALLS				Energy savings to date from commercial EnergySmart are equivalent to taking 1,067 cars off the road!
Number of Rebates	Private Investment	Category	kWh	Therms	Costs	mtCO ₂		
506	\$3,165,609	Total	6,802,364	685	\$596,816	5,446		
Total Investment:Rebates	Total Rebates Paid							
3.9 to 1	\$801,557							

HIGHLIGHTS

- Lighting projects led HVAC projects in popularity, but HVAC projects gained popularity over time as property owners realized the opportunity. On July 11th, applicants exhausted the 2012 rebates.
- On Aug. 8, EnergySmart and Elevations Credit Union began the Energy Loan, which was incentivized in 2012 with rebates identical to EnergySmart Rebates.
 - * Five of the eight loans completed in 2012 were from Boulder businesses.
 - Four of those loans were for HVAC/Water Heating projects and one for solar, totaling over 77,000 kWh/year in deemed energy savings and almost

USES OF BUILDINGS ENROLLED IN ENERGYSMART



ADVISING TO ACTION

Businesses that make upgrades after receiving EnergySmart advising services:

35%

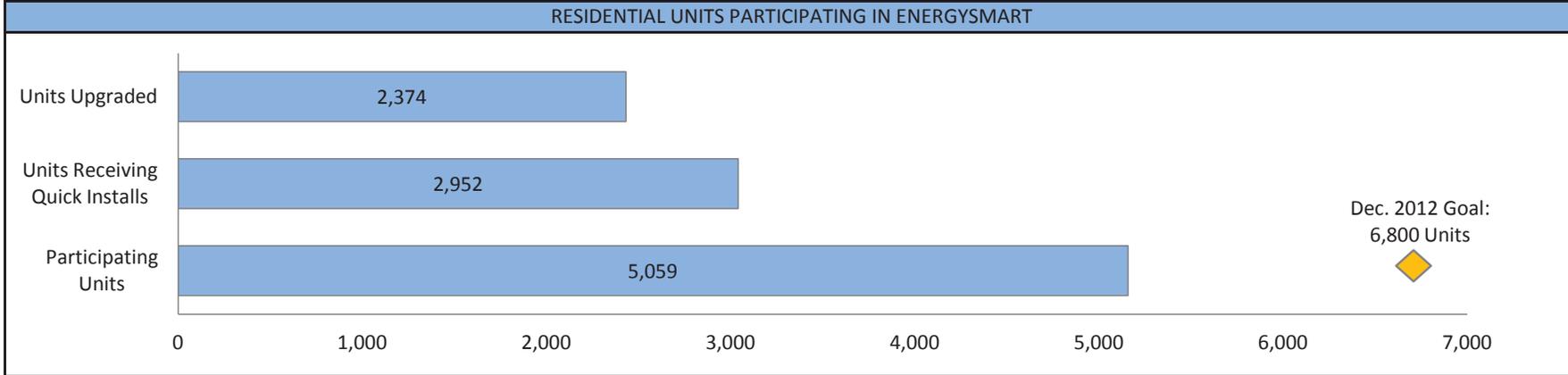
* Based on business participants making upgrades.



RESIDENTIAL EnergySmart 2012 Program-to-Date Progress Report

This page summarizes progress to date since October 2010 in achieving Boulder's energy efficiency goals through residential EnergySmart services. The EnergySmart program was conceived and developed through a joint effort of the city and community members, and is now delivered countywide in partnership with Boulder County and the City of Longmont. The progress reported here is only for services delivered within the City of Boulder. For more information, visit www.EnergySmartYES.com.

PROGRESS TOWARD GOALS



IMPACT

WORK COMPLETED	LEVEL OF INVESTMENT	DEEMED ANNUAL SAVINGS*				Electricity savings to date from residential EnergySmart are enough to power 244 Boulder homes each year!
Number of Quick Installs	Private Investment	kWh	Therms	Costs	mtCO ₂	
26,838	\$6,817,084	1,723,121	500,883	\$527,939	4,214	
Number of Upgrades	Total Rebates Paid					
4,559	\$1,211,075					

HIGHLIGHTS

<ul style="list-style-type: none"> • 49% of participants in EnergySmart cited energy cost savings as their primary reason to participate. 40% cited Smart Regs as their primary reason to participate. • Air sealing and attic/ceiling insulation were the top two upgrades overall for 2012. • Each dollar spent on residential energy efficiency rebates leverages about \$5.50 in private investment. • County-wide 8,258 total homes are enrolled. 	ENROLLMENT	ADVISING TO ACTION
		Owner-occupied units that make upgrades after receiving EnergySmart advising: 75%
		Rental units that make upgrades after receiving EnergySmart advising: 38%

* Includes deemed savings from upgrades and quick installs.

**CITY OF BOULDER
LANDMARKS BOARD
February 6, 2013
1777 Broadway, Council Chambers Room
6 p.m.**

The following are the action minutes of the February 6, 2013 City of Boulder Landmarks Board meeting. A digital recording and a permanent set of these minutes (maintained for a period of seven years) are retained in Central Records (telephone: 303-441-3043). You may also listen to the recording on-line at: www.boulderplandevlop.net.

BOARD MEMBERS:

Mark Gerwing, Chair

Kurt Nordback

Liz Payton

Kirsten Snobeck

John Spitzer

*Bryan Bowen - absent

**Planning Board representative without a vote*

STAFF MEMBERS:

Debra Kalish, Assistant City Attorney

Susan Richstone, Deputy Director of Community Planning and Sustainability

James Hewat, Senior Historic Preservation Planner

Marcy Cameron, Historic Preservation Planner

Nick Wharton, Historic Preservation Intern

1. CALL TO ORDER

The roll having been called, Chair **M. Gerwing** declared a quorum at 6:02 p.m. and the following business was conducted.

2. APPROVAL OF MINUTES

On a motion by **K. Nordback**, seconded by **J. Spitzer**, the Landmarks Board approved (4-0, **M. Gerwing** absent from the January 2, 2013 meeting) the minutes as amended of the January 2, 2013 board meeting.

On a motion by **K. Nordback**, seconded by **K. Snobeck**, the Landmarks Board approved (4-0, **L. Payton** absent) the minutes as amended of the January 16, 2013 board meeting.

3. PUBLIC PARTICIPATION FOR ITEMS NOT ON THE AGENDA

Cindy Carlisle, 411 Spruce St., spoke in opposition to the idea of the Bandshell at the southeast corner of Canyon and Broadway being removed from that corner.

**4. DISCUSSION OF LANDMARK ALTERATION AND DEMOLITION
APPLICATIONS ISSUED AND PENDING**

5. ACTION ITEMS

LANDMARK ALTERATION CERTIFICATE:

- A. Continuation of a public hearing and consideration of a Landmark Alteration Certificate to construct a 14 ft x 24 ft outdoor pool in the back yard at 401 Pine Street in the Mapleton Hill Historic District per Section 9-11-18 of the Boulder Revised Code (HIS2012-00272). Applicant: Annette Shaver; Owner: Elana Amsterdam

Board members were asked to reveal any ex-parte contacts since the last meeting that they may have had on this item.

M. Gerwing made several additional site visits and had a conversation with a concerned member of the public.

K. Nordback made an additional site visit and had a conversation with a concerned member of the public.

L. Payton had no ex-parte contacts.

K. Snobeck made an additional site visit.

J. Spitzer made an additional site visit.

Staff Presentation

J. Hewat presented the item to the board.

Applicant's Presentation

George Berg, 888 Willow Brook, Attorney, spoke in support of issuing a Landmark Alteration Certificate.

Annette Shaver, 2115 Meadow, Architect, answered questions from the board.

Public Hearing

Cindy Carlisle, 411 Spruce St., spoke in opposition to issuing a Landmark Alteration Certificate.

George Berg, 888 Willow Brook, Attorney, presented a rebuttal to her opposition.

Motion

On a motion by **M. Gerwing**, seconded by **K. Snobeck**, the Landmarks Board approved (3-2, **L. Payton** and **K. Nordback** opposed) a landmark alteration certificate for the construction of the proposed pool and associated decking per 9-11-18 of the Boulder Revised Code and adopt the staff memorandum dated 2.6.2013 as findings of the board. The approval shall be subject to the following conditions:

1. The applicant shall be responsible for constructing the pool and decking in compliance with the approved plans dated 11.29.2012 except as specified below;
2. To ensure that the alteration is consistent with the *General Design Guidelines* and the *Mapleton Hill Historic District Guidelines* and the intent of this approval, prior to submitting a building permit application, the applicant shall submit the following to the Landmarks design review committee (Ldrc) for its review and final approval:

- Significant reduction of the patio/deck area around the pool;
- Modify paving material for pool patio/deck to be pervious in nature;
- Details regarding materials and colors for the pool, decking/patio, lighting, pool cover, exterior mechanical equipment, and any other associated features to ensure that the construction is as inconspicuous as possible.
- Details regarding the location and appearance of the proposed exterior mechanical equipment.
- Fence details per Appendix G of the IRC.

L. Payton noted that only 2% of the properties in the Mapleton Hill Historic District have pools, so she doesn't consider pools to be a typical characteristic of the neighborhood and feels that this approval would adversely affect the special character of the district.

K. Nordback believes that the pool is not in keeping with the guidelines and historic preservation code. There is only one, unique historic pool in the area. Other pools in the area that have been approved are not visible from streets and alleys. Guidelines for historic districts in other cities that do address pools are consistent in considering them non-historic features that should not be visible.

- B. Public hearing and consideration of a Landmark Alteration Certificate to relocate and rehabilitate a contributing garage approximately 3 feet, 6 inches to the east and 5 feet to the south and to construct a 467 s.f., one-car garage at the northeast corner of the lot at 627 Spruce St. in the Mapleton Hill Historic District per Section 9-11-18 of the Boulder Revised Code 1981 (HIS2013-00001). Applicant: Kristin Lewis; Owners: Steve and Betsy Pearse

Board members were asked to reveal any ex-parte contacts they may have had on this item.

M. Gerwing made a site visit.

K. Nordback made a site visit.

L. Payton had no ex-parte contacts

K. Snobeck made a site visit.

J. Spitzer made a site visit.

Staff Presentation

J. Hewat presented the item to the board.

Applicant's Presentation

Steve Pearse, 627 Spruce, Owner, spoke in support of issuing a Landmark Alteration Certificate and answered questions from the board.

Kristin Lewis, 511 Pleasant, Architect, spoke in support of issuing a Landmark Alteration Certificate and answered questions from the board.

Katie Pecarek of Kristin Lewis Architects answered questions from the board regarding rotation of the historic garage.

Public Hearing

No one from the public spoke to this item.

Motion

On a motion by **M. Gerwing**, seconded by **L. Payton**, the Landmarks Board approved (5-0) to relocate and rehabilitate an existing accessory building to the northwest corner of the lot, to construct a new garage and fencing at 627 Spruce St. in the Mapleton Hill Historic District per Section 9-11-18, Boulder Revised Code (B.R.C.), 1981 in that, provided the conditions below are met, the proposed construction will meet the requirements of Section 9-11-18, B.R.C. 1981, and to adopt the staff memorandum, dated February 6, 2013, as findings of the board.

CONDITIONS OF APPROVAL

1. The applicant shall be responsible for ensuring that the development shall be constructed in compliance with approved plans dated Jan. 13, 2013 on file in the City of Boulder Community Planning and Sustainability Department, except as modified by these conditions of approval.
 2. The applicant shall provide final details regarding doors, windows, paving, roofing, garage door details, siding, colors, details and fencing. These design details shall be reviewed and approved by the Landmarks design review committee, prior to the issuance of a building permit. The applicant shall demonstrate that the design details are in compliance with the intent of this approval and the *Mapleton Hill Historic District Design Guidelines* and the *General Design Guidelines*.
 3. The applicant shall provide details regarding the moving process of the existing garage. These design details shall be reviewed and approved by the Landmarks design review committee, prior to the issuance of a building permit.
 4. The applicant shall provide details regarding the man door to the alley on the new garage be revised with regards to size and operation. These design details shall be reviewed and approved by the Landmarks design review committee, prior to the issuance of a building permit.
- 6. MATTERS FROM THE LANDMARKS BOARD, PLANNING DEPARTMENT AND CITY ATTORNEY**
- A. Review of Demolition Ordinance diagrams from City Council Meeting.
 - Strong Preference given to Option 3
 - B. Update on naming of walkway between Pearl and Walnut Streets
 - C. Floral Park Design Guidelines
 - D. Update on Civic Area Proposals
 - E. Update on 11th & Pearl

F. Summary of Jan. 16 discussion regarding the Historic Preservation Plan in preparation for Feb. 12 Joint LB/CC Study Session

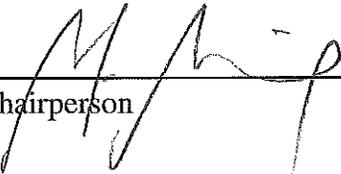
7. DEBRIEF MEETING/CALENDAR CHECK

8. ADJOURNMENT

The meeting adjourned at 9:15 p.m.

Approved on March 6, 2013

Respectfully submitted,



Chairperson

**Approved Minutes
Boulder Public Library Commission meeting
January 8, 2013 at Main Library**

COMMISSION MEMBERS PRESENT

Annette Mitchell
Anne Sawyer
Celeste Landry
Dan King

COMMISSION MEMBERS ABSENT

Donna O'Brien

LIBRARY STAFF MEMBERS PRESENT

Valerie Maginnis, Library & Arts Director
Jennifer Miles, Deputy Library Director
Kathleen Janosko, Administrative Specialist (Finance)
Leanne Slater, Administrative Specialist
Gwen Holton, Branch Library Specialist
Mary Jane Holland, Children and Teen Library Manager
Wendy Hall, Carnegie Branch Librarian
Suellen Brenner-Bladek, Circulation Supervisor
Dick Shahan, Library Clerk
Antonia Gaona, Access Services Manager

CITY STAFF MEMBERS PRESENT

Glenn Magee, Facilities Design and Construction Manager
Maureen Rait, Executive Director of Public Works
Joe Castro, Facilities and Fleet Manager
David Mallett, Budget Analyst
Jennifer Bray, Communication Specialist III

PUBLIC PRESENT

Gale Day, Alice McDonald, Victoria Ashford, Mary Cait Milliff, Demarree Ruthrault, and Peter Richards.

CALL TO ORDER

The meeting was called to order at 6:00 p.m.

APPROVAL OF AGENDA

PUBLIC PARTICIPATION

1. Alice McDonald spoke and said that she was appointed to the Library Commission in 1979. She said that she would be somewhat critical tonight but her hope is to make things better. She had several "Why" questions:

- Why is there so little positive good news in the *Daily Camera* about the public library?
- Why, for the second time in six months, has the regularly scheduled commission meeting been postponed to accommodate a business that we are working with? She said that the same thing happened last June and is also happening tonight. She said that the meetings have always been the 1st Wednesday of the month. She said that if people know that, then they might attend. She said that a lot of meetings have happened in other locations and therefore public notification is not very effective. She said that when the library is spending \$2.4 million on some agenda items, there should be more public present at the meetings.

• Why, since 2009, has there never been a public explanation about the children's area? She mentioned plans for the children's library to be moved, downsized, or hidden. She said that sometimes the library starts to question its rules and then there are articles about this type of thing in the *Camera*. She read comments: 'Age Restriction Seems Harsh, Age Restriction Stifles Learning, Age

Restriction Holds Kids Back.’ She said that is the way that people in our community are learning about the Boulder Public Library. McDonald stated that the library is a “splendid treasure” and, as administrators, people who are interested in the library and the Library Commission need to do a better job of including the community. She said that the public needs to be invited to the meetings, and what is planned and discussed at the meetings needs to be shared.

- She stated that she was 1 of 2 members of the public present at the November Library Commission meeting. She said that the studiotrope architecture plans were discussed and the contract was approved. Everyone at the discussion was so positive and happy about the new architect’s plans and ideas. However, this did not get into the newspaper. There was just a four-line notice about the firm being selected. McDonald reiterated that Boulder Public Library and the Library Commission need to remember to do a better job of informing and including the public. She said that libraries are information places and it is our responsibility to share that information.

Commissioner Sawyer briefly addressed McDonald and explained that the January Library Commission meeting had been rescheduled, not on behalf of studiotrope, but due to the fact that the first Wednesday of the month fell on Jan. 2, which did not leave staff or commission time to prepare packet materials.

2. Dick Shahan, who stated that he has been with the Boulder Public Library (BPL) for 13.5 years and is the current president of the Boulder Municipal Employees’ Association, asked if anyone from BPL has ever addressed the *Camera* and said “How come the majority of the stuff that you (the *Daily Camera*) write about the library seems to be negative? And is there anything we can do to improve that?” He stated that he agrees that a lot of the stuff in the *Camera* seems to be negative and that he is not sure why that is.

Commissioner Landry stated that as commissioners, they are not allowed to represent the commission unless we (the commission) have voted on a position. However, we (the commissioners) can speak as members of the public regarding our personal feelings, to reporters. She said that we (the library) have a communications person at the library, Jennifer Bray, and Landry continued that the *Daily Camera* likes to communicate via that channel.

Shahan added that we (the library) have no say in what they (the *Daily Camera*) publish.

Sawyer agreed with this and said that she been interviewed by them (reporters from the *Daily Camera*) before where they (the *Camera*) had said something completely different from what she had said, which she had no personal control over. Sawyer agreed that this is a concern and that there is work to be done in the hopes of improving this relationship. Sawyer thanked Shahan for his comments.

CONSENT AGENDA

Approval of Dec. 5, 2012 Minutes:

The Library Commission voted 3 in favor to 0 opposed (O’Brien absent, Dan King abstained due to absence at the December meeting) in favor of approving the Dec. 5, 2012 Minutes as amended.

COMMISSION PRIORITY DISCUSSION

A. Main Library Renovation (55 minutes):

- studiotrope presentation- Library Commission heard a presentation from the architecture firm selected for the Main Library renovation project, studiotrope. Studiotrope’s architecture principal, Joseph Montalbano and designer Brigitte Kerr, showed a visual presentation and discussed the community involvement process they are planning, and commissioners offered comments. The presentation focused on two different types of community meetings: InReach (staff and commissioner input meetings and opportunities) and larger, public input community meetings, as well as the types of activities that will offered to the community at each of the different stages of the design process. Kerr also stated that studiotrope will be sharing with the Library Commission both a preview of what will be shared with the community and the feedback that has been gathered from the community. The Library Commission voted unanimously (4 in favor, O’Brien absent) to

use the estimated timeline for publication recommending a 2nd visioning (community input) meeting within 4-5 days or a week's time of the first visioning meeting, leaving it up to staff to plan when this takes place (i.e. Tuesday and a Saturday, one daytime and one evening.)

Please note: Later, staff was able to work with studiotrope to plan the February community meetings, which have now been scheduled and can be found at the Main Library Renovations Project webpage at:

<http://boulderlibrary.wordpress.com/librarcyis/>

- Update on contract process- Magee gave an update on the clarification phase of the contract process. Landry mentioned there being discussions about the (possible inclusion) of a library café as she stated that many of the members of the public are interested in that.

B. Review of Rules update (45 minutes):

A discussion ensued regarding the library rule regarding unattended children that prohibits the following: “leave children, ages 11 and under, or dependent persons unattended.” King stated that he believed including any age specific number would be arbitrary. He thought that there should be either no age associated with this rule or that there should be an option for children under 12 to earn a special privilege in order to be in the library unattended.

In addition to the Peer Cities comparison, Sawyer researched big urban libraries and she did not find any specific age mentioned in those libraries. However, she said there were rules that about problematic behavior and a pathway to follow through on that (if needed.) She stated that she believes that the library is place that children are meant to be welcome and it is a transitional place for kids growing up to have the opportunity to be around adults. She asked the commission if they were interested in including an age or not in the library rule.

Landry stated that she had not realized that the inclusion of a specific age in the library rule had been a change to the former rules. She also stated that she was not in favor of an age being listed in the rule.

Maginnis stated that the concern is about the safety of the children in our community in this urban setting. Maginnis offered to allow the new rules to take effect for six months and then to report back to the commission on how the process was going.

Mary Jane Holland, children and teen library manager, stated that this rule has raised awareness in our community that the library is a public facility and that there might be an age where you don't want to leave a child in the library unattended. She said that ultimately it is about the safety and well-being (of the children.)

Sawyer brought up the Poudre River Public Library District policy. This policy can be viewed here: <http://www.poudrelibraries.org/policy/pdf/4.5.pdf>. Sawyer stated she wants the rule to be based on what it is that the library is trying to accomplish, and wants the rule to be applied to all equally.

While the commission was formulating their specific motion, Miles explained that any changes to the current library rules of conduct would need to go through the same process as happened previously to put these new rules in place. This process includes the rules being proposed by the Library Commission, being sent to the city attorney for approval, having a 15-day public comment period, advertising the new rules as much as possible, having the rule changes and public comment come back to the Library Commission for approval, and then going to the City Manager's Office for approval.

The Library Commission voted unanimously (4-0, O'Brien absent) in favor of a motion to remove the rule disallowing children ages 11 or under and dependent adults from being unattended at the library and add a section at the end of the rules of conduct addressing unattended children without specifying an age limit that is the same verbiage as the Poudre River Public Library District policy. Ours would be identical (to their policy) except that we (Boulder Public Library) would say 'Boulder Public Library welcomes' instead of referring to the Poudre River Public Library District.

C. Library Program Priorities and Long-Range Planning (35 minutes):

- Library core services information update- The Library Commission provided feedback on the library's core services information update. The commission's feedback included a suggestion from Sawyer about gathering information from Boulder Public Library's (BPL) website in order to find out the types of items that BPL's patrons are requesting from other libraries. Miles offered to add figures to the core services

information regarding other costs that contribute to the total (including personnel costs), and written descriptions on why these costs have been added. King suggested adding a footnote, i.e. on Table 4, regarding adjustments and why they have been made. Maginnis asked the commission which programs under the library's technology goal would they like more information on (for the February meeting.) This information will be conveyed via email.

D. Commission Administration :

- Orientation handbook- The commission discussed what they would like included in the Library Commission Orientation Handbook. The updated information will be included in the next Library Commission packet.
- Communication guidelines- The Library Commission finalized their communication guidelines.
- Commission information between meetings- Sawyer suggested that general changes in policy or services, i.e. something that the public has become accustomed to, be included in the information that is sent to the commission between meetings. Landry suggested also including anything that is done in the commission's name. Sawyer suggested that a similar emphasis of information be presented to the commission as will be presented to the public i.e. how changes in the library rules will be presented to the two groups.

MATTERS FROM THE COMMISSION

- A. Commission update (from memo):** Landry stated that she needs more information in order to update the Library Commission's calendar.

MATTERS FROM THE DEPARTMENT

- **Library Update (from memo):**

ITEMS FOR INCLUSION IN THE ACTION SUMMARY

Commission discussed items for the Action Summary.

Next commission meeting (rollover items and date)

The February meeting location and date are to be determined.*

The technology component of the library's core services will be discussed at the February meeting, as well as an update on the library's website.

***Please note, later:** It was decided that the Library Commission's February meeting will be held at 6 p.m. on Wednesday, Feb. 6, at the Carnegie Branch Library. It was also determined that the Library Commission would maintain their current schedule of meeting on the first Wednesday of every month.

Meeting adjourned 9:04 p.m.

Approved By _____ Date _____

Please note: These minutes were approved by Commissioner Mitchell on 3/6/2013.

CITY OF BOULDER, COLORADO

BOARDS AND COMMISSIONS MEETING ACTION SUMMARY FORM

NAME OF BOARD/COMMISSION: LIBRARY COMMISSION

DATE OF MEETING: March 6, 2013 at Main Library

NAME/TELEPHONE OF PERSON PREPARING SUMMARY: Leanne Slater, 303-441-3106

LIBRARY COMMISSION MEMBERS PRESENT: Annette Mitchell, Anne Sawyer, Celeste Landry, Donna O'Brien and Dan King.

LIBRARY STAFF MEMBERS PRESENT: Valerie Maginnis, Jennifer Miles, Kathleen Janosko, Leanne Slater, Shelley Sullivan, Antonia Gaona, Gina Scioscia, Wendy Hall, Aimee Schumm and Gwen Holton.

CITY STAFF PRESENT: Maureen Rait, Glenn Magee, Joe Castro, Sam Assefa, Jennifer Bray, and David Mallett.

PUBLIC PRESENT: Barb Kostanick and Jyotsna Raj.

REPRESENTATIVE FROM ART MANAGEMENT & PLANNING ASSOCIATES, INC. PRESENT: Deana Miller.

Call to order: The meeting was called to order at 6:00 p.m.

Approval of Agenda:

Introduction: Shelley Sullivan, the new BoulderReads! manager was introduced.

Public Participation: none

Consent Agenda:

Approval of Feb. 6, 2013 Minutes:

The Library Commission voted unanimously in favor of approving the Feb. 6, 2013 minutes as amended.

Information Update:

- A. Boulder Civic Area Plan Project Update and Discussion – Initial Options – Sam Assefa, Planning Department, senior urban designer/ project coordinator (50 minutes) - The Library Commission provided input on the Boulder Civic Area Plan Project update and discussion.
- B. City of Boulder Arts and Cultural Programs Assessment – Deana Miller, Art Management & Planning Associates, Inc. (55 minutes)- The Library Commission provided input on the City of Boulder Arts and Cultural Programs Assessment and asked some questions. Sawyer presented a motion which stated, "Based on the Boulder Public Library's mission and master plan, the Library Commission opposes the transfer of film, concert, and other cultural programming out of the library division. Further, we [the commission] oppose limiting programming in the library's Canyon Theater in order to accommodate more profit-based cultural programming." This topic and motion were tabled until the April Commission meeting.

Farewell to Commissioner Mitchell: Director Maginnis thanked Commissioner Mitchell for her five years of service on the Library Commission and presented her with a free-standing award that acknowledged this. Cupcakes were served to celebrate Mitchell's last commission meeting.

Commission Priority Discussion:

- A. Main Library Renovation Project Update- The Library Commission received an update on the Main Library Renovation Project.
- B. Library Program Priorities and Long-Range Planning-
 - Review core services and technology goal information- This agenda item was tabled until next month.
- C. Commission Administration-
 - Draft Commissioner Orientation Handbook- The Library Commissioner Orientation Handbook will be finalized and presented to the new commissioner in April 2013.

Matters from the Commission:

- A. Commission Update (from memo)-
- B. World Book Night- Commissioner Sawyer gave an update on World Book Night which is April 23, 2013 (at the unveiling of the Holiday neighborhood Little Library, at 5 p.m. at Holiday Park, located at 14th Street and Holiday Drive).
- C. Follow-up discussion on library trends: learning and literacy- The Library Commission endorsed Commissioner King to bring forward a proposal next month for a demographic study to see if a case can be made with this information for a library branch/location in north Boulder.

Matters from the Department:

Library Update (from memo)-

- A. Budget Update (15 minutes) - The Library Commission gave feedback on the budget update calendar.
- B. Update on rules of conduct change process-
- C. July meeting- The commission agreed to change the date of the July meeting to July 10 in order to accommodate public participation and avoid the holiday week.

Other: Commissioner Sawyer agreed to call and welcome the new Library Commissioner who will join the commission in April 2013.

Next commission meeting (rollover items): Main Library renovation project update, Library Program Priorities and Long Range Planning, Library Rules of Conduct, and Arts and Cultural Programs Assessment.

Adjournment – The meeting was adjourned at 8:59 p.m.

ATTACH BRIEF DETAILS OF ANY PUBLIC COMMENTS (LIMIT TO ONE PAGE):
TIME AND LOCATION OF ANY FUTURE MEETINGS, COMMITTEES OR SPECIAL HEARINGS: The next Library Commission meeting will be held at 6 p.m. on Wed., April 3, 2013 in the North Meeting Room at the Main Library, 1001 Arapahoe Ave.

DRAFT