

An Energy Efficiency and Business Engagement Plan for City and County of Broomfield



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The Energy Action Team included a varied group of city and county staff, local and regional organizations, businesses, and committed community members. Their participation and dedication was instrumental in the development of this Energy Efficiency and Business Engagement Plan, and their continued engagement and recruitment of others will support implementation of the plan.

Broomfield's Energy Action Team

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Executive Summary

This Energy Efficiency and Business Engagement Plan outlines tangible steps for the City and County of Broomfield and the Access Broomfield Chamber to move the Broomfield business community towards its energy efficiency and renewable energy goals. Xcel Energy’s Partners in Energy facilitated a series of planning workshops with the Energy Action Team in Spring 2017 to develop this plan. The Energy Action Team included representatives from Broomfield’s business community committed to representing local energy priorities and supporting implementation of the plan’s strategies.

Our Energy Vision

The City and County of Broomfield recently completed an update of their Comprehensive Plan in 2016 serve as a guide to the community over the next 20-years. The Comprehensive Plan’s environmental stewardship and utilities topic element vision statements serve as the vision for Broomfield’s energy future:

- *Broomfield is a leader in implementing environmental stewardship policies that help create a desirable and sustainable community now and for future generations.*
- *Broomfield provides a utility infrastructure system representing state-of-the-art equipment, construction, management, and conservation techniques to serve the needs of Broomfield through and after buildout.*

Our Goal

The City and County of Broomfield and Access Broomfield Chamber will support the achievement of 365 energy-related actions from Broomfield businesses by the end of 2018.

An energy-related action includes participation in an Xcel Energy program (e.g., energy audits or study, energy-efficiency improvement) or a renewable energy subscription or installation. Hitting this goal could save the Broomfield business community approximately \$200,000 in annual rebates and sustained energy and cost savings. Specifically, participating businesses could save an average of \$55 (5 percent) on their monthly energy bill.

How Will We Get There?

Broomfield’s business community consists of approximately 2,763 companies and 2,910 distinct Xcel Energy electric and natural gas premises. The strategies to engage businesses in achieving the plan’s goals are summarized below.

Business Community	Strategies: Multi-Pronged Outreach Campaign Business Energy Savings Team Recognition of Broomfield’s Business Leaders
Renewable Energy	Strategies: Renewable Energy Information Portal
Community Facilities & Institutions	Strategies: Energy Audits & Benchmarking

Playbook for Achieving Our Goals

Ongoing Actions

- Track implementation of strategies over time
- Have regular check-ins to stay on course and adjust as needed
- Continue to identify new outreach channels
- Monitor and recognize participating businesses

Immediate Actions (August 2017 – December 2017)

- Convene strategy teams
- Finalize calendar of activities and responsibilities
- Develop key messages and first round of outreach materials
- Establish a log for business energy actions
- Begin outreach activities
- Launch Business Energy Savings Team network
- Create recognition award criteria and application/review process
- Develop and launch a renewable energy information portal
- Complete energy audits for targeted institutional facilities and identify potential efficiency improvements
- Enroll facilities in energy benchmarking

Longer Term Actions (beyond January 2018 beyond)

- Refresh/update materials as appropriate and continue roadshow/outreach activities
- Plan and deliver additional network events
- Maintain network LinkedIn content and discussions
- Recognize award recipients at annual meetings
- Maintain and update the renewable energy information portal
- Implement energy improvement projects at institutional facilities
- Review energy benchmarking results

Introduction

This Energy Efficiency and Business Engagement Plan (i.e., “plan”) outlines tangible steps for the City and County of Broomfield and the Access Broomfield Chamber to move the Broomfield business community towards its energy efficiency and renewable energy goals. The City and County of Broomfield’s and Access Broomfield Chamber’s main energy planning priorities are to:

- Identify and implement opportunities to drive energy savings for businesses located in Broomfield that will result in cost savings on energy bills.
- Explore opportunities to leverage energy-efficient technologies to promote economic development in both Broomfield businesses and trades who work with energy technologies.
- Identify and implement opportunities to conserve energy in municipal and other community facilities in Broomfield.

Four, 2-hour workshops were held in Spring and Summer 2017 to gather ideas, discuss, and refine the strategies contained in this plan. This plan provides an overview of the City and County of Broomfield’s demographics, the community’s baseline energy use and profile, documentation of the Partners in Energy planning process, a summary of priority focus areas identified for implementation, and the near-term actions and strategies required to keep the implementation of this plan on track. Implementation of the plan will begin in late Summer 2017 and will be supported by Xcel Energy.

Xcel Energy Partners in Energy

Xcel Energy is the main electric and gas utility serving the City and County of Broomfield. In the summer of 2014, Xcel Energy launched Partners in Energy to support communities, such as the City and County of Broomfield, in developing and implementing energy action plans that supplement existing sustainability plans, strategies, and tools (Figure 1). The content of this plan is derived from a series of planning workshops held in the community with a planning team committed to representing local energy priorities and implementing plan strategies, as well as guidance from the City and County of Broomfield’s 2016 Comprehensive Plan Update.

Specific areas of focus in the Comprehensive Plan that this plan addresses include:

Goal ES-B: Energy Conservation and Efficiency - Utilize technological solutions, building practices, education and incentives to encourage conservation and efficient use of energy.

1. Policy ES-B.1 - Utilize incentives, education, and public/private collaboration to increase energy conservation efforts throughout the community, including the use of technological solutions and a reduction in consumption.
 - a. Action Step ES-B.1.1 - Encourage energy efficiency through programs (such as current information and rebate and incentive support from local energy utility companies, Department of Energy, and the Environmental Protection Agency) that encourage and/or reward citizens to use energy-efficient appliances, insulation, windows, etc. Help citizens become aware of costs and cost-savings in making changes.
 - b. Action Step ES-B.1.2 - Stay up to date with and promote technological solutions to help people monitor and decrease consumption (e.g., sensors that reduce heat and lighting loads when not needed.)

- c. Action Step ES-B.1.3 - Consider ways to set common goals and to measure outcomes in increasing energy efficiency and reducing energy consumption in the community and publicize and follow up on these periodically to keep the initiative going.
2. Policy ES-B.2 - Establish and use standards, policies, and practices for new development and redevelopment that support energy conservation and efficiency.

Goal ES-D: Community Practices of Environmental Stewardship

1. Policy ES-D.1 - Encourage community involvement through education about the importance of sustainable environmental practices and choices that they can make to be good stewards of environmental resources.
 - a. Action Step ES-D.1.1 - Continue to support education and other incentives, such as rebates and help with water and energy conservation, so that residents and business will be informed of best practices and will be able to adopt practices that conserve and protect natural resources.
 - b. Action Step ES-D1.3 - Continue to work in collaboration with businesses, community organizations, schools, and other sectors of local government (e.g., library, cultural affairs, and OSPRT) to generate stewardship themes and events.
 - c. Action Step ES-D.1.4 - Consider investigating how other communities have successfully engaged the public and attained goals.
2. Policy ES-D.2 - Recognize individuals, businesses, and nonprofits for outstanding behaviors and practices.
 - a. Action Step ES-D.2.1: Consider ways to highlight sustainable practices by working with nonprofits and businesses to offer awards and create events like garden, home, and business tours.

Partners in Energy will work with the City and County of Broomfield and Access Broomfield Chamber to coordinate support for implementing this plan and will develop a Memorandum of Understanding (MOU) that outlines specific support Xcel Energy will provide to help Broomfield deploy its strategies and achieve its goals (Figure 2Figure 1 and Appendix 5).

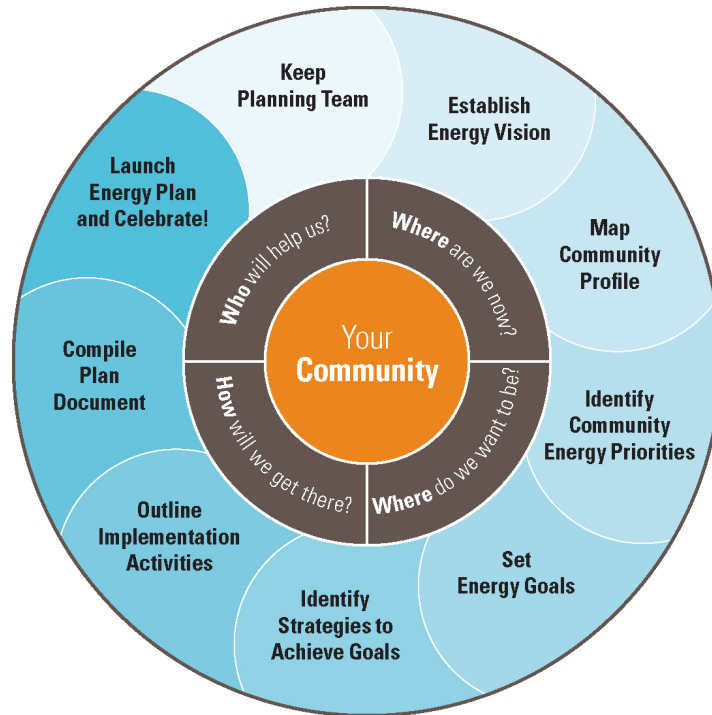


Figure 1. Partners in Energy Process for Success

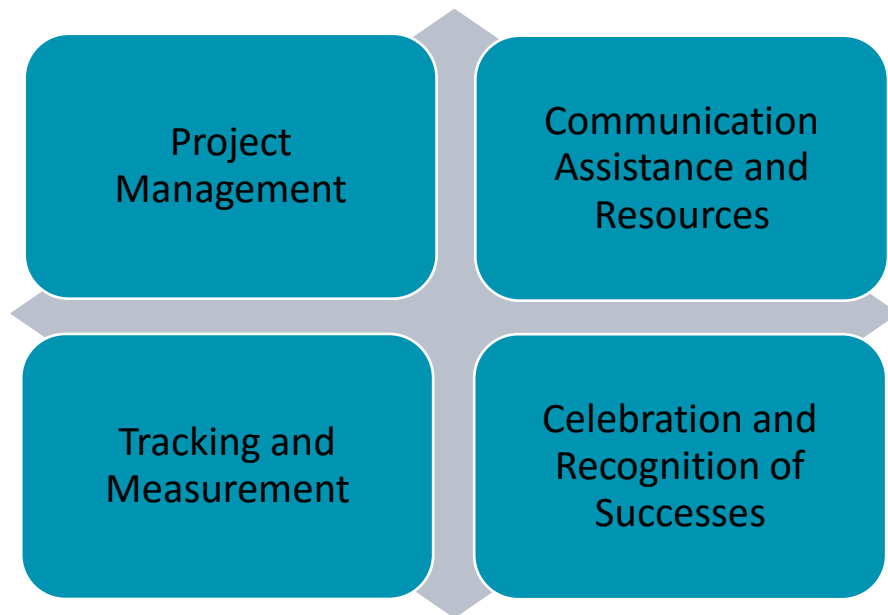


Figure 2. Resources from Xcel Energy for Implementation

Who Are We? – Community Background

The City and County of Broomfield is a suburban community at the base of the Rocky Mountains, roughly 33.6 square miles in size, situated between Interstate 25, Northwest Parkway, U.S. Highway 7, and U.S. Highway 36 (Figure 3).¹ Founded along US Highway 287 near the junction of two railroad lines, the area has a varied history tracing back to the early 1500s and 1600s when Native American tribes hunted in the area. Later agriculture was established with farms dotting the landscape.

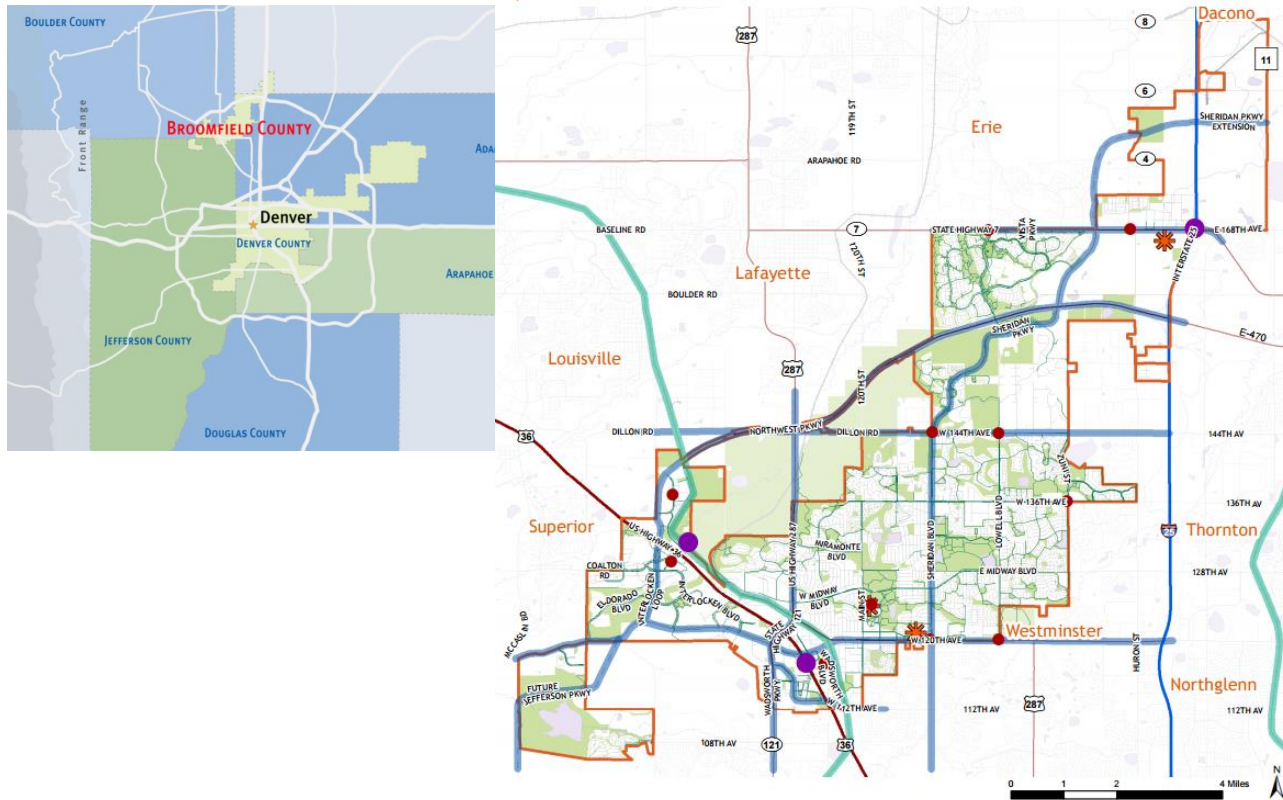


Figure 3. City and County of Broomfield Maps (Source: Metro Denver Economic Development Corporation)

With the development of the Boulder-Turnpike in the 1950s, Broomfield became a commuter community, and in 1961 was incorporated as a city. Fast forward to November 1998, Colorado voters designated Broomfield to be the 64th county in the state. Precipitating this change, Broomfield was the only city in the state to reside in four counties. Today's Broomfield is a vibrant community with social and cultural activities and a strong economic base that make it appealing for all.

Population and Demographics

In 2015, Broomfield's population was estimated at 64,788². Since 2010, the population has increased at a rate of about 2 percent, making Broomfield one of fastest growing counties in Colorado. Forecasts predict

¹ <http://www.broomfield.org/386/History-of-Broomfield>

² Colorado State Demography Office. Population estimates differ depending on source cited and population projections used.

that growth will continue at a more rapid pace of 2.6 percent through 2030 reaching buildout of over 95,500 by 2040.³ Growth will occur from both natural increase and in-migration.

Segments of the population are expected to outpace others shifting the age distribution of the community. The current median age in the city and county is 37.5, with about 11.4 percent aged 65 and over, and 24.9 percent under the age of 18.⁴ Those over 65 years old are anticipated to increase to 20 percent of the population by 2040.⁵ The aging population corresponds to the trend in shrinking household size from 2.76 in 2000 to 2.60 in 2014. This is true as children grow up and leave traditional households. It is also true of younger populations that are more mobile and less likely to form traditional households.

Broomfield is very well-educated with approximately 51 percent of the population achieving a bachelor's degree or higher. The percentage of high school graduates is also high at 96 percent compared to 91 percent in the State. The average median income in Broomfield is \$81,898, 26 percent higher than the State average of \$60,629. An educated workforce is important to attracting and retaining high tech industries and other advanced professional employers – the economic base of the community.

Broomfield is becoming more diverse. The majority of Broomfield residents identify as white, and the second largest racial group is Asian. In 2015, the population of white Hispanics or Latinos was 12 percent of the population and is anticipated to increase over the next decade.

Housing

According to the U.S. Census Bureau, there were 24,710 total housing units in the City and County of Broomfield in 2015. Historically, Broomfield has been characterized by low density, single family neighborhoods located in the interior core. The majority of housing units are owner-occupied (68.4 percent). From the 1990s through the early 2000s, Broomfield saw a housing boom with over 50 percent of the housing stock built in this period.

Projected to buildout in 2040, residential land use is expected to increase less than 1,000 acres in the form of infill and redevelopment. This is changing the housing landscape with demand for more diverse types of housing as land use trends shift towards more densely populated, mixed-use areas. Specifically, younger households are attracted to multifamily housing with access to regional transportation, amenities, and a strong economy. It is important to understand housing needs and housing types as new development will increase energy demands on the existing system.

Business and Economy

Broomfield is a regional employment center that is supportive of a wide range of businesses and industries. In 2015, there were 2,851 companies in Broomfield – 95 percent of which were small business with less than 50 employees.⁶ Broomfield is also home to a handful of large businesses with more than 250 employees, as shown in **Error! Reference source not found.** The largest employers reflect the major sectors in the area – professional, scientific, and technical services, retail trade, and health care.

³ 2016 Comprehensive Plan Update.

⁴ American Fact Finder 2015.

⁵ Colorado State Demography Office.

⁶ Broomfield Economic Development Department, 2015.

Table 1. Broomfield's Top 10 Employers (by employee count)

<i>Company</i>	<i>Industry</i>
Level 3 Communications	Telecommunications
Oracle America	Technology – Software
SCL Healthcare	Healthcare
Hunter Douglas Window Fashions	Manufacturing
Staples Advantage	Retail
Ball Corporation	Container Manufacturing, Aerospace & Tech
Vail Resorts	International Ski Area Operations
TransFirst Holdings	Finance
Sandoz	Pharmaceutical
Danone Wave	Food & Beverage Manufacturing

Likewise, the top industries in Broomfield correspond to the highest energy users, per the Department of Energy's Cities-LEAP (Cities Leading through Energy Analysis and Planning):

1. Professional, Scientific, and Technical Services
2. Healthcare
3. Management of Companies and Enterprises
4. Food and Beverage Stores
5. Administrative and Support Services

Five business parks form the economic centers of the city and county (**Error! Reference source not found.**). Interlocken Advanced Technology Environment is the largest business park with the highest concentration of 4,524 to 8,038 jobs per square mile.

Table 2. Business Parks in the City and County of Broomfield

<i>Broomfield Business Parks, 2016</i>
Interlocken Advanced Technology Environment
North Park
Great Western Business Park
Broomfield Business Center
Broomfield Research & Industrial Park

Over the next decade, it is anticipated that existing commercial centers will be redeveloped and new commercial centers developed as Broomfield is an attractive target location in the northwest Denver metro area. This offers an opportunity to implement energy efficiency upgrades and higher building standards to lower anticipated energy demands from old and new development alike. Figure 4 shows the relative location of different commercial districts in Broomfield⁷.

⁷ Note that the commercial and retail districts in the northeast section of the City and County of Broomfield fall within United Power's utility service area.

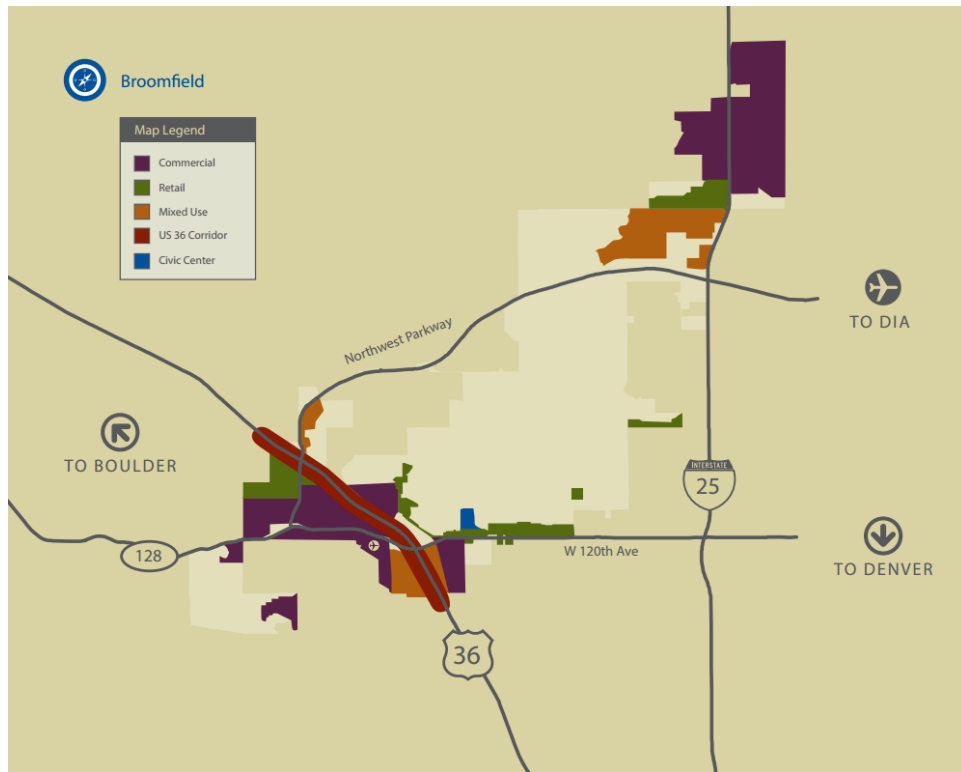


Figure 4. Broomfield Commercial Districts Map

Commitment to Sustainability

The City and County of Broomfield is committed to sustainability with aims to protect and preserve the social, economic, and physical environment of the community through economic strength and diversity. Since Broomfield became a County in 2001, additional resources were made available and allocated for County functions. This enabled the community to pursue an environmental agenda and objectives. Broomfield’s first Sustainability Plan was adopted in 2011 as an outcome of the Environmental Stewardship Chapter of the 2005 Comprehensive Plan. In it sustainability is defined as “Integrating the economic, social and environmental objectives of society in order to maximize wellbeing in the present while ensuring the ability of future generations to meet their own needs.”

The Comprehensive Plan 2016 Update built on the 2011 Sustainability Plan. Broomfield’s Comprehensive Plan 2016 Update includes a vision statement for energy and utilities with the principles for a sustainable future, including the topic area elements: Resource Conservation and Energy Efficiency/Alternative Energy. The associated goals, policies, and action steps for each topic area element serve as a guide for the Broomfield community to actively pursue a more sustainable, energy efficient, and economically vibrant future.

The Case for an Energy Efficiency and Business Engagement Plan

As an outcome of the Comprehensive Plan 2016 Update, the City and County of Broomfield and Access Broomfield Chamber partnered to support the business community by promoting economic vitality through

energy management. The main energy planning priorities that the City and County of Broomfield and Access Broomfield Chamber identified in support of the plan, include:

- Identifying and implementing opportunities to drive energy savings for businesses located in Broomfield that will result in cost savings on energy bills.
- Exploring opportunities to leverage energy-efficient technologies to promote economic development in both Broomfield businesses and trade who work with energy technologies.
- Identifying and implementing opportunities to conserve energy in the municipal and other community facilities of Broomfield.

This plan can build on past energy and sustainability efforts and serve as the unifying call to action for members of the business community. The City and County of Broomfield and Access Broomfield Chamber are excited to support the business community for continued economic vitality and diversity, spur innovation, and maintain a competitive edge in the region.

Where Are We Now?

Baseline Energy Analysis

An introductory step in the Partners in Energy planning process is to develop a community profile. The Xcel Energy team analyzed and presented the amount of energy that was purchased, by fuel source, from Xcel Energy, a breakout by segment (residential, commercial, industrial), and an overlay of energy use for each segment in Broomfield from 2014 to 2016. Comparing these data helped the planning team understand how and where energy is used in the city and county to inform decision making. The three years of data, 2014 through 2016, were used for trend analysis, and year 2016 was established as the baseline. For the purposes of this plan, the commercial and industrial sector is the focus of the baseline energy analysis detailed below.

Energy Use and Trending

Broomfield has approximately 30,286 total residential, commercial, and industrial premises as of 2016. This total includes both electricity and natural gas premises. Most premises are residential (90 percent), but these premises consumed less than half of Broomfield’s total energy in 2016 or about 2.1 million MMBtu (46 percent). Contrastingly, the minority in terms of quantity of premises, is the commercial and industrial segment (2,910 premises, or 10 percent). The commercial and industrial segment consumed over half of total energy use in 2016 – 2.57 million MMBtu (54 percent). Therefore, the commercial and industrial segment presents the greatest opportunity for energy savings in Broomfield. Figure 5 shows the Broomfield community’s proportion of premises in comparison with total energy use by segment in 2016.

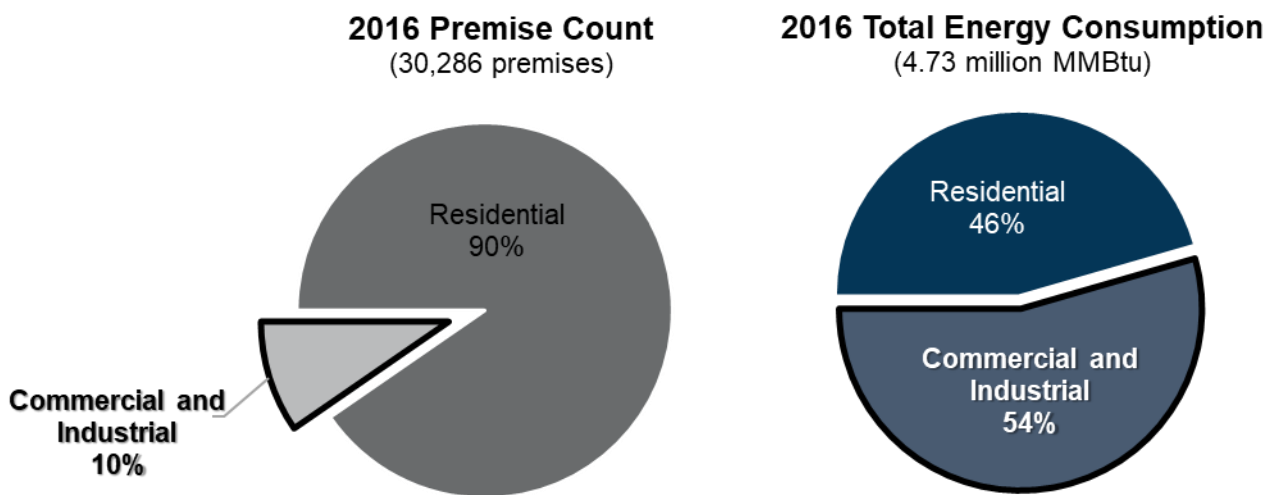


Figure 5. Energy Use by Premise Type in 2016

In total, approximately 639 million kWh of electricity and 25.5 million therms of natural gas were consumed in 2016. The commercial and industrial segment was the primary consumer of electricity, accounting for more than 452 million kWh (71 percent) while the residential sector consumed the remaining 187 million kWh (29 percent) of electricity. Natural gas, on the other hand, was principally consumed by the residential segment amounting to approximately 15.2 million therms (60 percent). The remaining 10.3 million therms (40 percent) were consumed by the commercial and industrial segment. Electric-specific efficiency programs present the greatest opportunity for energy and cost savings for the commercial and industrial segment and the Broomfield community at-large. Figure 6 compares electricity and natural gas use by segment in 2016.

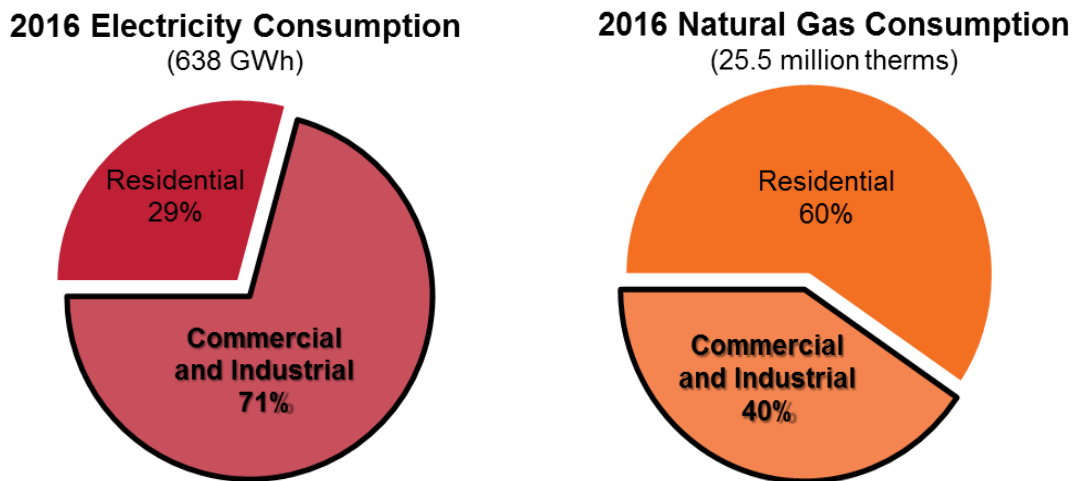


Figure 6. Broomfield's Electricity and Natural Gas Consumption in 2016.

Energy use in the Broomfield community has stayed relatively constant from 2014 to 2016.⁸ Figure 7 shows year-to-year changes of total energy consumed. Overall, electricity use has remained relatively steady, increasing 1.4 percent. Over the same period, natural gas use community-wide has declined by about 1.5 percent. When considering the commercial and industrial segment only, total energy use has increased less than one percent from 2014 to 2016. Electricity remained relatively steady with a minimal decrease of 0.2 percent and natural gas decreased nearly 2.8 percent over the period.

⁸ Note that Broomfield's energy data was not normalized for weather or other factors.

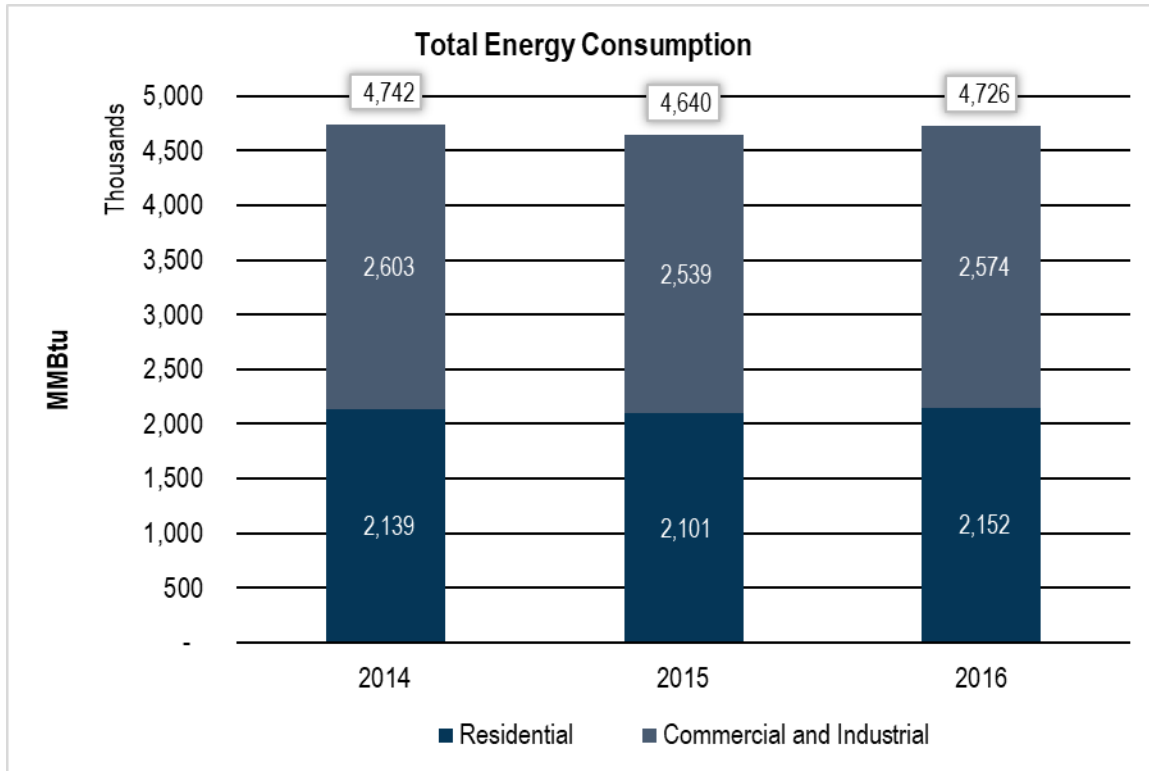


Figure 7. Total Energy Use from 2014-2016

Weather trends affirm these energy use trends in Broomfield. Heating Degree Days (HDD), the number of degrees that a given day’s average temperature is below 65°F and for which buildings need to be heated, decreased from 2014 to 2016. Cooling Degree Days (CDD), the number of degrees that a given day’s average temperature is above 65°F and for which buildings need to be cooled, increased over the same period.⁹ Table 3 summarizes the weather trends in Broomfield over the three-year period.

Table 3. 2014-2016 Weather Trends.

	2014	2015	2016
HDD	4645	4291	4209
CDD	1353	1514	1502

⁹ <http://www.weatherdatadepot.com/>

Municipal Energy Use and Trending

The City and County of Broomfield has approximately 148 premises within Xcel Energy’s service territory. To look at the energy use and trends specific to the City and County, the associated municipal premises were pulled out as a distinct subset of the commercial and industrial segment. Of commercial and industrial total energy use in 2016, municipal premises accounted for only 89,000 MMBtu (3 percent). Within his subset of municipal premises, over three-quarters of the energy consumed was electricity with 20.1 million kWh (77 percent) and a minor 201,022 therms, (23 percent) of natural gas was consumed. Therefore, there are significant opportunities among municipal premises to reduce electric consumption through participating in energy efficiency programs. Figure 8 highlights municipal total energy use in 2016.

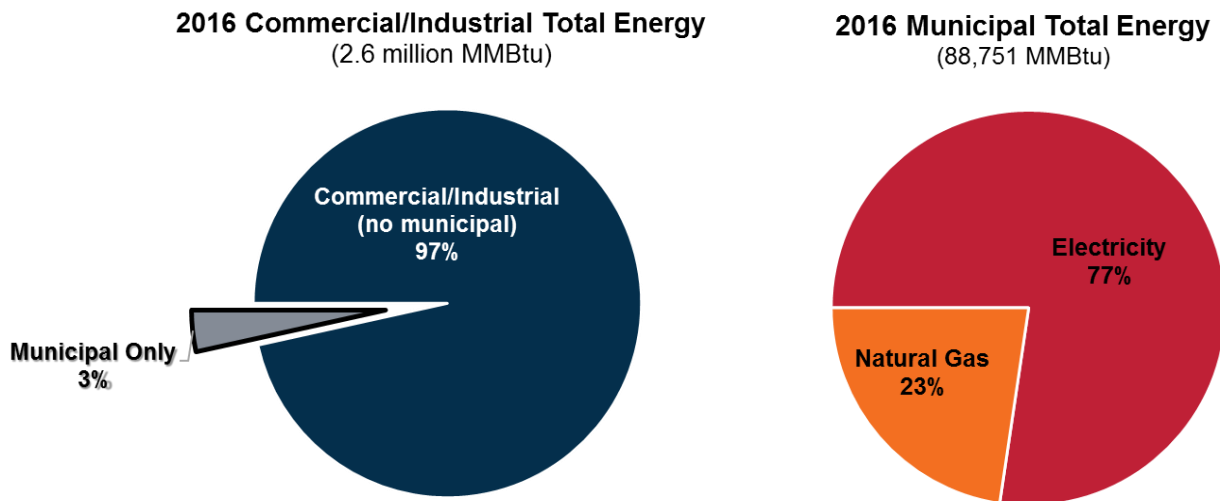


Figure 8. Municipal Total Energy Use in 2016.

Energy Costs

Broomfield businesses spent an estimated \$40.6 million in total energy costs (electricity and natural gas) in 2016. Per commercial and industrial premise, this amounts to an average of \$13,943 spent annually, or a monthly expense of about \$1,162. Electricity accounts for over 90 percent of total annual energy costs.

Total municipal energy costs in 2016 were an estimated \$1.90 million, or approximately 1.8% of the total annual utilities budget. Per municipal premise, an average of \$12,861 was spent annually, equating to a monthly expense of about \$1,072. Electricity accounts for over 90 percent of municipal total annual energy costs. Figure 9 displays the annual energy costs by segment in 2016.

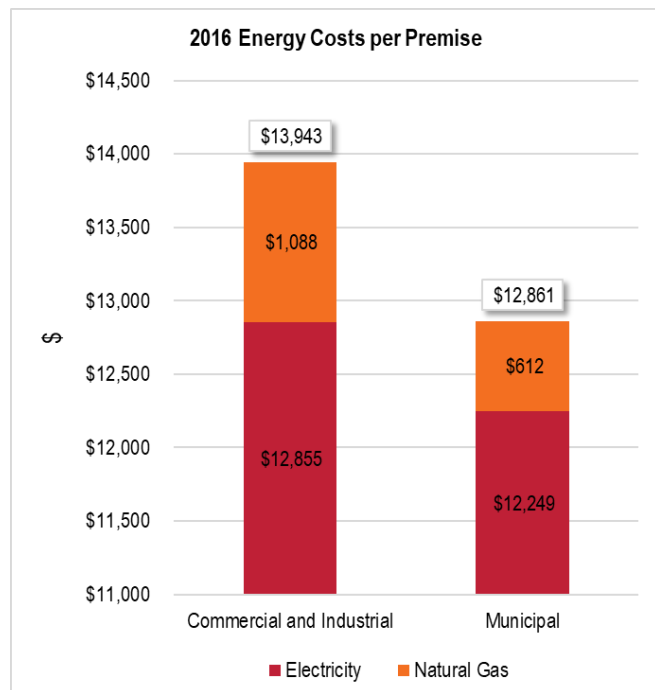


Figure 9. 2016 Commercial Energy Costs per Premise

Efficiency Program Participation

Baseline data gathered in helping this plan includes historic Xcel Energy demand-side-management (DSM) rebate program participation counts and actual energy savings for Broomfield. These data provide a snapshot of what types of programs Broomfield business customers are using and to what degree. They also show opportunities for greater participation in the available DSM programs and the need for increased education and awareness.

On average, 0.2 percent of businesses have historically participated in a DSM program. In 2016, businesses saved nearly 4.9 million kWh and 8,998 therms by participating in an efficiency program. This equates to an average annual rebate of \$1,900 per participating business. Figure 10 shows the commercial program participation for three historic years, 2014 through 2016. Figure 11 displays the commercial participation rate per program over the same period. For comparison, Figure 12 relates participation rates among Broomfield’s Partners in Energy peer communities of Littleton, Lafayette, and Louisville.

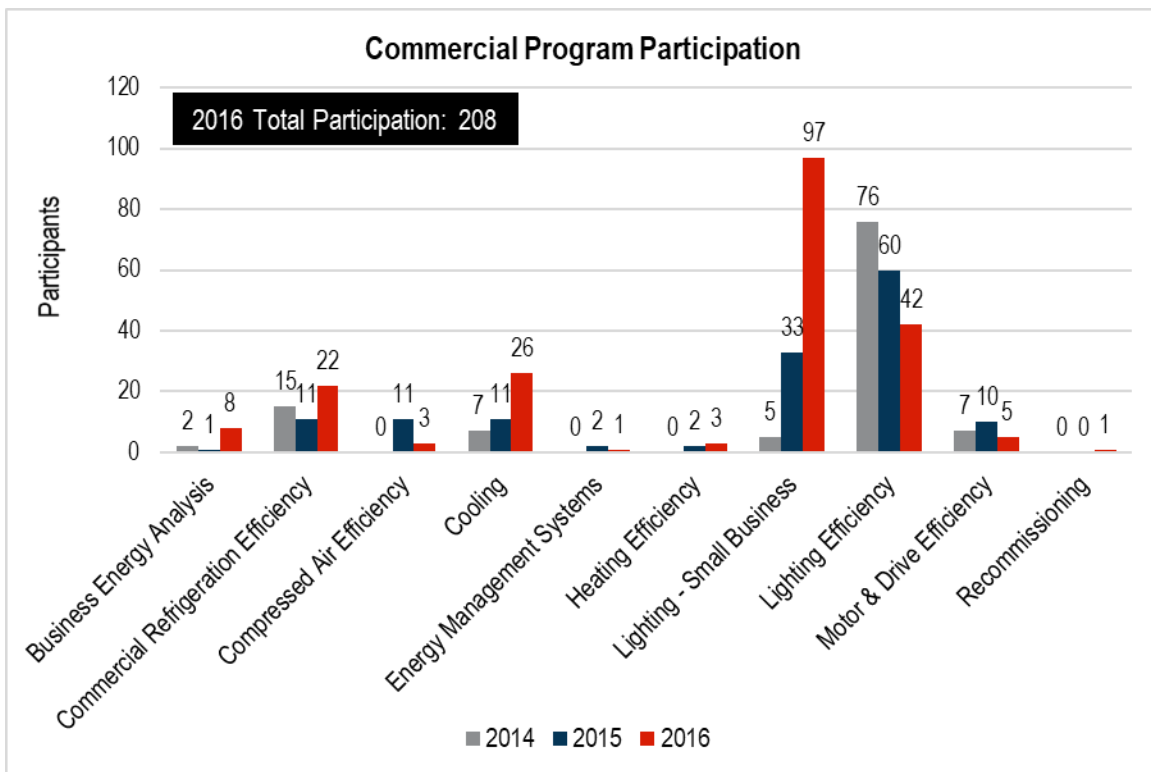


Figure 10. Commercial Program Participation from 2014-2016

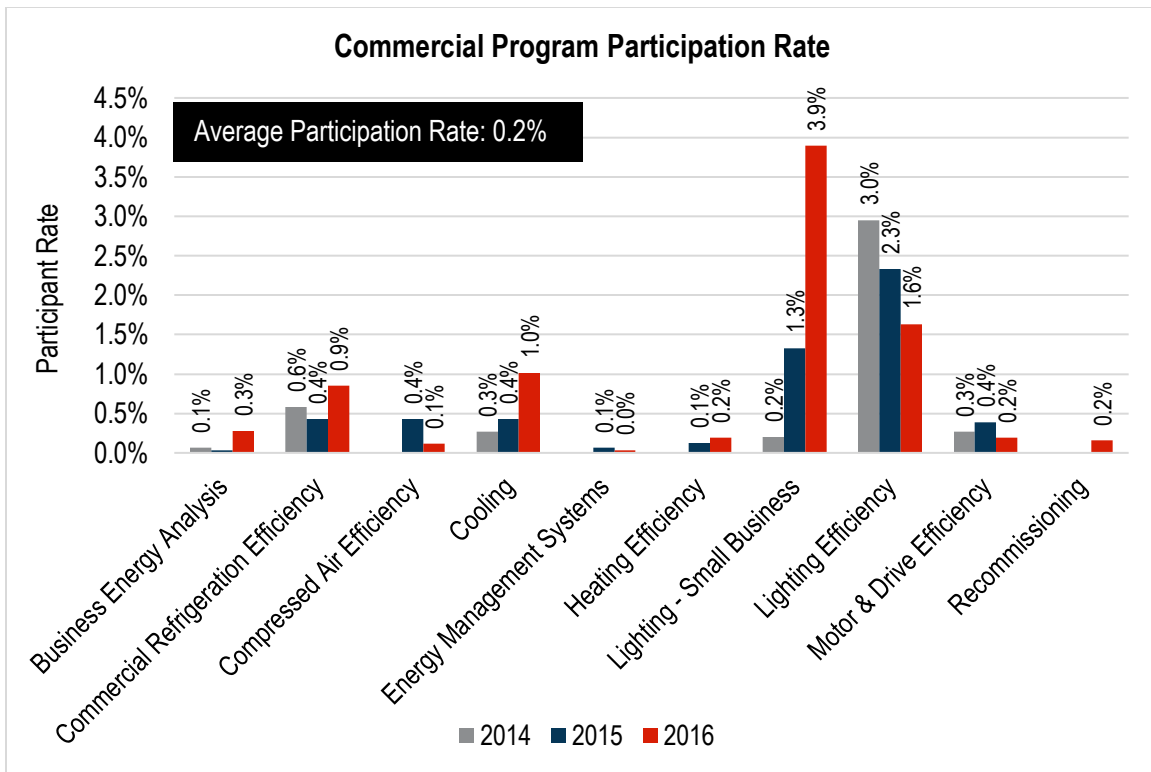


Figure 11. Commercial Program Participation Rate from 2014-2016

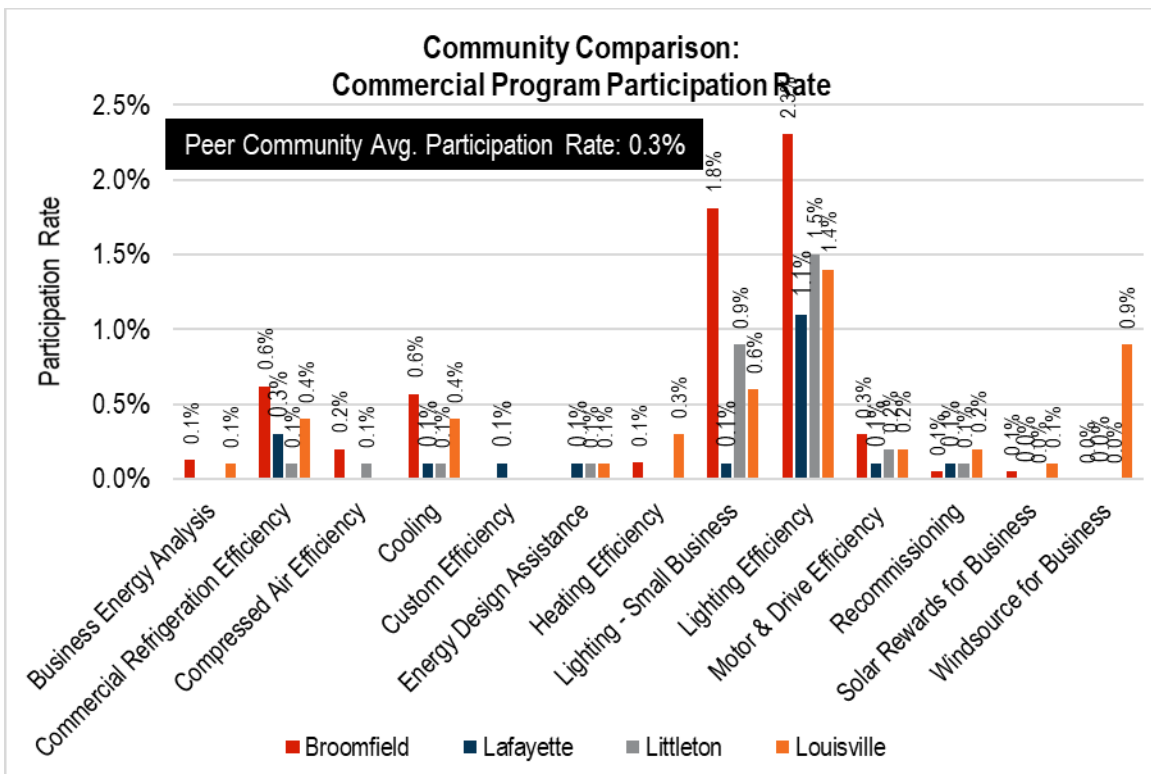


Figure 12. Peer Community Participation Rate Comparison

Renewable Energy Program Participation

Various renewable energy programs are available to Broomfield businesses. In 2015, 11 businesses participated in Xcel Energy's Windsource®¹⁰ program with 33,148 kWh of electricity subscribed from wind. This equates to less than 1 percent of eligible Broomfield businesses participating in the program and an average subscription amount of 21 percent of a Broomfield business's annual electricity use. 2015 was used as a baseline, in this case, due to the lack of 2016 data available. There were no solar offerings subscribed to by businesses to-date.

Existing Energy Practices

In addition to the participants of Broomfield's residents and businesses in many Xcel Energy programs, the City and County of Broomfield, Access Broomfield Chamber, Adams 12 School District and others in the community have already undertaken or started various energy-related initiatives, as summarized in Table 4.

Table 4. Community Energy Initiatives

Community Energy Initiatives	
City and County of Broomfield	
<ul style="list-style-type: none"> • Comprehensive Plan 2016 Update addresses energy, utilities, and sustainability • Municipal solar installations <ul style="list-style-type: none"> ○ 9 buildings with 894 kW capacity • Adopted Colorado Commercial Property Assessed Clean Energy (C-PACE) in 2016 • Established the Enhance Broomfield Program in 2015 to assist the small business community improve commercial properties <ul style="list-style-type: none"> ○ Offers reimbursements up to \$25,000 for exterior building improvements that include energy and water efficiency • Completed municipal building lighting retrofits at 4 facilities, performed retro-commissioning of the Paul Derda Recreation Center in 2010 • Completed the Broomfield Police Detention and Training Facility addition in 2010 to LEED Silver standards 	
Access Broomfield Chamber	
<ul style="list-style-type: none"> • Moved into a LEED Platinum office space in 2017 • Participated on Broomfield's Sustainability Task Force which helped develop the Broomfield Sustainability Plan (2011) and 2016 Comprehensive Plan Update 	
Adams 12 School District	
<ul style="list-style-type: none"> • LED conversion projects <ul style="list-style-type: none"> ○ Almost 415,000 square feet of gyms and parking lots were converted, saving over 67,700 kWh/yr • Commercial refrigeration projects <ul style="list-style-type: none"> ○ Sixteen ECMs were installed at 0.375 hr/motor labor for a total cost of \$1,880 and annual savings of \$850. ○ Simple ROI were an average of 1.5 years 	

¹⁰ Windsource® is a program offered through Xcel Energy that allows businesses to buy affordable, renewable wind energy produced in Colorado. For more information, visit:

https://www.xcelenergy.com/programs_and_rebates/business_programs_and_rebates/renewable_energy_options_business/windsorce_for_business.

Community Energy Initiatives

Broomfield Business Community (Energy Action Team Members)

- BSC Signs
 - Roof replaced with light reflecting coating that has lowered building temperature
 - Building Tune-up Audit during the Partners in Energy process
- Hunter Douglas
 - Participant in Colorado Industrial Energy Challenge (CIEC)
- The Healing Studio
 - Participated in Enhance Broomfield Program to upgrade windows and put in xeriscaping

Where Do We Want to Go?

Our Energy Vision

The City and County of Broomfield recently completed an update of their Comprehensive Plan in 2016 serve as a guide to the community over the next 20-years. The planning team agreed to use the Comprehensive Plan's environmental stewardship and utilities topic element vision statements to serve as a vision for Broomfield's energy future:

Broomfield is a leader in implementing environmental stewardship policies that help create a desirable and sustainable community now and for future generations.

Broomfield provides a utility infrastructure system representing state-of-the-art equipment, construction, management, and conservation techniques to serve the needs of Broomfield through and after buildout.

Goals

The planning team established the following overarching goal to unify the Broomfield business community to achieve the energy vision:

Achieve 365 energy-related actions from Broomfield businesses by the end of 2018.

An energy-related action includes participation in an Xcel Energy DSM program (e.g., energy audits or study, energy-efficiency improvement) or a renewable energy subscription or installation. This goal is equivalent to approximately 1 in 8 Broomfield businesses taking action; more than doubling historic participation rates from 2014 to 2016. Hitting this goal could save the Broomfield business community approximately \$200,000 in annual rebates and sustained energy and cost savings. Specifically, participating businesses could save an average of \$55 (5 percent) on their monthly energy bill. Broomfield's annual energy use could be reduced an estimated 3 GWh (0.5 percent) and annual carbon footprint by 4,200 metric tons of carbon dioxide emissions equivalent (MTCO_{2e}, 0.4 percent), approximately equivalent to the carbon emitted from 980 passenger vehicles per year.

Table 5, below, illustrates a pathway to achieve this level of engagement and energy savings through Xcel Energy DSM and renewable energy programs. This goal was determined through an iterative and facilitated process that looked at the energy-savings impacts from different levels of program participation with what was feasible or likely given historic trends in the business community.

Table 5: Illustrative Pathway to Achieve 365 Goal

Program	Average Annual Participation (2014-2016)	Proposed New Participation to Meet Goal	Incremental Participant Increase
Business Energy Analysis	4	8	4
Commercial Air Efficiency	5	9	4
Commercial Refrigeration Efficiency	16	30	14
Cooling Efficiency	15	28	13
Energy Management Systems	1	2	1
Heating Efficiency	2	4	2
Lighting Efficiency	59	111	52
Lighting Small Business	45	84	39
Motor & Drive Efficiency	7	13	6
Small Building Tune-Up	0	8	8
Recommissioning	1	3	2
Windsorce®	11	65	54
Total	166	365	199

Each of the focus areas included in this plan contain specific targets to support the achievement of this goal.

How Are We Going to Get There?

To achieve the energy goal outlined above, the Energy Action Team proposes the following strategies for three focus areas: business community, community facilities and institutions, and renewable energy. Each focus area begins with a summary of why it was selected as a priority and supporting information about the focus area. Next, the detailed strategies to support achievement of the goal are organized in tables for each focus area. Each strategy includes a general description, numeric targets to keep the plan on track, detailed scope details, delineation of responsibilities, draft timeline, identification of necessary resources, and measurements of success.

Business Community Focus Area

Broomfield’s business community consists of approximately 2,763 companies and 2,910 distinct Xcel Energy electric and natural gas premises. To understand the business community and identify potential opportunities, various maps were created to depict the spatial distribution and characteristics of property use, building size, building age, and DSM program participation of commercial and industrial premises in 2016. The maps can be found in Appendix 2: Broomfield Business Mapping.

Engaging the Broomfield business community is critical to reaching this plan’s goals. Below are some of the ways that businesses currently receive information. These communication channels will be helpful during implementation efforts.

Table 6. Local Outreach Channels

Digital Communications	
•	Partner websites
•	Targeted email from Xcel Energy
•	City and County of Broomfield Facebook Page
•	@broomfield & @InvestBroomfld Twitter Feeds
•	Email Blasts to City and County Economic Development and Access Broomfield Chamber Mailing List
•	City and County of Broomfield “B in the Loop” electronic newsletter
•	Broomfield Enterprise E-Newsletter and website
•	EnergySmart quarterly email updates
•	BizWest
•	LinkedIn
Events	
•	Industry meetings
•	Business-specific events
•	Broomfield Days
•	Broomfield Chamber events



Figure 13. City and County of Broomfield eNewsletter

Within this focus area, the Energy Action Team prioritized three strategies to inform, engage, and recognize the Broomfield business community. The strategies include:

- Multi-pronged outreach campaign
- Energy savings network
- Recognition of business leaders

Details about these strategies are provided on the following pages.

Table 7. Multi-Pronged Outreach Campaign

Strategy 1: Multi-Pronged Outreach Campaign
Description
<p>Develop a multi-pronged outreach campaign targeting various sectors of the Broomfield business community, including:</p> <ul style="list-style-type: none"> • Property managers and facility/energy managers at Broomfield’s major employers and business campuses (i.e., Interlocken, North Park, Great Western Business Park, Broomfield Business Center) • Commercial tenants that lease their spaces (e.g., retail, office) • Industrial and manufacturing businesses • Small businesses that own their spaces (e.g., home based businesses, offices, professional services) <p>The outreach campaign will focus on sharing information about and promoting energy efficiency programs, financing options, and renewable energy opportunities for these business sectors.</p>
Targets
365 total energy actions by 2018
Scope
<p>For each targeted business sector, a small team will define key messages, identify applicable programs, and determine final outreach activities and logistics (including calendar of activities and responsibilities). Outreach techniques will likely include flyers/postcards, website content, e-newsletter content, case study stories, leveraging professional networks, and in-person events/roadshow activities (see Table 6 on page 18 for a list of outreach channels).</p>
Responsibilities
<p>City/County of Broomfield and Access Broomfield Chamber</p> <ul style="list-style-type: none"> • Lead development of list of targeted businesses and contacts • Support development of outreach materials and approve all materials before distributed • Leverage existing communications channels to disseminate information • Track website analytics <p>Partners in Energy</p> <ul style="list-style-type: none"> • Lead development of outreach materials • Support dissemination of information • Track program participation on a biannual basis

Strategy 1: Multi-Pronged Outreach Campaign

Energy Action Team Members and Others

- Business segment leads to gather and provide feedback on outreach concepts and materials, develop a draft calendar of activities and assignments, support outreach activities, and share updates with the full team
 - Property managers – Mike Van Den Bosch
 - Commercial tenants - Mike Van Den Bosch
 - Industrial/manufacturing businesses – Stacy Lambright and John Dobie
 - Small businesses – Leanne Holitza

Timeline

Summer 2017

- Develop key messages for each business sector and associated programs to promote
- Finalize calendar of activities and responsibilities
- Develop first round of outreach materials

Fall 2017 – Spring 2018

- Outreach activities and tracking of outcomes

Spring 2018

- Refresh/update materials as appropriate and continue roadshow/outreach activities

Summer 2018 – Fall 2018

- Outreach activities and tracking of outcomes

Resource

City/County of Broomfield and Access Broomfield Chamber

- Business contact information and lists
- Printing of flyers for outreach activities
- Access to outreach channels

Partners in Energy

- Customized outreach collateral
- Direct mailings (as needed and as appropriate)
- Xcel Energy staff to support outreach events (as needed and as appropriate)

Measurement

Success will be measured by:

- Program participation
- Newsletter and website analytics

Strategy 2: Business Energy Savings Team

Description

This strategy focuses on establishing a professional network in Broomfield for participants to learn about energy efficiency and renewable energy opportunities, share best practices, tour various facilities, and meet other professionals interested in reducing business energy usage and impacts. The entire Broomfield business community and public sector (i.e., school district and City/County) are welcome to participate.

Targets

25 or more Broomfield professionals engaged in the network. At a minimum, engagement is considered attending one event or joining the LinkedIn group.

Scope

The network will be convened by Access Broomfield Chamber every 6 months for a topic-focused event. The first event will focus on Colorado's Commercial Property Assessed Clean Energy Financing (C-PACE) and other business energy-investment financing opportunities. Events will include an informational presentation, educational materials, case study showcase (as applicable), and time for peer networking. The topics of future events will be determined through network interest and/or surveying. The network will also include establishment of a LinkedIn group to share business energy best practices and program information.

Responsibilities

City/County of Broomfield and Access Broomfield Chamber

- Provide business contacts for network invitations and LinkedIn group
- Organize logistics for first network event and support event delivery
- Lead network communication and outreach

Partners in Energy

- Lead establishment of LinkedIn group
- Support network event logistics and delivery
- Support dissemination of information

Energy Action Team Members and Others

- Help grow and participate in the network development
- Support network event logistics and delivery (e.g., hosting events at Hunter Douglas facility)
- Support dissemination of information
- Help maintain communications and community of LinkedIn group

Timeline

Summer 2017

- Develop distribution list and network identity
- Finalize calendar of activities and responsibilities

Fall 2017

- Finalize event logistics and materials

Strategy 2: Business Energy Savings Team

- Launch LinkedIn group and distribute event invitations
- First network event: C-PACE workshop
- Identify topic for second workshop

Winter 2018

- Finalize event logistics and materials
- Expand LinkedIn group and share information

Summer 2018

- Finalize event logistics and materials
- Maintain LinkedIn group

Fall 2018

- Second network event: topic to be confirmed
- Identify topic for future workshop(s)
- Maintain LinkedIn group

Resources

City/County of Broomfield and Access Broomfield Chamber

- Business contact information and lists
- Printing of flyers for outreach activities
- Access to outreach channels

Partners in Energy

- Customized outreach collateral
- Direct mailings (as needed and as appropriate)
- Xcel Energy staff to support outreach events (as needed and as appropriate)

Measurement

Success will be measured by:

- Program participation
- Participant counts (online and in-person)

Strategy 3: Recognition of Broomfield's Business Energy Leaders

Description

This strategy is designed to recognize businesses that are demonstrating a commitment and leadership in achieving Broomfield's energy action goal. It includes a mechanism for all participants to log their business' energy action(s) for online recognition by the City and County of Broomfield and Access Broomfield Chamber. It also includes an annual award to recognize businesses that have made a significant contribution to or achievement in achieving Broomfield's energy action goal.

Targets

- Recognize at least one business annually for exemplary energy leadership
- Provide digital recognition of all businesses that log their energy actions

Scope

A small team will convene to establish the award criteria and application requirements and then evaluate each application to select recipient(s). The award(s) will be presented annually at the Access Broomfield Chamber Annual Meeting in January of each year by the Chamber, City and County of Broomfield, and Xcel Energy. The business outreach campaign and energy savings network will be used to provide information to businesses about award criteria.

In addition to the awards application and program, digital recognition will be given to businesses that complete an energy action (upon their request to be recognized). Digital recognition will include listing of the business name on the City and County of Broomfield's website (InvestBroomfield.com), periodic social media posts, and access to a "digital badge" and hashtag for the business' online usage.

Responsibilities

City/County of Broomfield and Access Broomfield Chamber

- Lead award criteria and application development and evaluations
- Organize logistics for award delivery at annual meeting
- Co-present award at annual meeting
- Post business names to recognition site monthly and share via other outreach channels as appropriate (e.g. social media and newsletters)

Partners in Energy

- Support award criteria and application development and evaluations
- Support logistics for award delivery at annual meeting
- Co-present award at annual meeting
- Collect business names for recognition site monthly and share digital badge and hashtag with participating businesses

Energy Action Team Members and Others

- Apply for awards; participate on evaluation team as needed
- Participate in and log energy actions; share successes on social media

Strategy 3: Recognition of Broomfield's Business Energy Leaders

Timeline

Summer 2017

- Develop award criteria, application form, and evaluation process
- Create an instrument for businesses to “log” their energy actions and associated webpage for future business recognition

Fall 2017

- Launch award information and distribute application
- Disseminate information about business recognition in coordination with business outreach campaign

December 2017

- Evaluate award applications and select recipient(s)

January 2018

- Recognize award recipients at annual meeting
- Share information about award recipients through business outreach channels

Fall 2018

- Call for award applications

December 2018

- Evaluate award applications and select recipient(s)

January 2019

- Recognize award recipients at annual meeting
- Share information about award recipients through business outreach channels

Ongoing (monthly)

- Download list of businesses who have logged actions and recognize on website and social media
- Share digital badge and social media hashtags with participating businesses

Resources

City/County of Broomfield and Access Broomfield Chamber

- Webpage for business recognition
- Access to social media/outreach channels
- Annual Meeting event

Partners in Energy

- Survey instrument for logging energy actions
- Digital badge and hashtag development
- Award certificate or plaque

Strategy 3: Recognition of Broomfield's Business Energy Leaders

Measurement

Success will be measured by:

- Program participation
- Business energy action log activity
- Award application numbers and achievements

Renewable Energy Focus Area

In addition to prioritizing energy efficiency actions in the business community, the energy action team decided to support renewable energy actions that includes all efforts and activities related to solar, wind, and other renewable energy within and serving the Broomfield community. The City and County of Broomfield already has nine municipal solar installations with 894 kW of capacity. However, the broader business community has limited participation in renewable energy actions. This focus area focuses on building on the efforts to-date and engaging the business community in renewable energy opportunities. One strategy is included in this focus area: development of a renewable energy information portal.

Strategy 4: Renewable Energy Information Portal

Description

This strategy supports the multi-pronged outreach campaign for businesses and places emphasis on providing a central portal for information and education about renewable energy options and opportunities for Broomfield businesses.

Targets

Annual average of 365 portal visits.

Scope

An informational web portal will be developed within the economic development section of the City and County of Broomfield website. The Access Broomfield Chamber will link to this informational portal. The portal will showcase renewable energy information and resources for Broomfield businesses. The portal will also contain general information about energy efficiency opportunities and programs, including the sector-specific campaigns. The portal will also contain or link to the recognition list of businesses that log their energy actions.

Responsibilities

City/County of Broomfield and Access Broomfield Chamber

- Co-lead web portal content development (including collecting information about City and County permitting processes and local renewable energy businesses)
- Lead web portal development and maintenance

Partners in Energy

- Co-lead web portal content development
- Support web portal development and maintenance

Energy Action Team Members and Others

- Test the portal
- Share information with the business community

Timeline

Summer – Fall 2017

- Determine portal parameters and site logistics
- Draft portal framework and content

Strategy 4: Renewable Energy Information Portal

Winter 2017

- Launch portal

Ongoing (monthly)

- Maintain portal (aim to update monthly or similar)
- Evaluate website analytics

Resources

City/County of Broomfield and Access Broomfield Chamber

- Website access and links

Partners in Energy

- Program information and links

Measurement

Success will be measured by:

- Website analytics

Community Facilities and Institutions Focus Area

The third focus area encompasses Broomfield's major community facilities and institutions, including municipal facilities and local school districts, including Adams 12 Five Star Schools. These entities are highly visible in the Broomfield community, and present significant opportunities to demonstrate leadership in energy efficiency and renewable energy activities, while also reducing energy consumption and energy costs.

Strategy 5: Energy Audits & Benchmarking

Description

This strategy aims to complete energy audits on identified City/County and school district facilities to identify energy efficiency opportunities, and enrolling such facilities in energy benchmarking to monitor and assess energy trends. For facilities that have had an energy audit completed, the entities will aim to complete at least one energy-saving action for each facility based on audit recommendations (subject to budget availability and other facility maintenance priorities).

Targets

- All Adams 12 schools in Broomfield and select City and County of Broomfield facilities undergo an energy audit and enroll in energy benchmarking by the end of 2018
- Any facility that undergoes an audit completes at least one energy-saving action within 1 year of audit completion

Scope

All major school facilities and select City and County of Broomfield facilities (primarily office and administrative-focused facilities) will apply to have an on-site energy audit or study (e.g., Building Tune-Up program through Xcel Energy). Those same facilities will also participate in energy benchmarking to identify energy-saving opportunities and compare those facilities to industry averages. Finally, for those select facilities that have an energy audit, at least one energy-saving action for each facility will be prioritized for implementation within a year of the audit (subject to budget availability and other facility maintenance priorities).

Responsibilities

City/County of Broomfield and Access Broomfield Chamber

- Submit applications for identified facilities (see Appendix 4 for complete list)
- Assist in the completion of energy audits
- Review audit recommendations and prioritize list of improvements (including at least one improvement to implement near-term)
- Enroll facilities in energy benchmarking program and monitor results quarterly or similar
- Implement priority energy efficiency improvements

Adams 12 School District

- Submit applications for identified facilities (see Appendix 4 for complete list)
- Assist in the completion of energy audits
- Review audit recommendations and prioritize list of improvements (including at least one improvement to implement near-term)
- Enroll facilities in energy benchmarking program and monitor results quarterly or similar

Strategy 5: Energy Audits & Benchmarking

- Implement priority energy efficiency improvements

Partners in Energy

- Support facility identification and applications
- Support audit review and project prioritization
- Support energy benchmarking enrollment and monitoring

Timeline

Summer 2017

- Finalize list of facilities and submit applications (note Small Building Tune-Up promotion ends August 31, 2017)

Fall 2017

- Complete energy audits and review results
- Develop list of priority energy improvements for each facility
- Enroll facilities in energy benchmarking

Ongoing (quarterly)

- Review list of priority improvements and implement projects (include in budget requests as applicable)
- Review energy benchmarking results and share findings with team

Resources

City/County of Broomfield and Access Broomfield Chamber

- Facility list and access
- Building Tune-Up applications and fees

Adams 12 School District

- Facility list and access
- Building Tune-Up applications and fees

Measurement

Success will be measured by:

- Number of audits completed
- Number of facilities participating in benchmarking
- Energy efficiency project implementation and associated savings

How Are We Going to Stay on Course?

The Broomfield Energy Action Team will help the community reach its goals by maintaining consistent and clear communication between Energy Action Team leaders, community partners, and Partners in Energy community facilitators.

Energy Action Team members will meet on a bi-weekly basis during the first stages of implementation, and then shifting to monthly or less frequent meetings as implementation progresses.

Tracking and Monitoring

On a quarterly basis, the full Energy Action Team will review the energy action strategies and timelines to make sure everyone remains on task and has the resources needed to complete the activities identified in this plan.

Partners in Energy will provide bi-annual (twice a year) tracking and reporting of participation in Xcel Energy’s programs and the associated savings from program participants. Each strategy team will also be responsible for tracking supplemental quantitative and qualitative information about implementation, such as social media and website analytics, number of materials distributed, event dates and estimated participants, etc.

Changing Course: Corrective Action

An effective energy plan is cyclical in nature. To ensure that the Broomfield Energy Efficiency and Business Engagement Plan remains on track, the Energy Action Team will review bi-annual tracking information and compare it against the supplemental strategy tracking metrics and information to assess whether the efforts appear to be making an impact. If the strategies appear to be off-course, it is possible that the strategy teams will assess their progress and make corrective actions to get back on track.

Beyond the Plan Horizon

Looking forward to beyond the plan horizon, it is recommended that Broomfield continue to implement the energy efficiency and renewable energy goals outlined in the community’s Comprehensive Plan. Furthermore, future updates to this plan may be necessary as goals are achieved and new energy opportunities and ideas emerge.



Figure 14. Actions and Tracking

Appendix 1: Glossary of Terms

Community Data Mapping: a baseline analysis of energy data in a geospatial (map) format across the community.

Demand Side Management (DSM): modification of consumer demand for energy through various methods, including education and financial incentives. DSM aims to encourage consumers to decrease energy consumption, especially during peak hours or to shift time of energy use to off-peak periods, such as nighttime and weekend.

Energy Efficiency and Business Engagement Plan: a written plan that includes an integrated approach to all aspects of energy management and efficiency. This includes both short- and long-term goals, strategies, and metrics to track performance.

Goals: the results toward which efforts and actions are directed. There can be a number of objectives and goals outlined in order to successfully implement a plan.

kWh (kilowatt-hour): a unit of electricity consumption

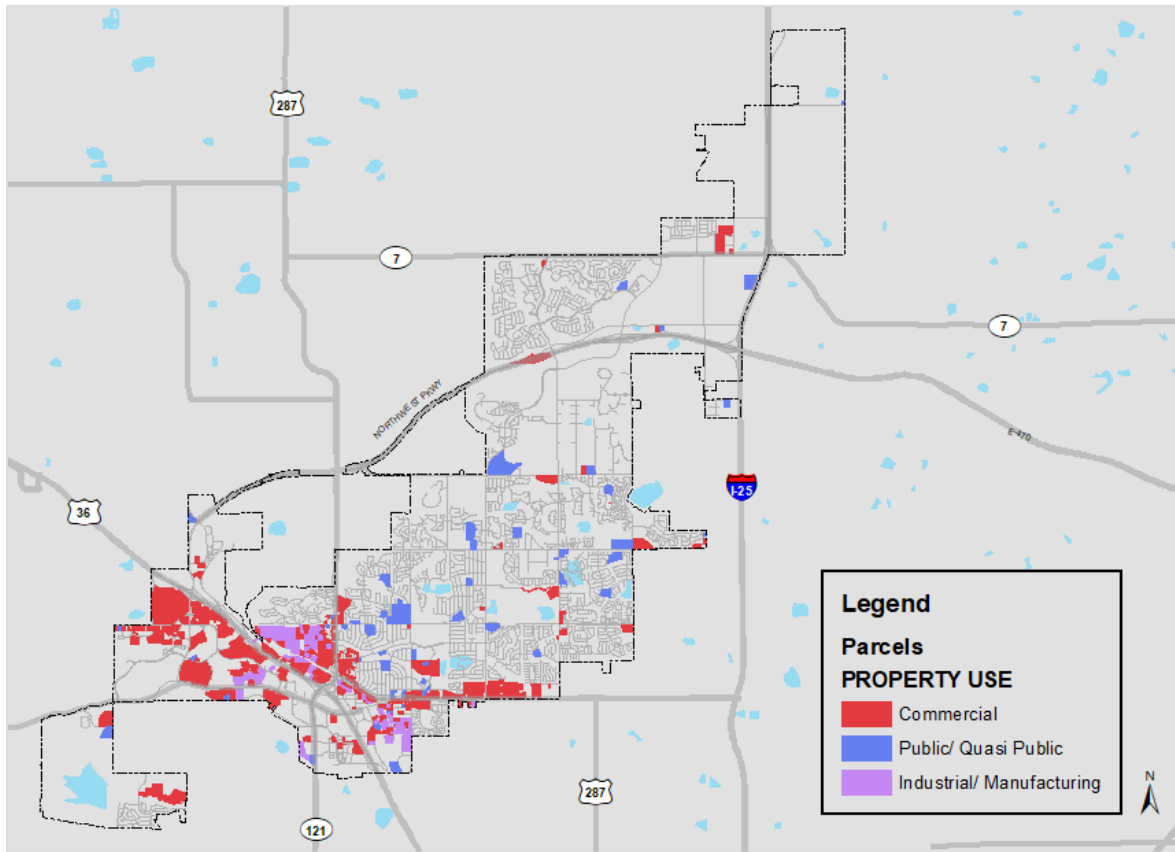
MMBtu (Million British thermal units): a unit of energy consumption common to electricity and natural gas. For example, the 3-year average natural use for the residential sector in Littleton from 2012 to 2014 was 1,182,393 MMBtu.

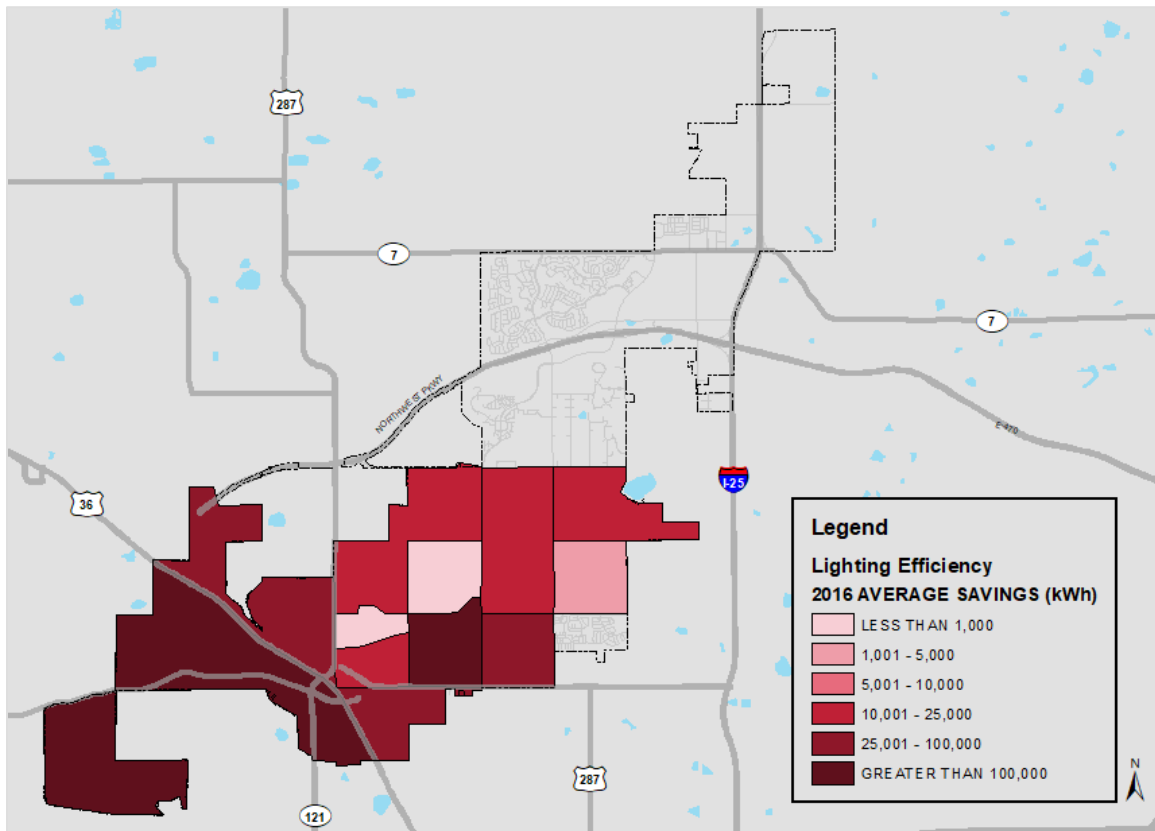
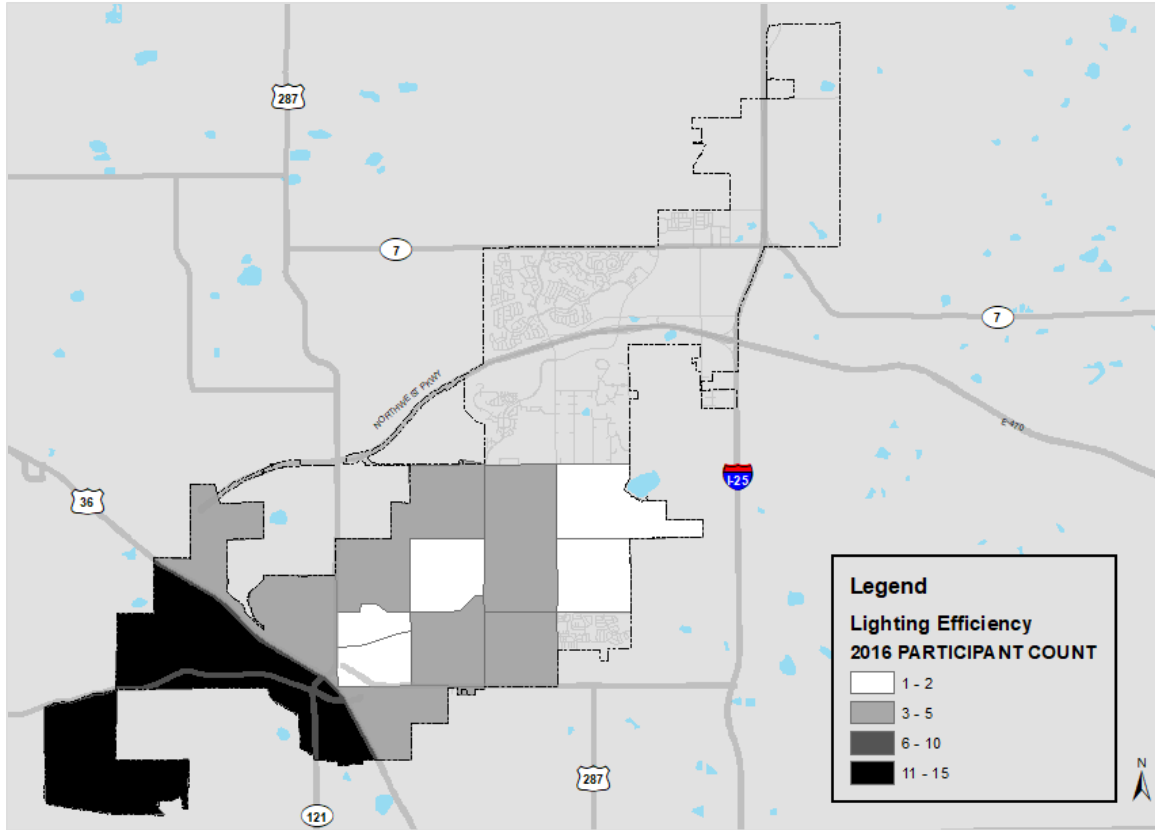
Premise: a unique identifier for the location of electricity or natural gas service. In most cases, it is a facility location. There can be multiple premises per building, and multiple premises per individual debtor.

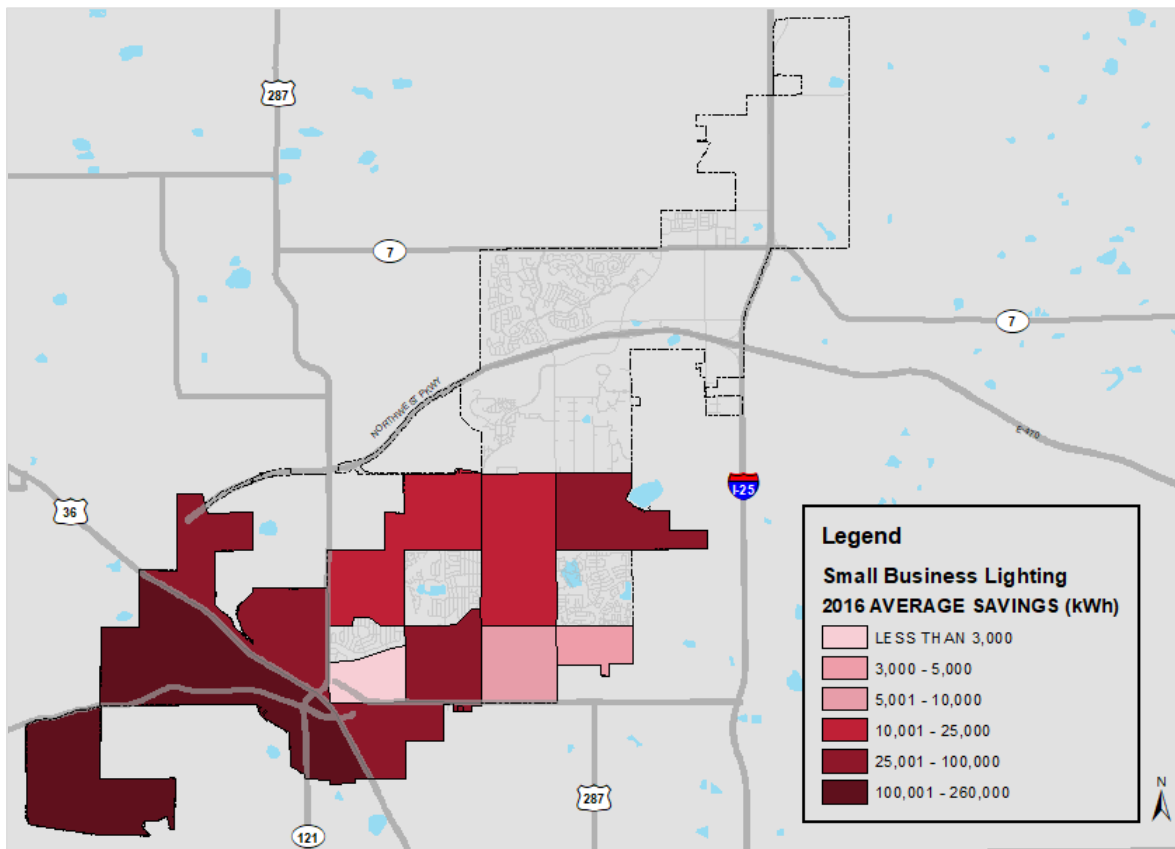
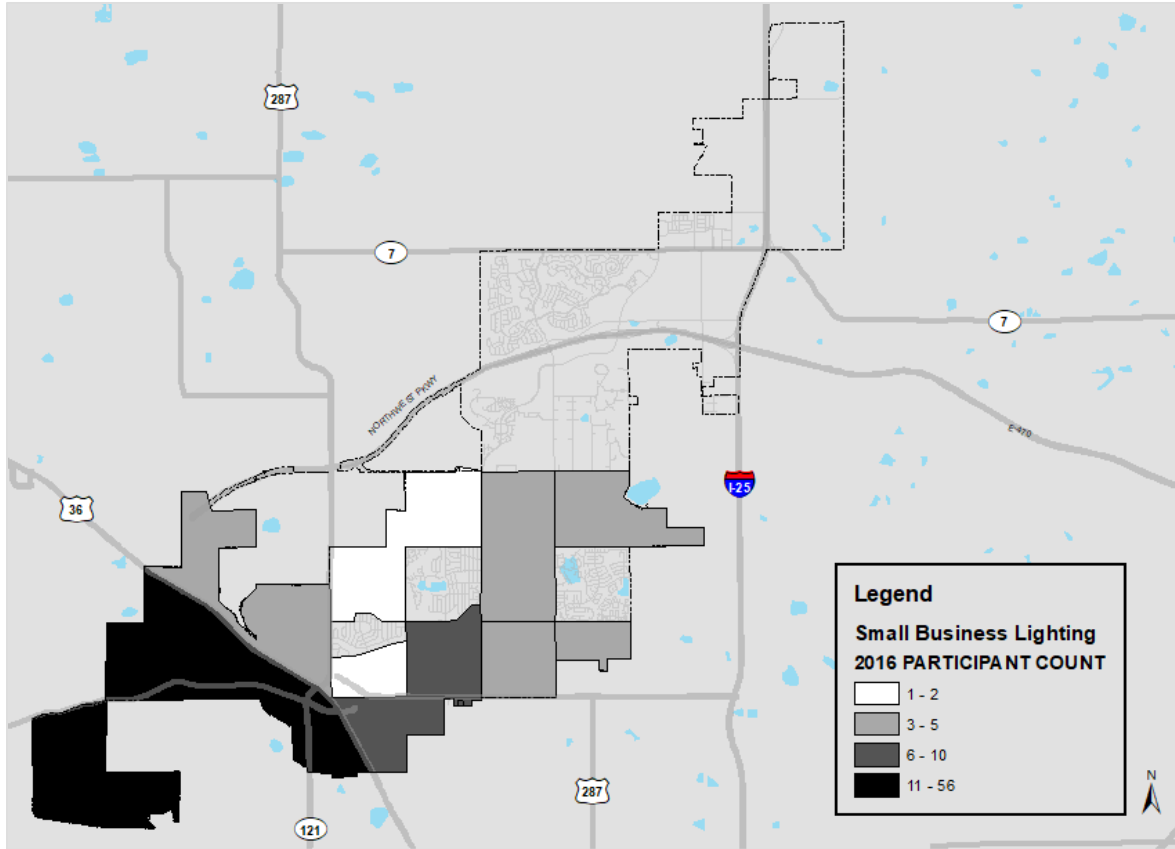
Recommissioning: An energy efficiency service focused on identifying ways that existing building systems can be tuned-up to run as efficiently as possible.

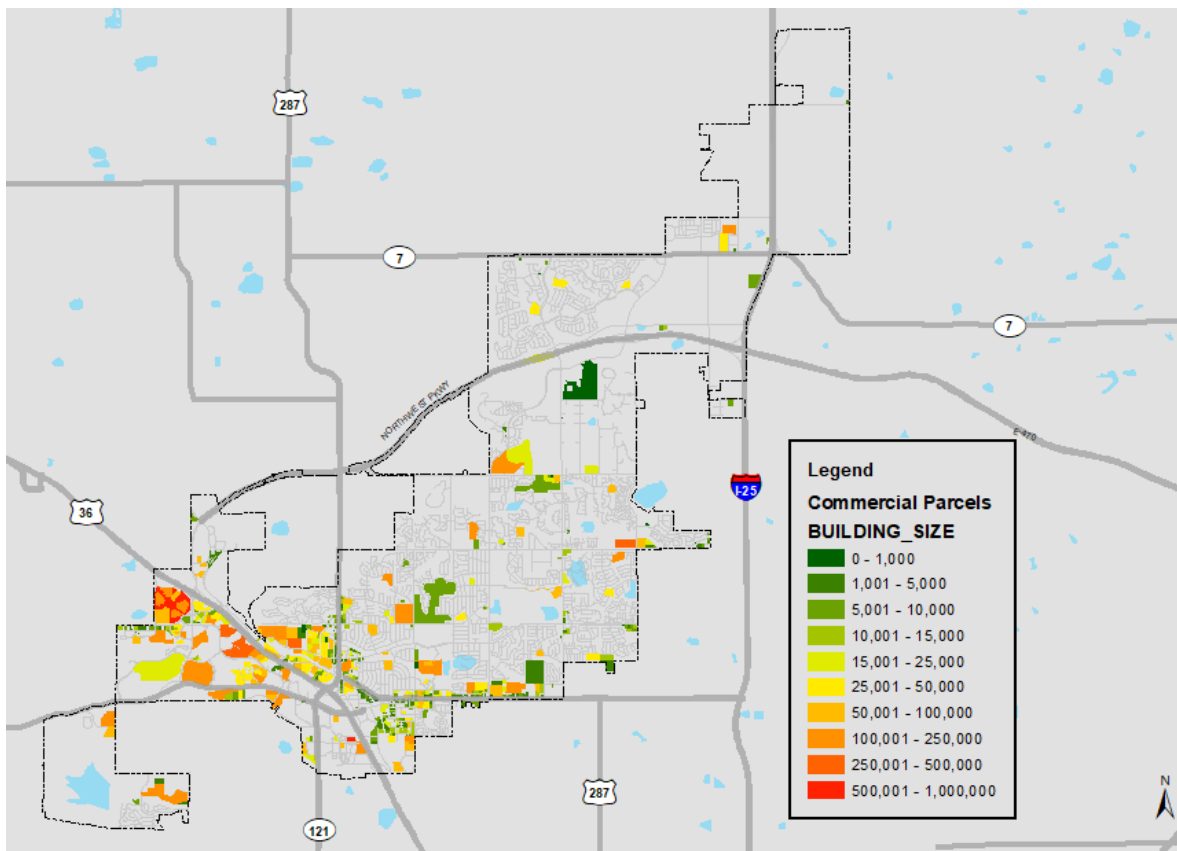
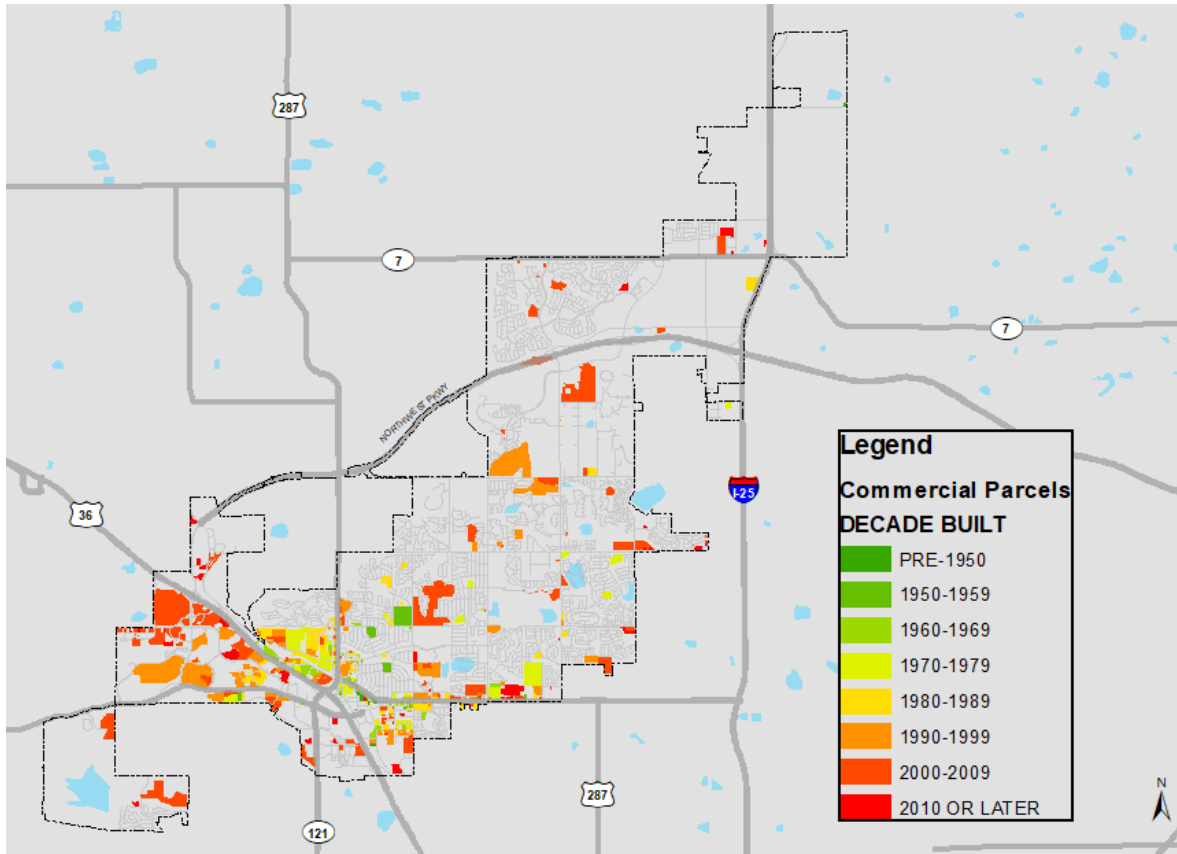
Therm: a unit of natural gas consumption

Appendix 2: Broomfield Business Mapping









Appendix 3: Xcel Energy CO Business Programs Summary

Appendix 4: Community Facilities and Institutions List

City and County of Broomfield facilities identified for energy audits and energy benchmarking:

To be added pending identification of facilities

Adams 12 Five Star School District identified facilities for energy audits and energy benchmarking:

1. Centennial Elementary School, 13200 Westlake Dr. Broomfield, CO 80020
2. Coyote Ridge Elementary School, 13770 Broadlands Dr. Broomfield, CO 80023
3. Legacy High School, 2701 W. 136th Ave. Broomfield, CO 80023
4. Meridian Elementary School, 14256 McKay Park Cr. Broomfield, CO 80020
5. Mountain View Elementary School, 12401 Perry St. Broomfield, CO 80020
6. Westlake Middle School, 2800 W. 135th Ave. Broomfield, CO 80020

Appendix 5: Implementation Memorandum of Understanding

To be added following plan adoption and implementation MOU finalization.