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PARTNERS IN ENERGY
An Xcel Energy Community Collaboration

An Energy Action Plan for

Garfield County, Colorado

Members of the Garfield Clean Energy Collaborative:

City of Glenwood Springs, City of Rifle, Colorado Mountain College, Garfield County, Roaring Fork Transportation Authority, Town of Carbondale, Town of New Castle, Town of Parachute, and Town of Silt

4/20/2017

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Acknowledgements

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The planning team was formed from a varied group of city and county staff, local and regional organizations, local businesses, energy utilities, and committed community members.

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Garfield County
Roaring Fork Transportation Authority
Town of Carbondale
Town of New Castle
Town of Parachute
Town of Silt

GARFIELD COUNTY ENERGY ACTION PLAN

EXECUTIVE SUMMARY

Our Vision and Goals

Garfield Clean Energy Collaborative (GCE) will be a national leader in using energy efficiency, renewable energy, and alternative fuels to build a strong, resilient, and diverse economy.

Collaborating with local governments, utilities, non-profit organizations, and businesses, GCE's overarching goals will be to achieve a 20 percent increase in energy efficiency over the 2015 Garfield County baseline by 2030 and to obtain between 35 and 50 percent of energy from renewable sources by 2030.

How Will We Get There?

To make progress toward these goals, GCE will address six focus areas. The rationale behind the focus areas was built on the basis of priorities identified by the planning team, existing programs and initiatives that are working well in the region, identified opportunity gaps, and a view for what might be possible. The following is a summary of each focus area and associated, or specific actions, that GCE and its partners plan to take to achieve the goals and targets stated in this plan.

Focus Area 1: Commercial / Industrial / Agricultural

In 2015, customers in this focus area accounted for approximately 62 percent of total electricity use in the county and 33 percent of natural gas use. Work in this area will build on the success of the available commercial programs in the county and the efforts of more than 300 businesses that by 2015 have undertaken energy efficiency improvements with a target to engage critical businesses that have not participated in efficiency efforts historically. These critical businesses, such as oil and gas producers, can improve their bottom line while helping the county reach its energy efficiency goals. Moreover, a robust program that helps all commercial, industrial, and agricultural users in the county will stimulate local economic development. Given the varied nature of commercial entities in the county, several strategies were designed to increase small business participation, engage large industrial businesses for the long term, and provide resources for the evolving agricultural sector (e.g., marijuana producers).

Strategy 1: Increase Energy Efficiency in Businesses throughout the County

Strategy 2: Catalyze Energy Savings by Industrial Users

Strategy 3: Create Targeted Programs for Agricultural Energy Users (Outdoor and Indoor)

Strategy 4: Promote Use of C-PACE and Other Financing Tools

Focus Area 2: Residential

Residential energy use accounted for 34 percent of electricity use and 64 percent of natural gas use county-wide in 2015. This focus area builds on the successes to date for low-income households to maximize efficiency. In Garfield County, helping households cut energy expenses is especially important in a region that faces affordable housing challenges, giving families more disposable income for other important priorities. Ongoing collaboration among county utilities and GCE will make it easier for all households to participate in efficiency improvements, use innovative financing and incentive programs, and support a sustained effort to reach the efficiency goals county-wide.

Strategy 5: Boost Efficiency in Residential Sector

Focus Area 3: Public Institutions

Maximizing energy savings and tapping energy innovations in municipal and government facilities demonstrates efficient use of tax-payer funds, ensures local governments are leading by example on resource efficiency, and is an important part of regional economic resilience. While this focus area only accounts for about 3 percent of total electricity and natural gas use in the county, efforts at this level are important in demonstrating to the broader county community that energy efficiency and renewable energy make good economic sense. In addition, there is a strong framework that already exists within the public-school sector that has the potential to be refreshed and expanded.

Strategy 6: Lead by Example at Municipal and Government Facilities

Strategy 7: Engage Schools and Educational Institutions

Focus Area 4: Renewable Energy

As the county continues to grow in population and demand for energy matches that growth, it becomes more important to look toward generating renewable energy in order to have a more robust and resilient community and economy. Advancing renewable energy requires an understanding of need, capacity, innovation, and policy that removes barriers and encourages investment and participation throughout the county. Residents, businesses, and utilities have a role in accelerating the adoption of solar and other viable renewable energy options over the coming years.

Strategy 8: Accelerate Residential and Commercial Solar Adoption

Strategy 9: Advance Utility-scale, Regionally-produced Renewable Energy

Focus Area 5: Innovative Design and Construction

Along with improvements to existing buildings and facilities, the region is expecting growth in new homes and commercial buildings over the coming decades. By ensuring that new buildings and facilities are built to the highest energy efficiency standards, those facilities will use less energy per square foot. In addition, when housing is built to meet energy efficiency standards, housing stays more affordable over time.

Strategy 10: Build in Efficiency and On-site Renewables from the Start

Focus Area 6: Policy and Institutional Frameworks

State and local leadership and policies have played an essential role in energy efficiency and renewable energy gains in Garfield County to date. This plan identifies short-term goals and actions that will enable the county to make continuous progress, to share successes, and to engage more of its population in energy efficiency and renewable energy alternatives. It also offers a forum and framework for looking beyond the short term, to be visionary, to influence local, regional, state, and even national conversations and efforts, and to increase investment, innovation, and policy for wise energy use.

Strategy 11: Strengthen State, Regional, and Local Policies and Funding Sources to Accelerate Energy Efficiency and Renewable Energy

Playbook for Achieving Our Goals

Ongoing – Tracking

- Track implementation of strategies over time
- Maintain regular check-ins to keep on task and make adjustments as needed for best outcomes
- Continue to identify new outreach channels, methods of collaboration, and funding resources
- Share successes and solicit community feedback
- Keep up-to-date on rapidly evolving technologies, costs, and education and adjust programs as needed
- Conduct annual review of progress and plan activities and adjust as necessary to maintain momentum

Immediate Actions (March 2017 – Dec. 2018)

- Engage additional implementation partners and convene working strategy teams
- Identify resource availability to fully implement strategies
- Identify target programs and sectors with greatest potential
- Engage key businesses and trades (workshops, events, trainings)
- Develop focused outreach and materials to highlight programs for best outcomes
- Raise awareness about C-PACE and identify local financial partners
- Increase efforts of existing programs and offerings
- Engage congregations
- Engage and train local government and institutional staff
- Encourage benchmarking
- Determine metrics for on-site solar and develop outreach materials to encourage more participation
- Engage all players in renewable energy discussion
- Coordinate with building departments and offer trainings for high efficiency new construction
- Begin the conversation on important policy considerations that will affect Garfield County and the region
- Capture successes and share with community

Longer Term Actions (beyond Dec. 2018)

- Build funding source for rebate equity and access
- Continue to collaborate with all local utilities to improve customer experience and access
- Look for opportunities to scale efforts with other state partners
- Develop disaster preparedness planning for energy
- Develop a regional “Solarize” campaign
- Promote standardized approach for solar permitting
- Seek adoption of current building energy code in all jurisdictions
- Support a regional renewable energy district

Introduction

The purpose of this Energy Action Plan is to outline tangible steps for Garfield Clean Energy Collaborative (GCE), its member organizations, and collaborative partners in Garfield County to make measurable progress toward achieving energy goals. In July of 2016, the GCE Board signed a Memorandum of Understanding (MOU) with Xcel Energy to participate in Partners in Energy. From August 2016 to February 2017, a county-wide planning team participated in four workshops to develop the contents of the Energy Action Plan alongside representatives from Xcel Energy and Holy Cross Energy.

A planning team consisting of CLEER (Clean Energy Economy for the Region), Xcel Energy staff, Holy Cross Energy staff, Black Hills Energy staff, and key stakeholders from throughout the county reviewed utility data for the county from all utility providers (Xcel Energy, Holy Cross Energy, Glenwood Springs Electric, and Black Hills Energy), prioritized areas of focus, and developed this Energy Action Plan. The team is prepared to carry out this plan by first working toward short-term targets over the next 12 to 18 months (April 2017 to December 2018). This work will establish a framework for longer-term accomplishments. This planning process was facilitated through Xcel Energy's Partners in Energy offering for communities and convened by GCE.

The following sections provide an overview of Garfield County, the county's baseline energy use, documentation of the Partners in Energy planning process, a summary of priority focus areas identified by the planning team for implementation, and actions necessary to make progress.

Xcel Energy's Partners in Energy

In the summer of 2014, Xcel Energy launched Partners in Energy to support communities, such as Garfield County, in developing and implementing energy action plans that supplement existing sustainability plans, strategies, and tools (Figure 1). The content of this plan was derived from a series of four planning workshops held in New Castle with a planning team committed to representing local energy priorities and implementing plan strategies. For Garfield County, in particular, it was important to develop a catalog of existing programs available given that there are four energy utilities represented as well as non-profit and county programs, all serving different constituencies (see Appendix A for a matrix of available programs).

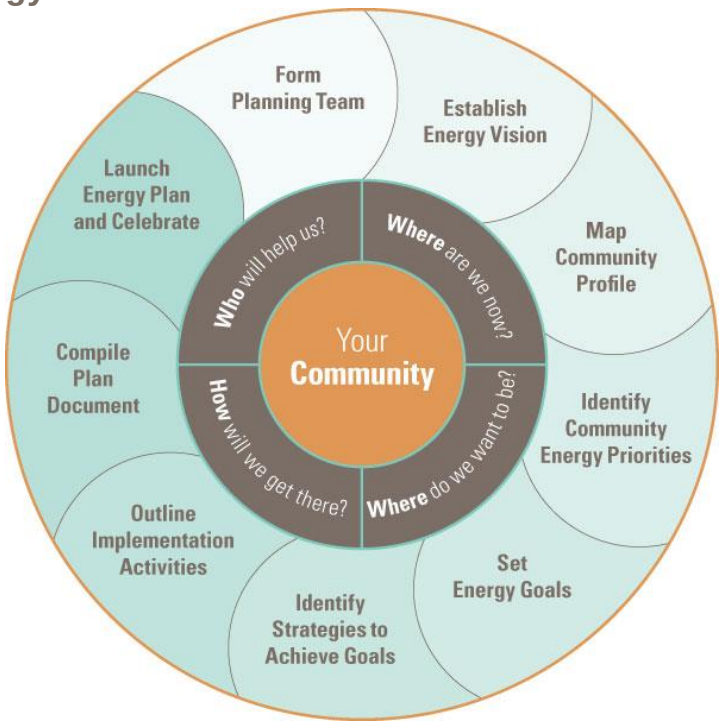


Figure 1. Partners in Energy Process for Success

Partners in Energy will work with GCE to coordinate support for implementing the plan and will develop a memorandum of understanding (MOU) that outlines specific support Xcel Energy will provide to help GCE deploy its strategies and achieve its targets (Figure 2).

Figure 2. Resources from Xcel Energy for Implementation

County Background

Garfield County was home for centuries to the Ute tribe, whose people roamed throughout western Colorado and eastern Utah. As American miners and settlers spread westward in the 1800's, the U.S. government attempted to contain the Utes in land reservations. Conflict, battles and broken treaties ensued, and the Utes were forced onto their current reservations in 1879. In 1883, eight years after Colorado became a state, Garfield County was founded and named in honor of James Garfield, the 20th president. In the late 1880s, the county experienced a mining boom, initially for carbonate, from which many camps became formal towns[1]. In that decade, construction of roads, bridges and railroads connected Garfield County's towns to Aspen, Denver and Grand Junction, linking local communities and their coal mines, farms and ranches to the regional economy[2].

Much of Garfield County's history is derived from an affinity with and for the land. Residents and tourists alike are drawn to the area for the beautiful scenery and recreational opportunities. As it did well over a century ago, the county's economy thrives on natural resource development, agriculture, and tourism.

Geography, Population, and Demographics

Garfield County is one of the largest counties in Colorado (Figure 3), covering nearly 2 million acres. Situated on the Western Slope approximately 150 miles west of Denver, the county is bisected by Interstate 70 and parallels the Colorado River. Approximately 60 percent of all Garfield County lands are federal public lands managed by the Bureau of Land Management (615,973 acres), U.S. Forest Service (515,865 acres), and Bureau of Reclamation (2,335 acres)[3]. Garfield County has six incorporated municipalities — Carbondale, Glenwood Springs, New Castle, Parachute, Rifle, and Silt. Battlement Mesa is the largest unincorporated residential community.

[1] Andrew Gulliford. *Garfield County, Colorado, The First Hundred Years 1883-1983.* https://www.garfield-county.com/about-garfield-county/documents/the_first_100_years.pdf
[2] Ibid
[3] http://www.garfield-county.com/economic-development/garfield-county-profile.aspx

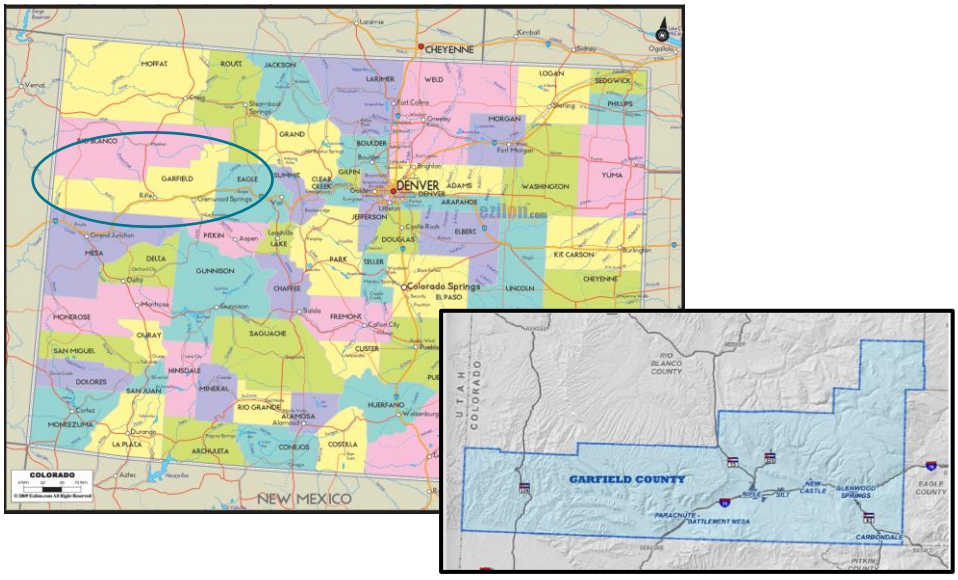


Figure 3. Map of Colorado and Breakout of Garfield County

According to 2015 U.S. Census numbers, Garfield County is home to approximately 57,076 people[4]. Since 2012, the population has increased modestly at a rate of 0.7 percent. Forecasts predict that growth will continue at a more rapid pace of 2 percent over the next 20 years with the population doubling by 2040. This pace projects the county to be one of the fastest growing in Colorado. Historically, fluctuations have been linked with the contraction and expansion of the energy industry, a main economic driver of the county. Glenwood Springs remains the largest community in the county with 9,909 residents, and Rifle is close to that at 9,359, per the Colorado State Demographer's Office 2015 estimates[5].

[4] Note that the population cited should be considered as estimate as it varies depending on the source.

[5] https://demography.dola.colorado.gov/population/data/county-muni-timeseries/

Each municipality has experienced different rates of growth over the past decades. New Castle and Silt exhibited the largest growth over the past 10 years. However, unincorporated area populations shrank as a percentage of total county residents from 1990 to 2013 by 17 percent. Figure 4 graphically depicts the population of each community in Garfield County in 2014.

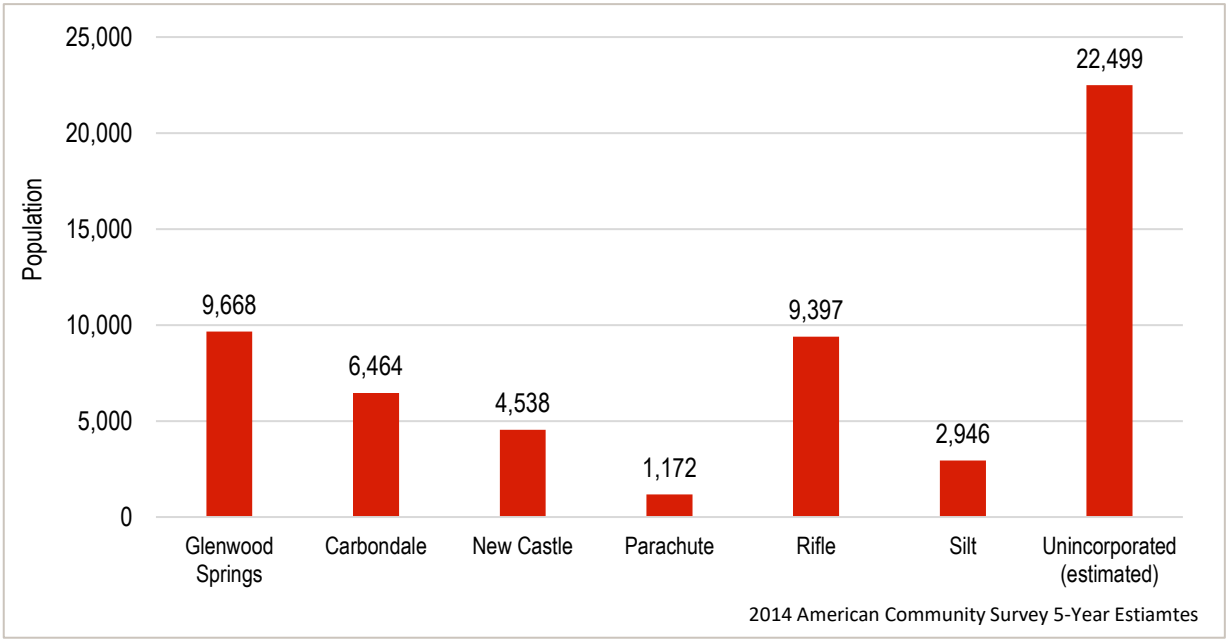


Figure 4. Garfield County Community Populations

The majority of Garfield County's population is Caucasian with a significant minority Hispanic and Latino population. Over the coming decades, all minority populations are expected to increase with the Hispanic population experiencing the largest growth.

The current median age in the county is 36, with about 10 percent aged 65 and over, and 37 percent under the age of 18. Historically, migratory patterns are linked with age as the county has seen a large out-migration of college aged youth and retirees, countered with an influx of adults aged 30 to 35. The large influx of adults is attributable to the high quality of life and amenities that are offered for young families, as well as early career opportunities.

Housing

According to the U.S. Census Bureau, Garfield County has a total estimated 20,622 occupied residential structures, which include some multi-family housing complexes. Of the total county population, 65 percent are homeowners, and 35 percent are renters. The housing stock is relatively new with approximately 50 percent of total housing units built since 1990.

Property values vary throughout the county, but all have been increasing, influenced in part by second home ownership, leading to county-wide affordability challenges. The median housing price for the county in 2014 was $325,326[6], 36 percent higher than the state average (Figure 5). All but one community, Parachute, has a median housing price above the state median. According to the Garfield County Assessor, assessed valuations have increased approximately 40 percent for single family homes between

[6] http://www.city-data.com/city/Colorado.html

2012 and 2014. Carbondale and Glenwood Springs are two communities particularly affected by this trend. Moreover, nearly half of all county residents pay 30 percent or more of their income on monthly housing and utility expenses. According to Center for Neighborhood Technology's H + T Fact Sheet[7] for Garfield County, 33 percent of residents' monthly income is spent on housing alone. The traditional measure of affordability recommends that housing cost no more than 30 percent of household income.

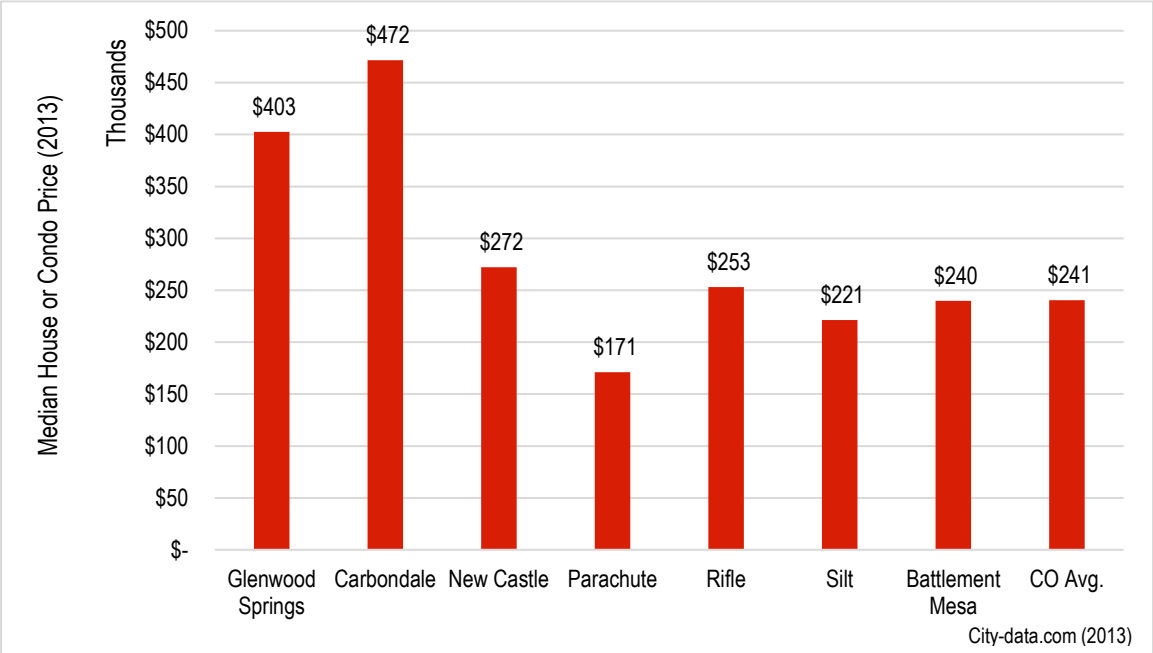


Figure 5. Median Housing Prices Across Garfield County

Business and Economy

Garfield County has a labor force of 32,600 people with 20 percent of residents commuting to work outside the county, primarily in Pitkin (15 percent) and Eagle (5 percent) counties. The four primary industries are natural resource development, tourism, agriculture, and regional services. Table 1 displays the top ten employers in Garfield County.

Table 1. Top 10 Employers in Garfield County

Top 10 Employers
Valley View Hospital
Roaring Fork School District RE-1
Garfield County School District RE-2
Alpine Bank
Colorado Mountain College
Garfield County
Grand River Hospital & Medical Center
Wal-Mart

[7] http://htaindex.cnt.org/fact-sheets/

City Market
City of Glenwood Springs

Commitment to Clean Energy

GCE's participation in Partners in Energy is preceded by local and regional energy efficiency and renewable energy initiatives. Since 2007, energy and climate action plans or greenhouse gas emissions reduction targets have been adopted by New Castle, Glenwood Springs, and Carbondale. The City of Rifle began developing solar as an economic development strategy starting in 2007.

In 2008, Garfield County, the six municipalities, Roaring Fork Transportation Authority, and the Library District joined with CLEER to apply for a New Energy Communities Initiative grant. The statewide program was funded by the Colorado Department of Local Affairs (DOLA) in partnership with the Colorado Energy Office. The Garfield coalition brought in matching funds and established a county-wide Garfield New Energy Communities Initiative in 2009. This original county-wide initiative was supplemented by Energy Conservation Block Grants and a Department of Energy Better Buildings grant. In 2012, to support the program beyond the initial state and federal funding, the member governments formed the Garfield Clean Energy Collaborative as an independent government authority. It oversees programs and services that help residents, businesses, and local governments become more energy efficient and reduce energy costs. Colorado Mountain College joined the partnership in 2013, and the Library District departed in 2015. CLEER, a nonprofit, delivers the services of GCE under an annual contract (www.garfieldcleanenergy.org/about-partners.html).

Since its formation, GCE has helped 34 government facilities, 305 businesses, and 443 households make energy upgrades that have saved more than $1 million to-date with ambitions to continue and increase these services across the county. In addition, more than 77 renewable energy installations are currently operational in the county.

The Case for a Community Energy Action Plan

While Garfield County is home to multiple existing energy-related programs and initiatives as described above, GCE identified a need for increased cooperation and collaboration among programs and especially with the four energy utilities serving the county for greater impact over time. GCE also identified a need for updating and improving baseline data and developing a better understanding of the actions and resources required to achieve adopted targets. This community Energy Action Plan is intended to build on existing programs and serve as a road map for collaborative initiatives that leverage available resources in a targeted fashion to sustain and accelerate energy improvements. The evolution of this plan and the resulting implementation efforts will enable businesses, residents, and institutions to save energy and money, promote renewable energy, promote a growing local economy, and inspire greater participation and pride.

Where Are We Now?

Baseline Energy Analysis

An early step in the Partners in Energy planning process was to review current energy use, in this instance for the entire county. The Xcel Energy team calculated and presented energy statistics from 2013 to 2015

to help inform decision making[8]. In addition to Xcel Energy electricity and natural gas data, the other utilities providing energy services in the county (i.e., Black Hills Energy, Glenwood Springs Electric, and Holy Cross Energy) provided aggregated data to offer a more complete picture of Garfield County's baseline energy use.

There were approximately 29,614 premises (customer units as defined by utility companies) in Garfield County as of 2015. Of these, 82 percent are residential and 18 percent are commercial and industrial premises. This total adds together electricity and natural gas customer accounts. It is important to note that the number of identified premises is less than the total number of houses and businesses in the county. This is in part due to multi-tenant buildings that may share a common meter among several units as well as data collection discrepancies such as active meters at the time of collection.

While just 18 percent of premises are commercial/ industrial facilities, which include schools and government buildings, these premises account for 50 percent of total energy use in the county. Residential premises are 82 percent of utility premises, but use just 50 percent of total energy. Figure 6 shows Garfield County's energy use by premise type in 2015.

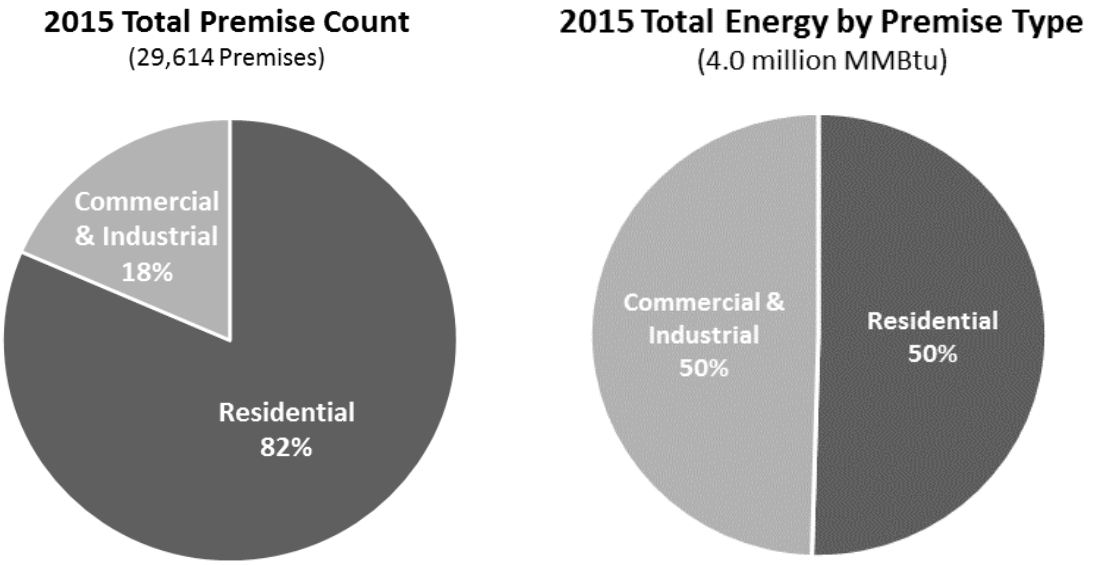


Figure 6. Energy Use by Premise Type 2015

[8] All energy data presented through this process was developed for planning purposes and may contain variations from data obtained through other sources. All energy and program related data presented here comply with Xcel Energy's Colorado data privacy policies (all summary statistics must contain at least 15 entities, and no single entity can be responsible for more than 15% of the total energy or they will be removed from the summary).

Altogether, customers included in the data set spent a total of $68,596,600 on energy in 2015, with an average annual cost per residential premise of $1,300 for electricity and natural gas, and an average annual cost per commercial premise of $6,800. Figure 7 displays the average energy costs per residential and commercial premise in 2015 as well as total dollars spent by energy type.

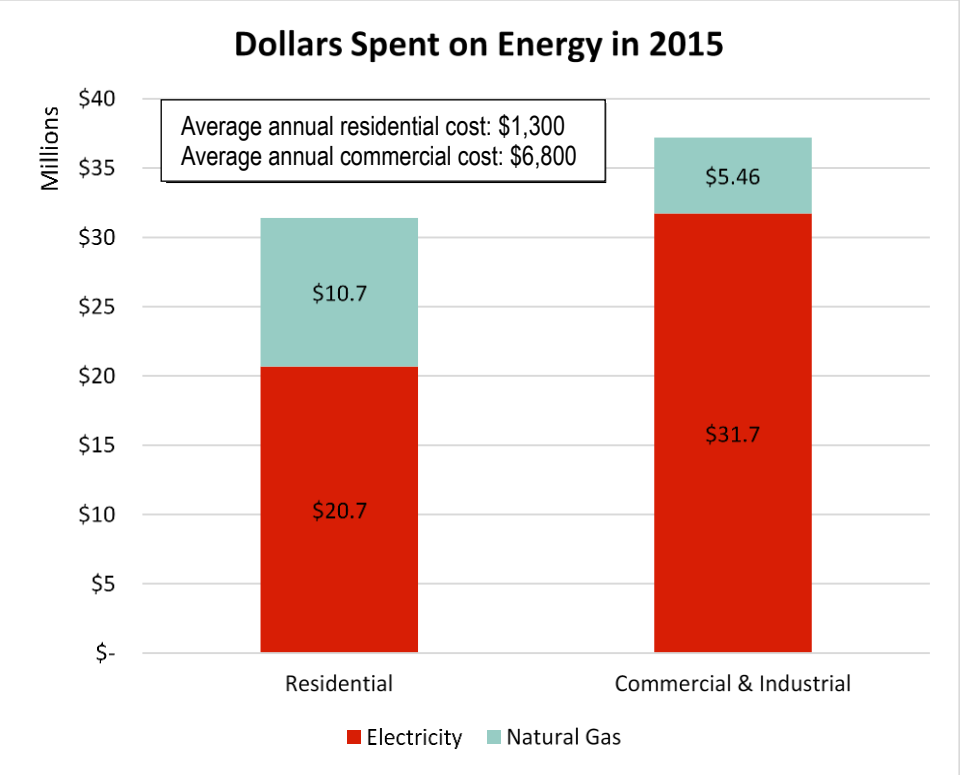


Figure 7. Energy Costs by Sector in 2015

In total, approximately 559 million kWh of electricity and 21.3 million therms of natural gas were consumed in 2015, totaling a combined 4.0 million MMBtu (Figure 8). Residential customers accounted for 35 percent of total electricity use and 64 percent of total natural gas use, while commercial customers accounted for 65 percent of total electricity use and 36 percent of total natural gas use (Figure 9).

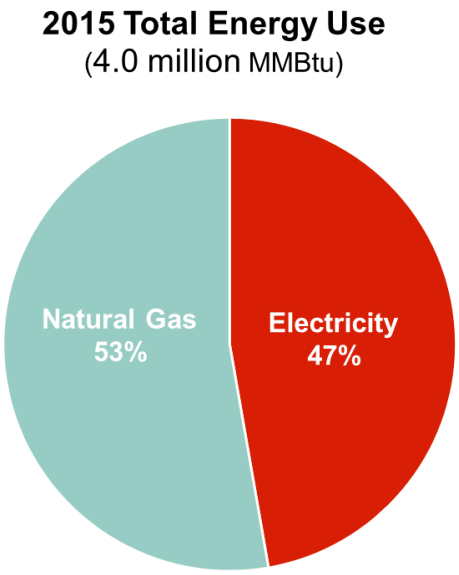


Figure 8. Total Energy Use by Sector in 2015

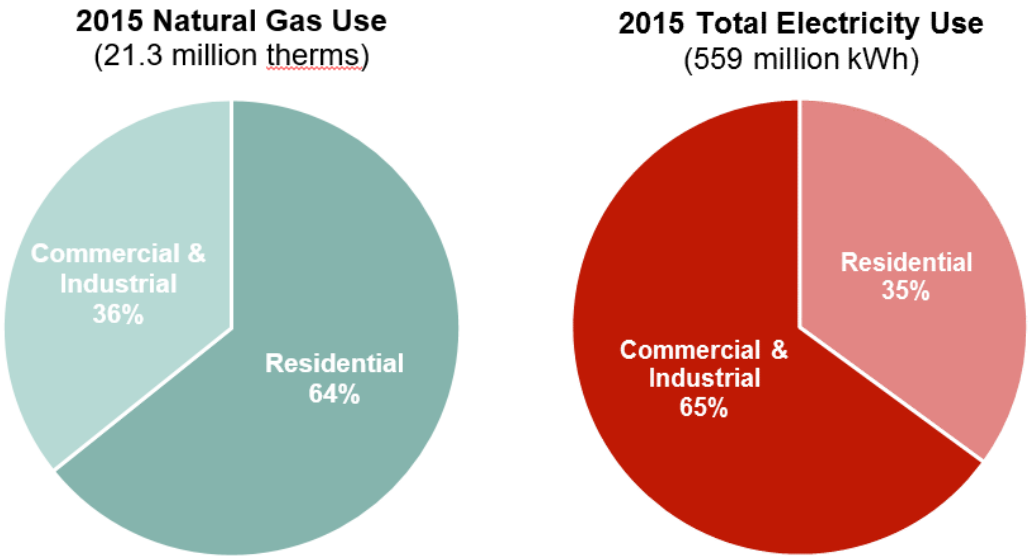


Figure 9. Energy Use by Sector in 2015

It is important to note that each utility has a unique service area in the county. Xcel Energy supplies both electricity and natural gas to the communities of New Castle, Parachute, Rifle, and Silt, and electricity only to part of the community of Carbondale and gas only to Battlement Mesa. Holy Cross Energy supplies electricity to the communities of Carbondale and Battlement Mesa along with unincorporated Garfield County south of I-70. Glenwood Springs Electric supplies electricity to a boundary outside of the city limits of Glenwood Springs, including No Name. Black Hills Energy supplies natural gas to the communities of Glenwood Springs and Carbondale along with unincorporated homes in the Roaring Fork Valley. Table 2

summarizes the utility providers in Garfield County and the communities they serve, where E indicates electricity provider and G indicates natural gas provider.

Table 2. Utility Providers by Community in Garfield County

	Xcel Energy	Holy Cross Energy	Glenwood Springs Electric	Black Hills Energy
Carbondale	E	E		G
Glenwood Springs			E	G
New Castle	E/G			
Parachute	E/G	E		
Rifle	E/G			
Silt	E/G			
Battlement Mesa	G	E		

When considering the county's natural gas use, commercial and industrial premises received the majority from Black Hills Energy (58 percent) with the remaining from Xcel Energy (42 percent) – 7.6 million therms total. Likewise, residential premises received the majority from Black Hills Energy (55 percent) with the remaining from Xcel Energy (45 percent) – 13.7 million therms total. Figure 10 shows the natural gas use by sector among the utilities in 2015. Considering the county's electricity use, commercial and industrial customers received the majority of their electricity from Xcel Energy (65 percent) followed by Glenwood Springs Electric (26 percent) and Holy Cross Energy (9 percent) – totaling 363 million kWh. Residential premises received the majority of their electricity from Xcel Energy (52 percent); however, Holy Cross Energy was the second largest provider at 30 percent, followed by Glenwood Springs Electric at 18 percent - totaling 196 million kWh in 2015. Along the I-70 corridor, Holy Cross Energy passes its largest commercial and industrial accounts to Xcel Energy. Figure 11 shows the electricity use by sector among the utilities.

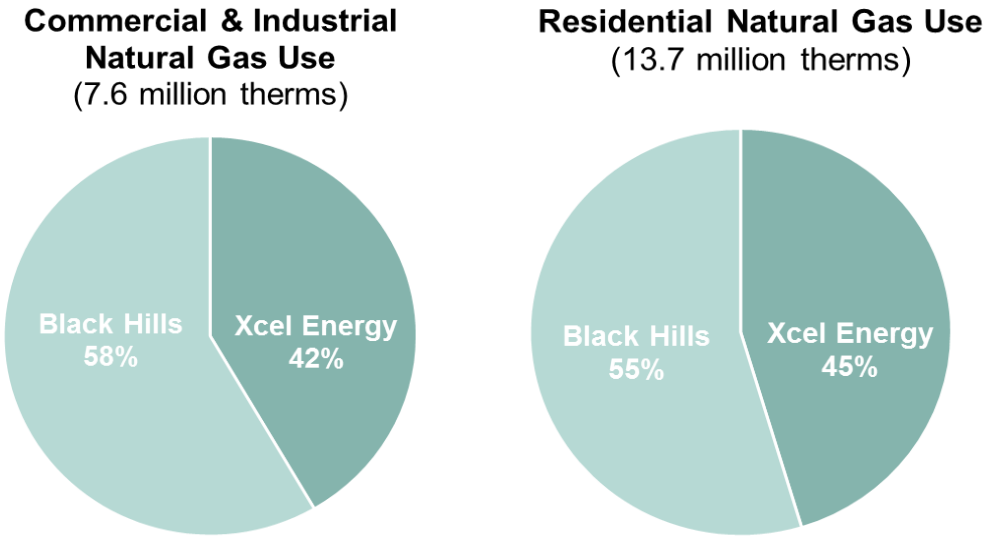


Figure 10. Natural Gas Use by Utility Provider in 2015

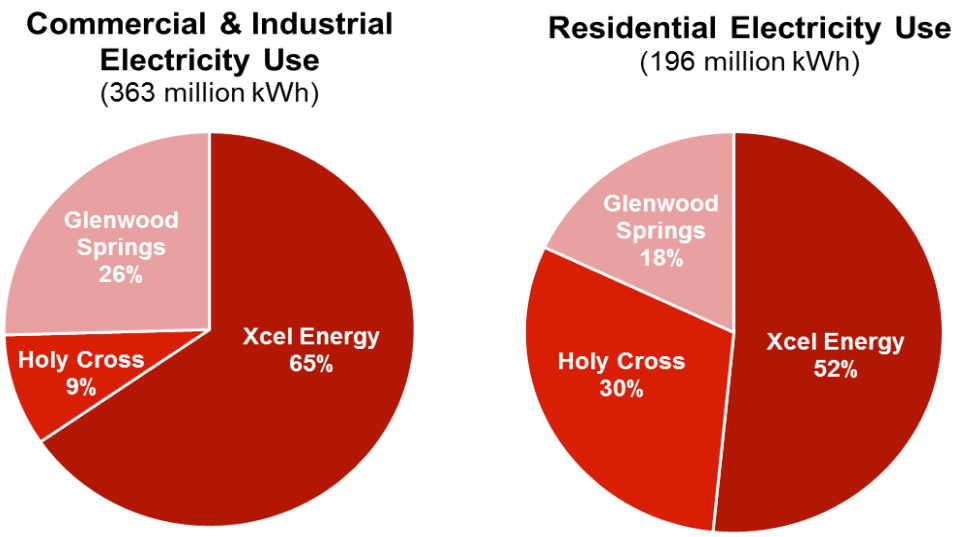


Figure 11. Electricity Use by Utility Provider in 2015

Energy use trends across the county from 2013 to 2015 have trended downward for all premise types and sectors (Figure 12). These downward trends have occurred amidst population growth coupled with a slowdown in energy production in the county. Also, contributing in some part to these reductions are success in energy efficiency initiatives and rebate programs offered throughout the county on behalf of GCE, municipalities, utilities, and others. Other factors could include economic activity and weather patterns.

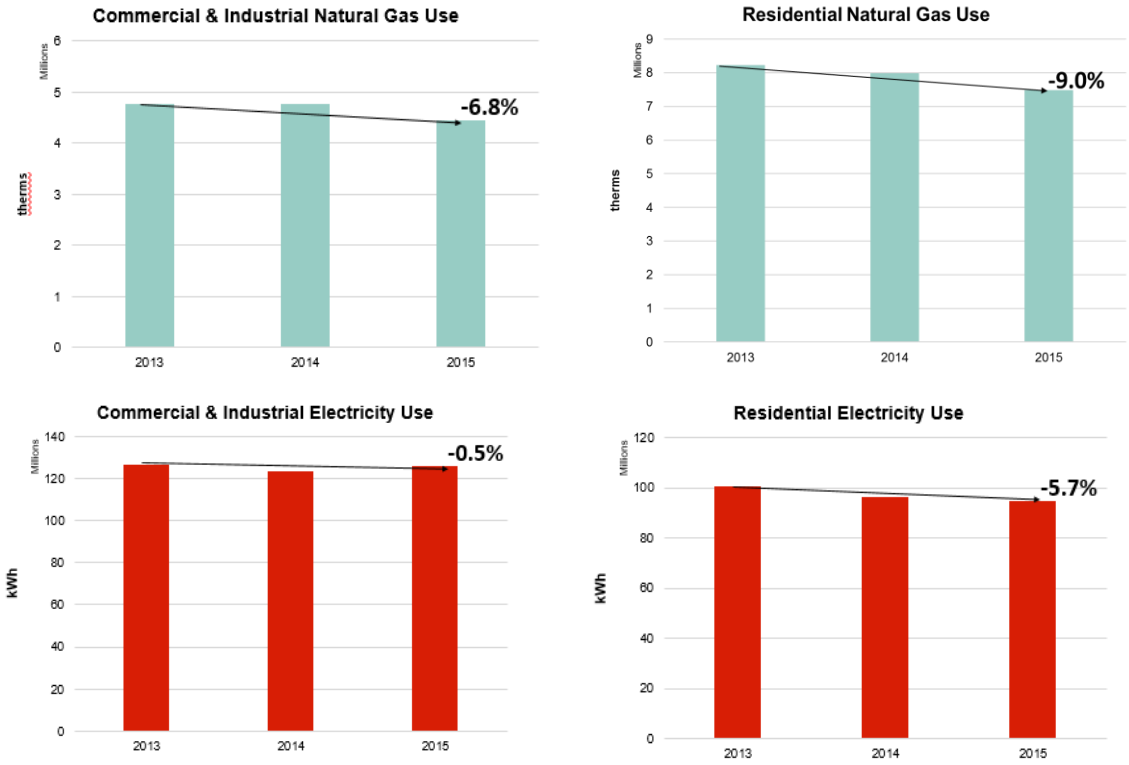


Figure 12. Energy Use Trends across Garfield County

Existing Energy and Sustainability Initiatives

Since 2009, GCE has undertaken a variety of initiatives and efforts to support sustainability in Garfield County. GCE's 2015 report detailing the results of these efforts is included in Appendix B and accomplishments through 2015 are highlighted in the summary table below.

GCE Initiatives

Goals

Use clean energy to build a stronger, more resilient, and energy-secure economy.

- Goal No. 1: Increase per capita energy efficiency by 20% by 2020, over a baseline 2009.
- Goal No. 2: Reduce petroleum fuel consumption 25% by 2020, over a baseline 2009.
- Goal No. 3: Obtain 35% of our energy from renewable sources by 2020.
- Goal No. 4: Identify and implement adequate and sustainable funding to achieve our mission.

Economic Development Results (2009-2015)

- Energy cost savings from all tallied projects: $1.8 million per year
- 279 service contractor and supplier businesses benefitting from work and product sales
- $12.5 million investment in energy efficiency and renewable energy – residential and commercial sector

Accomplishments (2009-2015)

Residential and Commercial

- 226 businesses and 609 homes have invested in upgrades to save energy: $1 million in savings to date
- $300,000 Residential Revolving Loan Fund created – 37 total loans with the loan pool recapitalized in 2015 from the private sector with additional $200,000

Government Sector

- 37 solar arrays at government facilities generating 2.1 megawatts / 3.25 gigawatt-hours per year
- 9 local government partners tracking energy use on 90 buildings saving at least $300,000 per year
- Energy performance contracting used by 5 government partners for efficiency upgrades

Transportation Sector

- 30 compressed natural gas (CNG) buses and CNG fueling station based at Roaring Fork Transportation Authority's Glenwood Maintenance Facility
- Alternative fuels: 2 public CNG stations and 20 public electric vehicle (EV) charging stations, 39 plugs
- Leadership for alternative fuels infrastructure development throughout western Colorado

Renewable Energy

- More than 7.2 megawatts total solar added to county-wide energy mix since 2009

Other notable initiatives throughout the county are listed below:

Community Energy Initiatives

Municipalities

- Town of Carbondale
  - Energy and Climate Protection Plan
    - Reduce municipal emissions by 25% by 2010
  - Carbondale Environmental Board
- Glenwood Springs
  - Climate Action Plan
  - Adopted energy efficiency standards as part of Construction Building Codes and Regulations
- Town of New Castle
  - Climate Action Plan
  - Adopted 10 environmental initiatives
- City of Rifle
  - 2.7 megawatts of installed solar powering city facilities and buildings
  - Energy Village economic development effort

Utilities

- Xcel Energy
  - Energy efficiency rebates for residential, commercial, and industrial customers (more than 1,500 customers engaged in rebates and savings of 1.7 GWh and 36,000 therms from 2015 through 2016)
  - Solar rebates
  - Partners in Energy collaboration
- Black Hills Energy
  - Energy efficiency rebates for residential, commercial, and industrial customers
  - CORE rebates and grants (Carbondale/ Glenwood Springs only)
- Holy Cross Energy
  - Energy efficiency rebates for residential, commercial, and industrial customers
  - Solar rebates
- Glenwood Springs Electric
  - Energy efficiency rebates for residential, commercial, and industrial customers
  - Solar incentives offered 2009-2016

Where Do We Want to Go?

The stakeholders at the table for planning represent a varied and dynamic county willing to collaborate for the greater good through their support of GCE and other regional initiatives. Given this commitment to collaboration and the work already under way, the GCE vision statement, revised in 2015, is a valid expression of the community's shared energy intentions. This vision is the anchor for the actions and aspirations in this plan and clearly indicates a desire to lead by example. GCE and its members are employing energy efficiency, renewable energy and alternative transportation fuels, adopting policies that expand clean energy opportunities, and engaging with organizations beyond the county boundaries to create regional clean energy opportunities.

Garfield Clean Energy Collaborative will be a national leader in using energy efficiency, renewable energy, and alternative fuels to build a strong, resilient, and diverse economy.

Goals

In 2009, GCE developed an energy inventory and identified a set of goals and strategies to move toward those goals. Partners in Energy is a way to update the original goals and strategies on the basis of the latest energy data and resources available and to bring more stakeholders to the table to enhance implementation efforts moving forward.

Throughout the planning process, the Partners in Energy planning team was rooted in realistic expectations and setting achievable goals for the best chance of success while still maintaining an ambitious outlook for the future. The planning team considered the GCE goals from 2009 as well as local utility goals and benchmarks from other regions to right-size its approach.

- **GCE's 2009 goals include increasing per capita energy efficiency by 20 percent by 2020 over a 2009 baseline, and obtaining 35 percent of energy from renewable sources by 2020.**
- **Xcel Energy's annual goals for electric and natural gas energy savings are 1.5 percent and 1.0 percent efficiency, respectively, with a projected 30 percent greenhouse gas emissions reduction by 2020.**
- **Holy Cross Energy has a reduction goal of 2.5 percent of 2017 forecasted sales.**

In addition to considering existing goals around the region and county, the planning process included examining the potential impacts of various goal scenarios to determine realistic yet ambitious targets for each focus area and an overarching goal for the plan. The overarching goal looks longer term and provides the necessary reach required to make meaningful change happen. The short-term targets are intended to be accomplished in the next 12 to 18 months and will demonstrate success and outcomes that can be augmented in future years for greatest impact.

The targets in the plan are a mix of quantifiable (e.g., percent energy reduction in municipal facilities) and qualitative (e.g., engagement with at least one oil and gas company or increased awareness in congregations) metrics. Therefore, the planning team built goals using a bottom-up process that identified potential strategies in each focus area and plotted the reduction potential versus a business-as-usual (BAU) case. By doing so, the team was able to compare different goal scenarios and the estimated level of participation and effort required for each.

For context, Figure 13 shows Garfield County's downward trend in historical total energy consumption from 2013 to 2015 compared with projected growth in total energy (which includes current levels of energy efficiency program participation), informed by the county's 2 percent forecasted annual population growth rate. When taking the average of these two factors, the result is relatively flat BAU energy use growth; therefore, a zero growth BAU assumption was used for GCE's energy and goals forecasting. The BAU is a best guess at total energy use county-wide if no additional initiatives or programs are implemented over the given period.

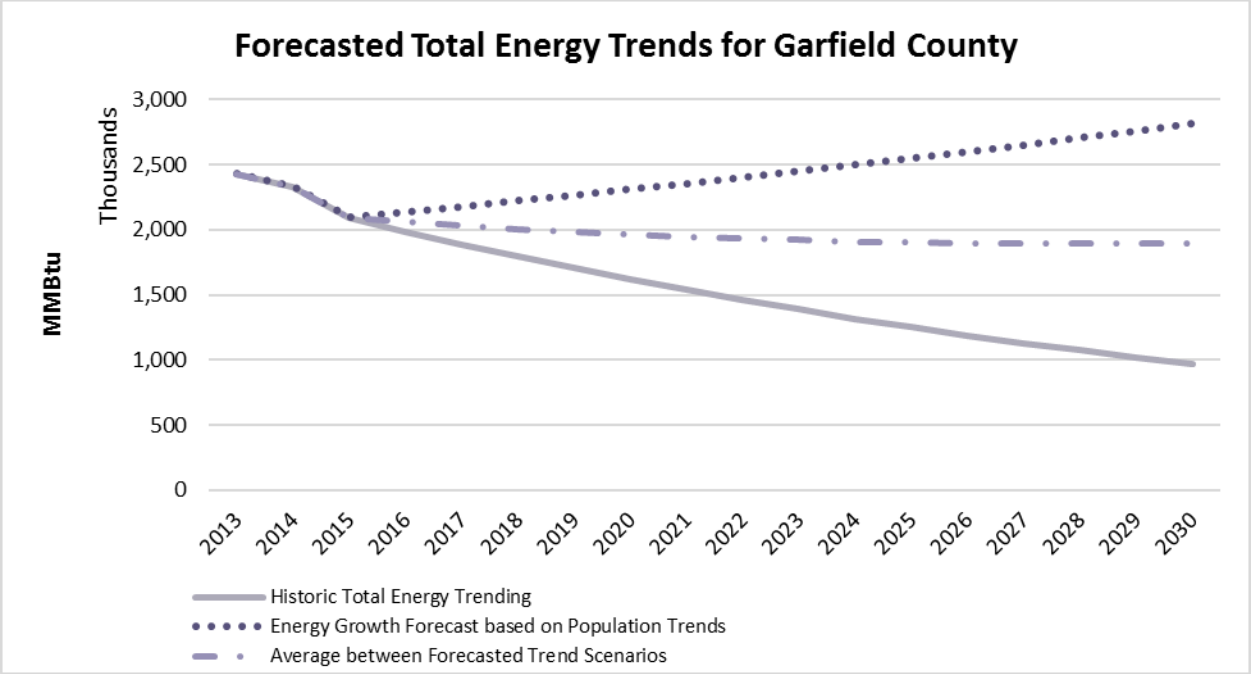


Figure 13. Forecasted Total Energy Trends

Given that the Partners in Energy team will be providing implementation assistance for an 18-month period beyond planning, Year 1 targets were identified using this period as a guide. Most of the measures use conservative estimates and seek to build capacity in addition to providing short-term assistance. It is assumed that the strategies will persist and grow over time to make progress toward the overarching goals. Partners in Energy includes program performance tracking over time and GCE will have access to annual Community Energy Reports of energy consumption as well to gauge progress and inform the annual review process.

Finally, it is acknowledged that the goals are not commitments, but rather benchmarks against which to compare progress. While the strategies have discrete targets for energy savings based largely on participation in energy savings programs, actual progress will be measured in terms of what county leaders think is most important at the time. To that end, energy savings and renewable generation goals are supplemented with qualitative goals that have more to do with education and sharing information rather than measured energy savings.

The following overarching goals were developed for Garfield County:

- **By working diligently to implement the strategies identified, the county aims to achieve 20 percent energy conservation over the 2015 baseline by 2030.**
- **Continuing to work with local, regional, state, and federal collaborators, the county aims to obtain between 35 and 50 percent of energy from renewable sources by 2030.**
- **GCE and its partners will work diligently to affect the conversation to advance renewable energy alternatives and infrastructure in a meaningful way that positively affects energy resiliency and the economy of the county and region.**

The nature of this plan and process is to set achievable milestones each year that:

- Keeps collaborators engaged and committed.

- Includes an annual review process that evaluates progress.
- informs adjustments to strategies and targets as needed.
- Continually accounts for changes in technologies, policies, and economic factors over time that will affect progress toward the overarching goals.

The bottom-up **milestones identified for Year 1 are estimated to produce 1 percent annual energy conservation county-wide**. See strategy tables later in the plan for more details. This effort will necessarily be increased each year thereafter in addition to year 1 progress to move the needle on the overarching goals. Figure 14 shows the BAU forecast for Garfield County in comparison to GCE's 20 percent energy conservation goal by 2030 and Xcel Energy's conservation goal.

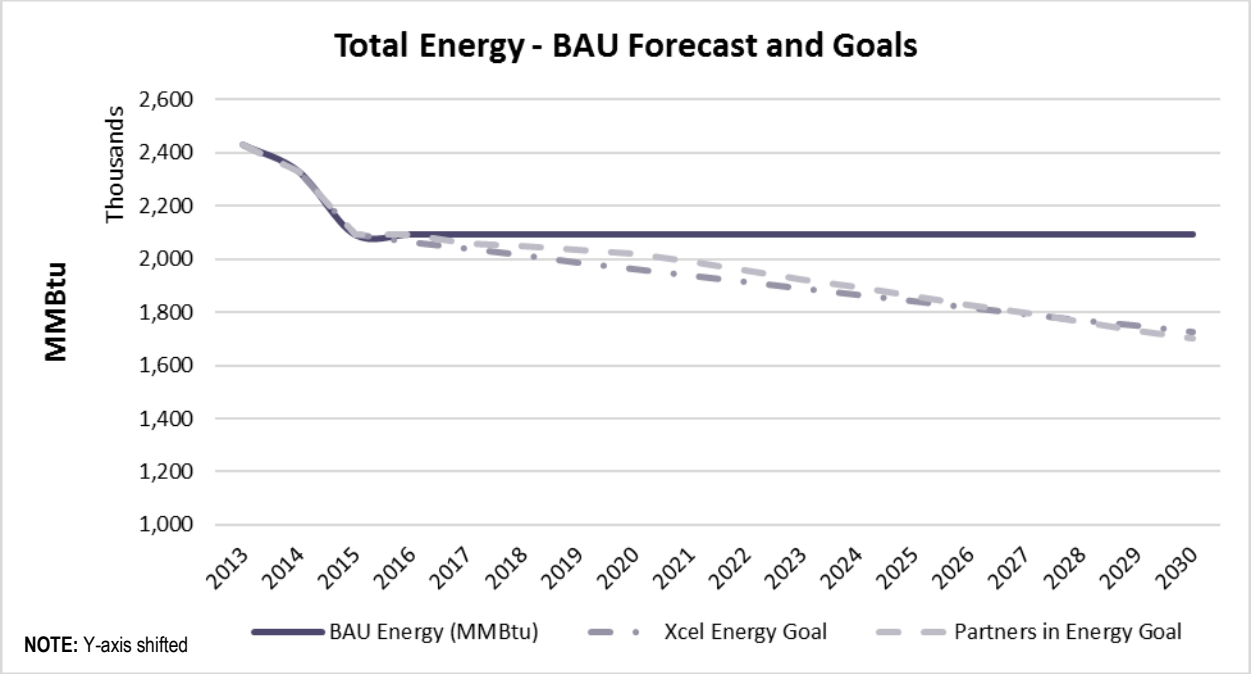


Figure 14. BAU Forecast and Goals Comparison

Achieving these Year 1 targets has the potential to reduce Garfield County's carbon footprint in 2017 by 7,100 metric tons of carbon dioxide equivalent (MTCO2e), approximately equivalent to the carbon emitted from 1,500 passenger vehicles driven per year.[9] This emissions reduction also includes Xcel Energy's reduction goals for its power supply through 2030.

[9] Greenhouse Gas Equivalencies Calculator (https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator)

The renewable energy goals identified in this plan are illustrated through greenhouse gas emissions reductions and are shown in Figure 15 below.

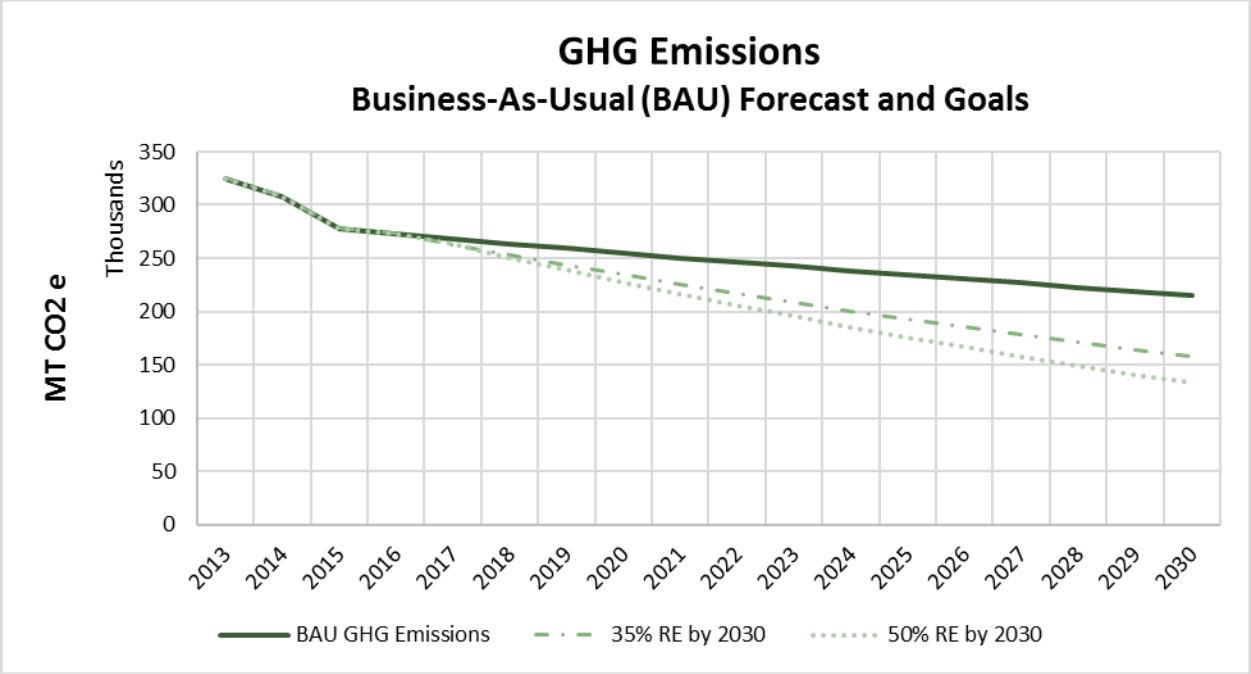


Figure 15. Renewable Energy Forecast and Goals

How Are We Going to Get There?

The planning team identified six focus areas around which meaningful strategies were developed to move the county forward. The rationale behind the focus areas was built on the basis of baseline utility data, local priorities and needs, existing programs and initiatives that are working well in the region, identified opportunity gaps, and a view for what might be possible.

The six focus areas that help organize this plan are outlined below:

1. Commercial/Industrial/Agricultural
2. Residential
3. Public Institutions
4. Renewable Energy
5. Innovative Design and Construction
6. Policy and Institutional Frameworks

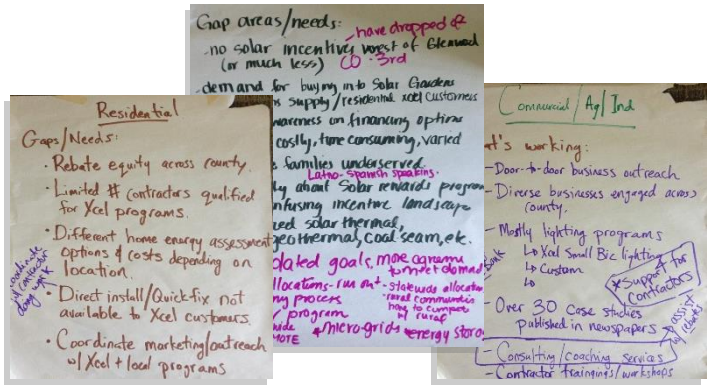


Figure 16. Focus Area Storyboarding

To address these focus areas, this plan outlines actionable strategies, or specific actions, that GCE and its partners plan to take to achieve the goals and targets stated in this plan. The planning team developed these strategies by examining energy data, brainstorming and prioritizing possible actions, considering existing programs and opportunities, and assessing the potential impacts compared to the identified goals. To support this conversation and to inform the decision making around strategies, the planning team developed a matrix of existing utility and locally offered efficiency programs, historic participates rates, areas of influence and impact, and gaps in

offerings. This matrix is included as Appendix A. One result of developing the matrix was broader view of what is available in the county as well as what is working well and what can be improved or enhanced for greater outcomes. This analysis helped drive the strategies and targets outlined in this plan.

Each strategy has its own specific action plan that identifies leadership, collaboration, resources and/or needs, implementation steps and a timeline, and metrics for tracking progress. While Xcel Energy is committed to providing resources to support 18 months of implementation, the full implementation of many of the strategies is dependent upon the level of resources and commitments made by GCE and its implementation partners and the longer-term vision for the county. Note that the following strategy tables describe actions to take in the 18-month implementation period. Longer-term actions per strategy, beyond the 18-month implementation period, are detailed in Appendix E.

Focus Area 1: Commercial/Industrial/Agricultural

In 2015, customers in this focus area accounted for approximately 62 percent of total electricity use in the county and 33 percent of natural gas use. Work in this area will build on the success of the available commercial programs in the county and the efforts of more than 330 businesses that by 2015 have undertaken energy efficiency improvements with a target to engage critical businesses that have not participated in efficiency efforts historically. These critical businesses, such as oil and gas producers, can improve their bottom line while helping the county reach its energy efficiency goals. Moreover, a robust program that helps all commercial, industrial, and agricultural users in the county will stimulate local economic development. Given the varied nature of commercial entities in the county, several strategies were designed to increase small business participation, engage large industrial businesses for the long term, and provide resources for the evolving agricultural sector (e.g., marijuana producers).

Strategy 1: Increase Energy Efficiency in Businesses throughout the County

Description

Building on the success of existing programs, engage businesses to implement energy efficiency improvements and grow participation county-wide. A foundational component of this strategy is to foster GCE and county utility collaboration to make it easier for all businesses to implement energy efficiency improvements through increased access and visibility to available programs.

Targets

Short Term (Year 1)

- Double historic participation in key Xcel Energy and Holy Cross Energy commercial rebate programs
- Triple average participation in key Xcel Energy programs
  - ✓ Commercial Refrigeration Efficiency
  - ✓ Small Business Lighting
  - ✓ Building Tune-up
- Maintain current participation rates for City of Glenwood Springs electric customers
- Increase number of Xcel Energy certified contractors to support efficiency projects in the county

Implementation Steps and Timeline

Short Term (Year 1)

- Leverage Glenwood Springs contractor EXPO to raise awareness among contractors about all available programs and how to take advantage of advising through CLEER

- Convene strategy team that includes GCE, Xcel Energy, Holy Cross Energy, and City of Glenwood Springs Electric Department
- Design collaborative education and outreach approach and materials with Xcel Energy and Holy Cross Energy for both trades and target businesses that could include CLEER coaching, emails, education events, program blitzes, etc.
- Determine common conduit for program communication
- Confirm target rebate programs and identify corresponding business sectors with greatest potential
- Work with Xcel Energy and Holy Cross Energy to identify limited time offers or special promotions for targeted commercial rebate programs
- Deliver outreach, engage customers, and begin to implement projects

Responsible Parties

- Local strategy lead – GCE
- Xcel Energy's Partners in Energy and DSM program staff
- Holy Cross Energy program staff
- Trade and business association liaisons

Measurement

Metrics

- Xcel Energy and Holy Cross Energy program participation data
- Workshop or event attendance
- CLEER contacts, outreach, and project tracking from SalesForce (i.e., tracking the number of contacts made in addition to completed projects)

Strategy 2: Catalyze Energy Savings by Industrial Energy Users

Description

Engage industrial energy users, encourage them to participate in existing utility rebate programs, and encouraging them to set energy efficiency goals. These customers could see the greatest economic benefit of lower energy costs and have the greatest impact on county-wide energy efficiency targets.

Targets

Short Term (Year 1)

- Identify and engage one oil and gas company in efficiency improvements (one Xcel Energy Process Efficiency project or combination of other relevant projects) with a target goal of 5 percent energy reduction for the business

Implementation Steps and Timeline

Short Term (Year 1)

- Convene strategy team consisting of GCE, Xcel Energy, and West Slope Colorado Oil & Gas Association
- Leverage Xcel Energy key accounts, oil and gas industry networks, and local liaisons to reach out to decision makers and encourage participation in efficiency

- Attend industry or association meetings to present opportunities/benefits and offer support for enrolling in a getting started
- Work with industry liaison to advocate for participation within the industry and offer credibility to effort
- Guide at least one oil and gas customer through project identification and implementation

Responsible Parties

- Local strategy lead – GCE
- Xcel Energy's Partners in Energy, key accounts, and program staff
- West Slope Colorado Oil & Gas Association

Measurement

Metrics

- Xcel Energy program participation data
- Key customer engagement

Strategy 3: Create Targeted Programs for Agricultural Energy Users (outdoor and indoor)

Description

Design and launch an energy efficiency/water efficiency program targeting indoor and outdoor agricultural energy users. For indoor growers, proprietary information and legal uncertainty at the federal level create uncertainty that could be addressed. For outdoor growers, timing and seasonality can be a barrier to participation if not targeted to match slower seasons.

Targets

Short Term (Year 1)

- Partner with Colorado State University Extension and Garfield County Public Health to develop content and outreach for a workshop on resource efficiency measures for indoor agriculture operations, particularly marijuana producers
- Develop a database of agricultural energy users and engage them with energy efficiency options, incentives, and coaching

Implementation Steps and Timeline

Short Term (Year 1)

- Develop workshop on resource efficiency for agricultural producers working with local and state partners (Colorado State University Extension, Garfield County Public Health, Colorado Water Conservation Board, USDA/NRCS, etc.) to include topics such as the following:
  - ✓ Best practices, technologies, energy efficiency opportunities, and available resources for grow houses
  - ✓ Irrigation efficiency, how to get an irrigation assessment, pump savings opportunities, and where to find resources to finance improvements for agricultural producers

  - ✓ Renewable energy opportunities
  - ✓ Funding opportunities, including USDA grants, Colorado Water Conservation Board grants, C-PACE financing
- Identify additional potential funding sources, such as USDA grants/loans, Colorado Water Conservation Board grants, C-PACE financing, etc.
- Hold Workshop in June
- Develop and maintain an up-to-date resource list
- Follow up with energy coaching to agricultural producers (CLEER or Colorado Energy Office coaching) and assist with connecting agricultural producers with resources available

Responsible Parties

- Local strategy lead - GCE/CLEER
- Colorado State University Extension
- Colorado Energy Office in partnership with Cultivate Energy
- Xcel Energy's Partners in Energy and program staff
- Holy Cross Energy program staff
- USDA/NRCS - Glenwood Springs office
- Garfield County Public Health

Measurement

Metrics

- Number of workshop attendees
- Number of completed projects

Strategy 4: Promote Use of C-PACE and Other Financing Tools

Description

Actively work to ensure energy efficiency and renewable energy contractors are trained on C-PACE; maximize the number of contractors registered with the state program; and promote the use of C-PACE to property owners, agricultural users, multi-family housing, low-income housing organizations, franchises, and governments. This effort also will involve identifying areas and conditions where the C-PACE tool does not work well working and developing/promoting additional financing tools.

Targets

Short Term (Year 1)

- Organize and hold regional SRS C-PACE training for contractors in early 2017 to encourage them to become registered to use C-PACE throughout the region
- Identify and actively support one C-PACE participant

Implementation Steps and Timeline

Short Term (Year 1)

- Fully publicize and hold regional contractor training with SRS as trainer and working in partnership with neighboring counties to maximize attendance and visibility
- Offer C-PACE information and training at Glenwood Springs contractor EXPO

- Develop materials and conduct outreach to potential C-PACE users and work with chambers and other partners to include in appropriate channels
- Identify at least one early adopter property and C-PACE user and actively support its efforts to use C-PACE
- Identify potential local lender(s) willing to undertake projects less than $50,000
- Hold a meeting among CLEER, CEO, ESC, SRS, and potential local lenders to discuss lending products
- Encourage early adopter property to finalize C-PACE financing and share outcomes, and publicly recognize early adopter as community leader through media platforms (i.e., newspaper accolades, website recognition, etc.)

Responsible Parties

- Local strategy lead - GCE
- SRS
- About Saving Heat
- Colorado Energy Office
- Chambers of Commerce

Measurement

Metrics

- Number of workshops and attendees
- Number of potential users contacted
- Number of completed C-PACE projects

Focus Area 2: Residential Energy Use

Residential energy use accounted for 34 percent of electricity use and 64 percent of natural gas use county-wide in 2015. This focus area builds on the successes to date (see Appendix B) for low income households to maximize efficiency. In Garfield County, helping households cut energy expenses is especially important in a region that faces affordable housing challenges, giving families more disposable income for other important priorities. Ongoing collaboration among county utilities and GCE, fostered in this focus area, will make it easier for all households to participate in efficiency improvements, use innovative financing and incentive programs, and support a sustained effort to reach the efficiency goals county-wide.

Strategy 5: Boost Efficiency in Residential Sector

Description

Increase energy efficiency in the residential sector throughout Garfield County by targeting underserved populations and building on programs and successes to date to maximize efficiency. A foundational component of this strategy is to foster GCE and county utility collaboration to make it easier for all residents to implement energy efficiency improvements through increased access and visibility to available programs.

Targets

Short Term (Year 1)

- Increase historic participation in Xcel Energy and Holy Cross residential programs, especially in western areas of the county (New Castle, Silt, Rifle, and Parachute), by 25 percent

- Maintain participation rates for City of Glenwood Springs customers
- Increase participation in the following key Xcel Energy programs
  - ✓ Home Energy Squad®
  - ✓ Energy Home Audit
  - ✓ Residential Heating
  - ✓ Evaporative Cooling
  - ✓ Single family Weatherization
  - ✓ Refrigerator Recycling
  - ✓ Saver's Switch
- Continue CARE program
- Engage at least one congregations in a focused program to reach residential customers
- Enroll one multifamily complex in the Multifamily Buildings Program

Implementation Steps and Timeline

Short Term (Year 1)

- Develop partnered outreach materials for key programs (such as Xcel Energy's Home Energy Squad) and a mail/media campaign with offerings tailored to Garfield County households
- Coordinate with Xcel Energy to offer local trainings and workshops for contractors to become part of Xcel Energy's Trade Partner program
- Develop outreach for congregations
  - ✓ Identify best programs and resources to share
  - ✓ Develop content for presenting to congregations
  - ✓ Solicit congregant champions willing to lead from the inside and partner
  - ✓ Present opportunities, build home efficiency kits, and establish process for follow-up

Responsible Parties

- Local strategy lead - GCE
- Xcel Energy's Partners in Energy and program staff
- Holy Cross Energy program staff
- Black Hills Energy program staff
- Local congregant champions and organizations
- School district liaisons

Measurement

Metrics

- Utility participation data
- Contractors signed up for trainings
- Congregants receiving presentations

Focus Area 3: Public Institutions

Maximizing energy savings and tapping energy innovations in municipal and government facilities demonstrates efficient use of tax-payer funds, ensures local governments are leading by example on

resource efficiency, and is an important part of regional economic resilience. While this focus area only accounts for about 3 percent of total electricity and natural gas use in the county, efforts at this level are important in demonstrating to the broader county community that energy efficiency and renewable energy make good economic sense. In addition, there is a strong framework that already exists within the public-school sector that has the potential to be refreshed and expanded.

Strategy 6: Lead by Example at Municipal and Government Facilities

Description

Increase government and institutional participation in energy efficiency and renewable energy opportunities through sustained commitment to demonstrating and sharing successes about the benefits of action-oriented energy stewardship. These efforts will build on GCE's existing data-driven energy management program to conduct benchmarking and data analysis for additional energy and cost savings to support better informed decision making and operational changes.

Targets

Short Term (Year 1)

- Reduce energy use by 10 percent in year-1 (2015 baseline) through strategic energy management, energy monitoring, and operational changes in participating facilities
- Encourage all public entities operating within Garfield County to adopt building energy targets and energy management policies

Implementation Steps and Timeline

Short Term (Year 1)

- Collaborate with utilities and regional and/or state partners to create training and outreach materials to build resource conservation champions in local municipalities
- Explore how to create enduring regional resource conservation program approach
- Build leadership and knowledge of data-driven energy management through at least one workshop and/or event
- Share successes on energy savings at government and education institutions via case studies and media

Responsible Parties

- Local strategy lead - GCE
- Municipal liaisons

Measurement

Metrics

- Municipal utility data monitoring and individual targets
- Utility participation data

Strategy 7: Engage Schools and Educational Institutions

Description

Engage schools and educational institutions to become more energy efficient, serving as demonstrations of energy best practices for students and the community while exhibiting stewardship of tax-payer dollars. Schools are an important community asset and a unique subset within the

commercial sector that can be addressed with training and education, awareness, benchmarking, and student engagement. Addressing energy use positively affects the bottom line for schools, which frees up resources for other important educational endeavors.

Targets

Short term (Year 1)

- Encourage all educational entities operating within Garfield County to lead by example by adopting building energy targets and energy management policies

Implementation Steps and Timeline

Short Term (Year 1)

- Engage school board members and provide economic benefits of energy monitoring, energy efficiency projects and initiatives, and systems optimization
- Share successes to date on energy savings at education institutions via case studies and media
- Train school district facility managers to interpret and use data for local energy management

Responsible Parties

- Local strategy lead - GCE
- School district liaisons

Measurement

Metrics

- Municipal utility data monitoring
- School district data monitoring
- Utility participation data

Focus Area 4: Renewable Energy

As the county continues to grow in population and demand for energy matches that growth, it becomes more important to look toward generating renewable energy in order to have a more robust and resilient community and economy. Advancing renewable energy requires an understanding of need, capacity, innovation, and policy that removes barriers and encourages investment and participation throughout the county. Residents, businesses, and utilities have a role in accelerating the adoption of solar and other viable renewable energy options over the coming years.

Strategy 8: Accelerate Residential and Commercial Solar Adoption

Description

Expand opportunities for community-owned solar, including options for residential and small business energy customers to participate.

Targets

Short Term (Year 1)

- Offer and share streamlined information to potential solar customers
- Identify consistent metrics and existing installed capacity as a baseline and set a goal for both short and long term increased capacity

Implementation Steps and Timeline

Short Term (Year 1)

- Develop a better understanding of current participation rates and barriers to learn what is working or not for solar adoption across market sectors
- Gather information about available on-site and community solar opportunities, eligibility requirements, cost, and benefits
- Work with Xcel Energy and Holy Cross Energy to develop outreach materials (e.g., web and print) of the latest renewable energy options for customers that include eligibility and schedule requirements, help quantify estimated cost/benefits, outline the process, and include contacts information for questions or contractors
- Pursue additional community solar options in Garfield County to offer community solar to residential and commercial customers

Responsible Parties

- Local strategy lead - GCE
- GCE partner liaisons
- Xcel Energy program staff
- Holy Cross Energy program staff

Measurement

Metrics

- Installed on-site solar capacity

Strategy 9: Advance Utility-scale, Regionally-produced Renewable Energy

Description

Work to enable and encourage locally-produced renewable energy through existing utility structures as well as innovative community renewable energy models.

Targets

Short Term (Year 1)

- Propose a strategic renewable energy implementation investment plan to partners

Implementation Steps and Timeline

Short Term (Year 1)

- Hold a renewable energy workshop in 2017 to present all potential renewable energy options and promote support in the county
- Pursue next steps on policy issues identified in the planning process and from the renewable energy workshop, including virtual net metering and incentive for utility acceptance of power from small hydro systems
- Create a strategic renewable energy implementation and investment plan

Responsible Parties

- Local strategy lead - GCE

Measurement

Metrics

- New kW installed
- County energy consumption compared to baseline
- Other alternative energy applications
- Workshop recommendations
- Increase of renewables in utility energy supply mix

Focus Area 5: Innovative Design and Construction in All Sectors

Along with improvements to existing buildings and facilities, the county and region is expecting growth in new homes and businesses over the coming decades. By ensuring that new buildings and facilities are built to the highest energy efficiency standards, those facilities will have a smaller impact on overall energy use than buildings constructed today. When housing is built in an energy efficient manner, the housing stays more affordable over time.

Strategy 10: Build in Efficiency and On-site Renewables from the Start

Description

Engage builders, developers, home owners, and contractors early and often to raise awareness about building efficiency best practices, energy code requirements and improvements, programs that enable higher performing buildings from the outset, and the benefits of efficient buildings and operations.

Targets

Short Term (Year 1)

- Begin conversation with local officials and building department officials to improve building codes county-wide
- Provide contractor training on building efficiency, high performance design, and innovations to share information and raise awareness

Implementation Steps and Timeline

Short Term (Year 1)

- Hold annual contractor expo
- Convene group of elected officials/building department officials to discuss development and improved building energy codes
- Offer a training on high performance design and organize a tour of example buildings

Responsible Parties

- Local strategy lead - GCE
- Regional liaisons
- Colorado Energy Office

Measurement

Metrics

- Attendees at annual contractor expo

Focus Area 6: Policy and Institutional Frameworks

State and local leadership and policies have played an essential role in energy efficiency and renewable energy gains in Garfield County to date. This plan identifies short-term goals and actions that will enable the county to make continuous progress, to share successes, and to engage greater numbers of its population in energy efficiency and renewable energy alternatives. It also offers a forum and framework for looking beyond the short term − being visionary and influencing local, regional, state, and even national conversations and efforts to increase investment, innovation, and policy in ways that better serve the needs of everyone.

Strategy 11: Strengthen State, Regional, and Local Policies and Funding Sources to Accelerate Energy Efficiency and Renewable Energy

Description

Address local and state policy improvements, diversified and expanded funding sources, and institutional frameworks to enable community growth in energy efficiency and renewable energy. Partnerships among local utilities and local and state leadership will be foundational to foster this change over the long-term.

Targets

Short Term (Year 1)

- Engage with state networks and champions to identify and jointly work on policies that enable community progress in energy efficiency and renewable energy

Implementation Steps and Timeline

Short Term (Year 1)

- Develop concept for pilot program to access a percentage of demand-side management funds for locally-tailored energy programs
- Propose data-gathering improvements for tracking renewable energy and efficiency gains

Responsible Parties

- Local strategy lead - GCE

Measurement

Metrics

- Positive policy outcomes

How Are We Going to Stay On Course?

Operational Actions and Tracking

During the 18-month implementation there will be a significant amount of work developing and launching the strategies that are intended to result in energy impacts for Garfield County. The targets in the plan are milestones toward progress and are not binding or static. As the implementation period progresses, some of the targets will be surpassed while others may fall short. Unforeseen barriers may arise while unexpected opportunities may as well, including technology breakthroughs and policy shifts. GCE is positioning itself to make progress based on expectations that are deemed realistic with responsibilities outlined and individuals committed to lead the efforts. As the implementation period gets underway, GCE will ensure that the results of the many strategies are monitored and communicated in order to quantify the benefits where possible and provide qualitative examples of the community taking action.

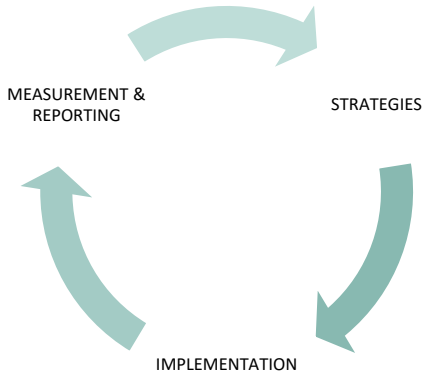


Figure 17. Operational Actions and Tracking Process

The planning team will continue to meet every 6 months through 2018 to share progress, make course adjustments, and offer recognition and support. In addition, strategy sub-teams will meet regularly to flesh out the details of implementation and carry through on identified actions. A representative from each of the strategy teams will be present at the 6-month planning team meetings to share progress, successes, and challenges.

Xcel Energy will provide participation data tracking on a bi-annual basis, along with annual energy use through its community energy reports. In addition, the Partners in Energy team will track qualitative efforts, such as event attendance and educational opportunities, to corroborate progress toward goals.

Additionally, this plan and its strategies and targets will be reviewed and updated annually and new short-term targets will be established to ensure good progress toward longer-term goals.

Communication and Reporting

To maintain enthusiasm and momentum for achieving the goals set out in this plan, residents, businesses, and community groups must be engaged in the process. GCE (and its municipalities and other planning team representatives, to the extent applicable) will share progress updates via their websites, social media outlets, and periodic press releases.

Changing Course: Corrective Action

Even though this Energy Action Plan is designed for greatest impact over the next 18 months, the residual effect and momentum gained by reinforcing initiatives, developing collaborative networks, expanding business programs, and leveraging channels for information and resources will be cyclical and will have long-term positive implications. In addition, the nature of implementation requires staging, flexibility, and course adjustments when necessary to be successful and experience sustained progress.

To accommodate the fluid nature of action and implementation and learn from experience early in the process, regularly scheduled core team meetings as well as the bi-annual planning team meetings will be a forum for agreeing on course adjustments or new approaches necessary to hit plan targets.

Any adjustments will be documented and shared with the broader group as they occur.

Recognition for Achieving Goals

Each of the strategies outlined in this plan has its own methods for measuring and recognizing success; however, it will be important to let the wider community know how things are progressing and also to recognize the collaborative efforts of those involved in hitting the plan targets. At critical milestones, GCE and Xcel Energy will publish updates on progress, share successes, and congratulate participants and partners through GCE's website.

Appendix A: Matrix of Programs Available in Garfield County

Summarized below are the programs offered (through utilities and other organizations) in Garfield County and the municipalities in which they are offered to residents, businesses, and governments. Note: E = electric customer, G = natural gas customer.

Residential

Programs	Description	2015 Participants	Carbondale	Glenwood Springs	New Castle	Parachute	Rifle	Silt	Battlement Mesa
Xcel Energy									
Single-family Weatherization	Income qualified program that provides free weatherization services (i.e., installing insulation, replacing inefficient furnaces etc.).	165	E		E/G	E/G	E/G	E/G	E
ENERGY STAR® New Homes	New homes under construction can receive free home performance testing, inspections and consulting services to help meet the ENERGY STAR guidelines set by the U.S. Environmental Protection Agency. We conduct regular site inspections and arrange an independent inspection at completion to ensure new homes meet all requirements.	4			G	G	G	G	
Evaporative Cooling	Residents save money on evaporative cooling system purchases and monthly energy bills compared to central AC. Qualifying equipment and installations may earn between $200 and $1,200 in cash rebates.	54	E		E	E	E	E	E
High Efficiency Air Conditioning	Rebates for replacing or updating qualified energy-efficient cooling systems using the latest cooling technology.	0	E		E	E	E	E	E
Home Energy Audit	Offers savings on three levels of in-home energy audits (i.e., standard audits, audits with a blower door, and infrared audits). Customers pay the auditing company the total audit cost up front, and we'll provides a rebate valued at 60% of the audit price, up to $200.	2	E		E/G	E/G	E/G	E/G	E
Home Performance w/ ENERGY STAR®	Covers home renovations/ additions instead of new construction. Program offers rebates for improvements to homeowners using participating contractors.	1	E		E/G	E/G	E/G	E/G	E
Insulation & Air Sealing	Well insulated homes can save up to 20% on heating and cooling costs. Insulation upgrades by a BPI-certified contractor may be eligible for cash rebates of 30% of the job	1	E		E/G	E/G	E/G	E/G	E

	cost, up to $500.								
Multi-family Building Pilot (2017)	Pilot program that includes energy assessment, direct-install of energy savings measures, and support for custom projects.	--	E		E/G	E/G	E/G	E/G	E
Refrigerator Recycling	Xcel Energy willpick up working fridges or freezers and recycle them, free of charge. Residents who recycle also get a $50 cash rebate for their unit.	23	E		E	E	E	E	E
Residential Heating	Qualifying natural gas furnaces are eligible for $120 for each qualifying furnace. Electric service customers can qualify for an Electronically Commutated fan Motor (ECM) rebate of $100. These rebates may be given together or separately.	9	E		E/G	E/G	E/G	E/G	E
Saver's Switch	Customers enroll in the program to have a switch installed cycles A/C off and on during certain peak energy usage hours. Customers are then eligible for credits on electricity bills.	77	E		E/G	E/G	E/G	E/G	E
School Education Kits	Program designed to teach 5th and 6th graders about energy efficiency.	0	E		E/G	E/G	E/G	E/G	E
Water Heating	Qualifying water heaters can earn cash rebates including natural gas standard tank and tankless water heaters as well as electric heat pump water heaters.	4	E		E/G	E/G	E/G	E/G	E
Solar* Rewards® for Residences	Residents can receive incentives for installation of photovoltaic (PV) solar panels.	0	E		E	E	E	E	E
Windsource® for Residences	Residents can purchase renewable energy through Windsource. Subscriptions start at just $2.16 per month, for one, 100 kilowatt-hour block.	0	E		E	E	E	E	E
Holy Cross Energy**									
Air Sealing	Implement air sealing and weather stripping for whole house (attic and basement/crawlspace). Lesser of 30% of project cost or $400 max. Bonus available for achieving 25%+ air leakage reduction.	1	E			E			E
Evaporative Cooling	Replace central A/C system, or install new if no prior swamp cooler, with installed direct, indirect, or two-stage evaporative cooling unit.	0	E			E			E
Holiday Light Recycling	Recycle incandescent holiday lights for $2/string with a limit of 50 strings.	5	E			E			E

Insulation	Install attic insulation, floor insulation, exterior wall insulation, and foundation insulation.	1	E			E			E
Lighting	Replace incandescent, halogen, or T8/T12 fluorescents for lesser of 50% of cost of LED or $5/LED max.	28	E			E			E
Programmable Thermostats	Replace a non-programmable thermostat containing mercury for lesser of 50% of project cost or $20 max.	8	E			E			E
Refrigerator and/or Freezer Recycling	Replace a 15+ year old model still in working condition and between 10 and 30 cubic feet in capacity for $75 incentive.	53	E			E			E
Electric Heat Pump Water Heater	Replace an electric water heater for lesser of 30% of project cost or $300 max.	1	E			E			E
Windows & Sliding Glass Doors	Replace existing single pane, aluminum frame windows 25 years+ for the lesser of $2 per square foot of finished window area or $600 max.	0	E			E			E
Solar Livestock Water Tank	Replace an electric heated water tank used all winter long for lesser of 50% of solar tank or $250 max.	1	E			E			E
Black Hills Energy									
Water Heating	Only applies to natural gas water heating. Storage: $75 Tankless: $300	---	G	G					G
Space & Water Heating	Integrated space/ water heater: $500 Multi-zone pstats: $450	---	G	G					G
Forced Air Furnaces & Boilers	Furnace: $400-600 (depending on efficiency) Boiler: $400-$600 (depending on efficiency) Duct/ repair sealing: 70% cost up to $300	---	G	G					G
Pstats & Furnace/ Boiler Maintenance	Pstat: up to $50 (self-install vs. contractor install) Wi-fi pstat: up to $50 Furnace/boiler maintenance: up to $50 Maintenance pstat combo: up to $150	---	G	G					G
Envelope	Home energy evaluation required. Includes ceiling insulation, wall insulation, foundation insulation, rim/band joist insulation, duct repair sealing, and thermal door or ENERGY STAR.	---	G	G					G
New Construction	See rebates for heating, water heating, envelope. HERS rating: $100.	---	G	G					G
Glenwood Springs Electric									

Home Energy Assessments	Residential customer pays $100 and includes free energy coaching.	27		E					
Efficiency Rebates	Insulation, weatherization, air sealing, water and electric saving measures.	11		E					
LED Lighting rebates	50% up to $200 rebate available.	27		E					
Appliance rebates	Dishwashers ($50), clothes washers ($75), and refrigerators ($100).	152		E					
Solar Rebates	Rebates for solar PV installed by residential customers. Offered on a first-come, first-served basis. $0.75 per watt up to 6 kilowatts ($7,500). In 2015, total of 54.9 KW installed. Nine homes installed solar, seven received rebates.	7		E					
Garfield Clean Energy									
Residential Revolving Loan Fund	37 loans total by end of 2015.	15	E/G	E/G	E/G	E/G	E/G	E/G	E/G
Residential Energy Consulting	Energy consultants provide guidance on utility programs available and assist with reviewing bids and applying for rebates.	205	E/G	E/G	E/G	E/G	E/G	E/G	E/G
CARE	Energy consultants perform home energy visit, coordinate all work with contractors, and apply for utility reimbursements. This is income-qualified.	148	E/G	E/G	E/G	E/G	E/G	E/G	E/G
Green MLS	Grant from CEO to promote Green MLS in 2016 and offer rebates for Home Energy Score during assessment. Numbers available by end of 2016.	---	E/G	E/G	E/G	E/G	E/G	E/G	E/G

Commercial

Programs	Description	2015 Participants	Carbondale	Glenwood Springs	New Castle	Parachute	Rifle	Silt	Battlement Mesa
Xcel Energy									
Business Energy Analysis	Assessment program that offers businesses online energy assessments, onsite audits, and engineering assistance studies.	0	E		E/G	E/G	E/G	E/G	E
Commercial Refrigeration Efficiency	Free program that provides key findings and cost-saving recommendations as well as providing/ installing products (i.e., screw-in LEDs or pre-rinse sprayers).	2	E		E	E	E	E	E
Compressed Air Efficiency	Identifies energy and money saving improvements for compressed air systems.	0	E		E	E	E	E	E
Computer Efficiency	Rebate program for businesses that purchase qualifying energy efficient equipment, such as thin clients or PC power management software	0	E		E	E	E	E	E
Cooling Efficiency	Rebate program for the purchase of qualifying high efficiency cooling equipment	0	E		E	E	E	E	E
Custom Efficiency	Rebate program requiring preapproval that offers rebates up to $400/kW of electricity saved after the installation of a wide variety of equipment	0	E		E/G	E/G	E/G	E/G	E
Data Center Efficiency	This program has two components. The first is an energy study that evaluates existing or planned data centers and recommends energy savings and provides cost and rebate estimates. The second component is a rebate program for implementing measures identified in the energy study or installing other preapproved equipment.	0	E		E	E	E	E	E
Energy Feedback Business	This program provides business customers online feedback about their energy consumption.	0	E		E/G	E/G	E/G	E/G	E
Energy Management Systems	Rebate program for businesses that either install a new EMS or upgrade an existing one. This includes Energy Information Systems.	1	E		E/G	E/G	E/G	E/G	E
Heating Efficiency	Rebate program that can cover up to 75% of the costs of a project that increases natural gas heating efficiency.	2			G	G	G	G	
Lighting – Small Business	Free assessment program for small businesses. Provides recommendations to increase lighting efficiency (also includes some direct installation).	18	E		E	E	E	E	E

Lighting Efficiency	This is a large program that offers lighting redesign studies as well as a variety of rebates, including new lighting construction and retrofits	13	E		E	E	E	E	E
Motor & Drive Efficiency	Rebate program for installing new motors or drives.	3	E		E	E	E	E	E
New Construction	This program is primarily intended for buildings between 5,000 and 50,000 sq. ft. It takes a prescriptive approach to obtaining rebates for new construction, major renovations, and building additions.	0	E		E/G	E/G	E/G	E/G	E
Process Efficiency	Three-phase program that works to identify energy saving opportunities, determine the scope of those savings, and then implement projects. Min 2GWh conservation potential to be eligible.	0	E		E	E	E	E	E
Recommissioning	This program has two main steps- a recommissioning study and then implementation. The program identifies low and no-cost energy savings and the business is then eligible for a series of rebates. This program includes building tune-up as well Refrigeration Efficiency.	0	E		E/G	E/G	E/G	E/G	E
Solar* Rewards® Business	Customers can install solar panels onsite to produce energy. If produce more energy than needed, excess added to grid and can choose to receive a credit on bill or carry over to the next month.	11	E		E	E	E	E	E
Windsource® Business	Windsource subscription to purchase renewable energy at a reasonable rate.	0	E		E	E	E	E	E
Holy Cross Energy**									
Lighting	A variety of rebates are available, including interior/ exterior bulb replacement, fixture/kits, exit signs, and controls.	10	E						
Refrigeration	Replace shaded pole motors with EC motors ($90 walk-in; $50 display) Anti-sweat heater controls ($60) ECM fan controls ($40) LED case lighting replacement ($65) LED case occupancy control ($10) Night covers ($6.50)	2	E						
Programmable Thermostats	Rebate available to replace non-programmable thermostats ($20 for gas; $50 for electric)	0	E						

Heat Tape Controls/Timer	If no controls, receive a $100 rebate for heat tape controls/timer installation (hard-wired).	0	E						
Black Hills Energy									
Water Heating	Storage water heater: $150 (high efficiency) Condensing water heater: $300 (high efficiency)	---	G	G					G
Forced Air Furnace/ Boilers	Furnace: $325-400 (differs w/ efficiency) Boiler: $800-$1,200 (differs w/ efficiency)	---	G	G					G
High Efficiency Space Heating	Setback Thermostat (programmable): up to $70 (self-install vs. contractor install) Vent Damper (boiler): $160	---	G	G					G
High Efficiency Cooking Equipment	Rebates are available for high efficiency commercial boilers, char-broilers, convection ovens, conveyor ovens, fryers, griddles, rotating rack ovens, and salamander broilers.	---	G	G					G
Insulation Upgrades	Insulation upgrades (i.e., ceiling walls, and floors): lesser of &0% installed cost or $.30/SF Infiltration control: 70% of cost up to $1,500 Thermal doors: $25	---	G	G					G
Custom	Requires pre-approval and will be based on a proportion of the incremental cost between a standard product and a high efficiency unit among other considerations.	---	G	G					G
Glenwood Springs Electric									
Business walk-through Assessment	GCE/CLEER energy consultants visit business location and identify energy saving opportunities.	17		E					
Commercial Rebates	25% of cost up to $2,500. Custom savings calculation is conducted to confirm rebate amount.	24		E					
Solar Rebates	Rebates for solar PV installed. Offered on a first-come, first-served basis. $0.75 per watt up to 10 kilowatts ($7,500).	1		E					
Colorado Energy Office (CEO)									
C-PACE	Encourage Garfield County Commissioners to adopt C-PACE. This program provides low-cost, long-term private financing for energy efficiency and renewable energy improvements. Loans are tied to property rather than owner.	---	E/G	E/G	E/G	E/G	E/G	E/G	E/G
Energy Savings for Schools Program	Rural and low-income school districts receive free energy and water audits, renewable energy	---	E/G	E/G	E/G	E/G	E/G	E/G	E/G

	assessments, and technical assistance to identify and implement priority projects.								
Colorado Diary and Irrigation Efficiency Program	Third party contractor provides free energy audits and technical support services to assist producers in selecting and implementing cost effective improvements to reduce energy use, environmental impacts, and producer operating costs.	---	E/G	E/G	E/G	E/G	E/G	E/G	E/G
Public Energy Performance Contracting	Support identifying, prioritizing, financing, and constructing energy and water efficiency improvements to public buildings and facilities.	0 (6 total overall)	E/G	E/G	E/G	E/G	E/G	E/G	E/G
Garfield Clean Energy									
Business Energy Assessment	Walk-through visit from an energy coach.	24	E/G	E/G	E/G	E/G	E/G	E/G	E/G
Strategic Energy Management: Government Buildings	Buildings' energy use is posted on Building Energy Navigator – live and bill data. Available to all nine GCE partners.	9	E/G	E/G	E/G	E/G	E/G	E/G	E/G
Renewables: Solar on Gov't buildings	Energy consultants helped usher 3 governments through the process of adding solar to their facilities using the PPA model. They added 1.05 MW of solar. These included RFHS, Silt Water Treatment, Battlement Mesa Metro District.	3	E/G	E/G	E/G	E/G	E/G	E/G	E/G

Appendix B: Garfield Clean Energy 2015 Report

Garfield Clean Energy 2015 Report

March 2, 2016 • Prepared by CLEER
(970) 704-9200 • www.GarfieldCleanEnergy.org

Residential Loan Fund	2012	2013	2014	2015
Loans each year	1	7	14	15
Cumulative total loans	1	8	22	37
Average loan amount	$7,125	$6,670	$9,658	$10,423
Amount loaned each year	$7,125	$46,691	$135,213	$156,349
Cumulative total loans	$7,125	$53,816	$189,029	$345,378
As of Dec. 31, 2015				
Principal & interest repaid to date	$88,363	Portfolio balance		$247,820
Portfolio yield	2.289%	Available loan pool		$47,180

2015 Residential activity	
Residential retrofits completed	146 homes
Total retrofit project costs	$450,773
Estimated annual energy savings	$70,171
Coaching clients	205
E-mails/calls	468

Left, Lavelle and Chuck Bottineau of Battlement Mesa, 2015 Home Energy Program participants.

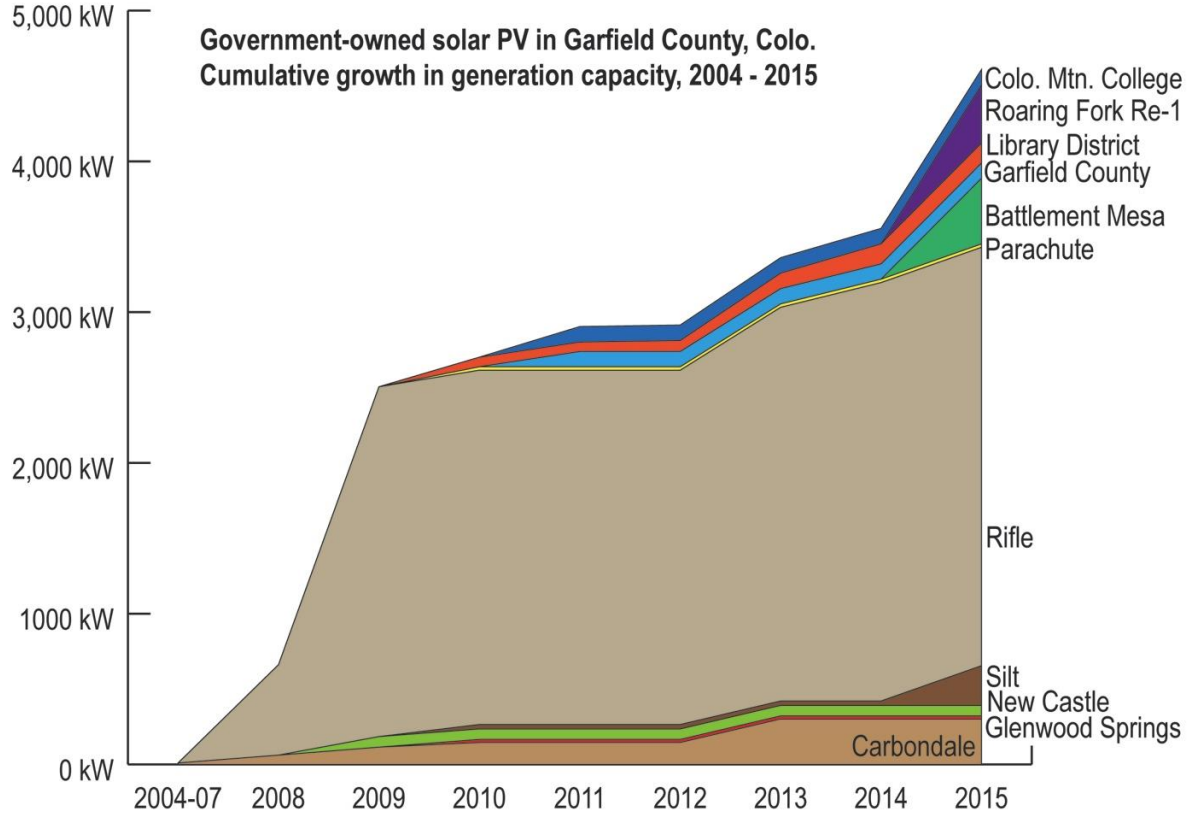
2015 Home Energy Program (for income-qualified families)	Total calls	Quali-fied	Home visits	Upgrades complete
Parachute / Battlement	18	12	5	5
Rifle	18	11	9	9
Rifle Creek Apartments *	0	94	0	94
Silt	8	5	4	4
New Castle	13	6	6	6
Glenwood Springs	28	13	12	12
Carbondale	31	21	18	18
County-wide total	**116**	**162**	**54**	**148**

Home Energy Program upgrades: High efficiency furnaces, boilers, hot water heaters and evaporative coolers, windows, insulation, air sealing, LEDs, programmable thermostats, Energy Star fridges.

* Rifle Creek Apartments project: insulation and air sealing only.

Commercial activity summary			
Commercial retrofits completed, by site	28	Coaching clients	106
Total retrofit project costs	$549,973	Emails/calls	229
Estimated annual energy savings	$143,188	Energy Coach building walk-throughs	24
		Walk-throughs resulting in projects	100%

Renewable Energy	Electrical capacity	Project status
Silt Water Treatment Plant	234 kW	Completed January 2015
Battlement Mesa Metro District	436 kW	Completed September 2015
Roaring Fork High School	385 kW	Completed December 2015
Combined value	**1,055 kW**	**$2.3 million total, $1 million local**



Western Slope CNG Network 2015 activity	
Parachute station	Continued coaching for prospective fleet customers
Rifle station	Alt Fuels Colo grant awarded; opening slated for Q3 2016
Glenwood Springs station	Grand opening Nov. 6, 2015
Network **conference calls**	Jan. 15, Feb. 12, March 12, April 9, May 14
Network **newsletters**	Aug. 13, Sept. 10, Oct. 30, Dec. 15
Educational presentations	Energy Advisory Board, Glenwood Springs Lions, Sunset Rotary
CNG-specific **media hits**	14

2015 Economic Activity	
Residential upgrade projects	$450,773
Commercial upgrade projects	$549,973
2015 Home Energy Program upgrades	$301,000
2015 solar arrays	$1,000,000
Glenwood Springs CNG station	$1,200,000
Total	**$3,201,000**

Active Energy Management for Garfield County

Energy meeting with staff: May 14, 2015

- Provided energy efficient building recommendations for new Rifle admin building.
- Worked with staff to enroll Rifle admin in Xcel Energy's Custom Efficiency Program for New Buildings.
- Started work with county staff on Riding Arena winterizing concept.

Websites	Building Energy Navigator	Garfield Clean Energy
Total visits	11,286	22,097
Unique visitors	1,582	18,628
New visits % / returning visits %	14 / 86	83 / 17%
Tablet/smartphone visits	79 / 0.7%	6,956 / 31%
Page views	12,825	32,265
Average time on site	4 min.	2 min

Garfield Clean Energy events and trainings 2015				
Event name	**Date**	**Location**	**Participants**	**Media hits**
Solar array ribbon-cutting	Jan. 22	Silt	20	3
Energy Smart Contractor Expo	April 2	Glenwood Springs	210	2
Regional Roundtable	April 2	Glenwood Springs	29	0
Ride Garfield County	June 19-26	County-wide	106	4
EV Ride & Drive	Sept. 17	Rifle	26	3
CNG Grand Opening	Nov. 6	Glenwood Springs	45	5
WWTP Operators Roundtable	Nov. 17	New Castle	9	0
Solar array ribbon-cutting	Nov. 19	Battlement Mesa	16	4
Facility Manager Tour & Roundtable	Dec. 8	Basalt	20	0
Totals			**481**	**21**

Media coverage, education, outreach	
Media coverage	46
Education (Hot Tips, fact sheets, articles)	5
Outreach events	9

Town of Silt water treatment plant solar array ribbon-cutting, Jan. 22

Battlement Mesa Metro District solar array ribbon-cutting, Nov. 19

Glenwood Springs Trillium CNG station grand opening, Nov. 6

Ride Garfield County, Holy Cross Energy team

2015 Contractor Expo, April 2

Rifle Electric Vehicle Ride & Drive, Sept. 17

2015 Home Energy Program

Rifle Creek Apartments

Appendix C: Local Communications Channels

Engaging the community is critical to reaching Action Plan goals. Below are some of the ways that residents and businesses currently receive information. These communication channels will be helpful during implementation efforts.

Local Outreach Channels

Digital and Traditional Communications

- Glenwood Springs Post Independent
- Rifle Citizen Telegram
- Sopris Sun
- Grand Junction Daily Sentinel
- Partner websites
- KMTS radio
- KDNK radio
- Glenwood Springs 12 Public Access TV
- GrassRoots Community Network
- Rifle Community TV
- Garfield County Livewell Newsletter

Organization Websites and Channels

- CLEER email lists (contractors, business community, community leaders)
- Chambers of Commerce

Social Media

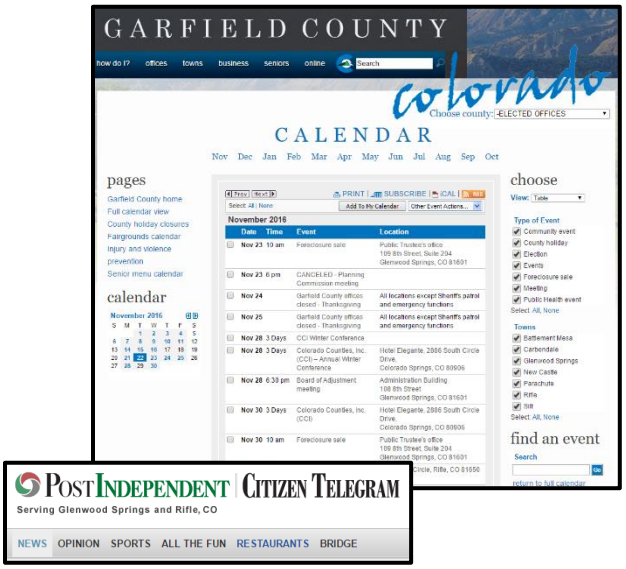
- Facebook
- Twitter
- Next door neighborhood networks

Events

- Garfield County Calendar
- Annual Facilities Manager Roundtable
- Farmers Markets
- Etc.

Community Spaces for Collateral Distribution

- Garfield County Library Branches
- Local Recreation Centers
- Etc.



Appendix D: Implementation Memorandum of Understanding

Memorandum of Understanding
Phase 2 – Plan Implementation

Stuart McArthur
Board Chair
Garfield Clean Energy Collaborative

Erica Sparhawk
Program Director, Clean Energy Economy for the Region
Garfield Clean Energy Collaborative

The intent of this Memorandum of Understanding is to build on the collaboration to date between Garfield Clean Energy and Xcel Energy in developing a community-wide energy action plan. Xcel Energy, through its Partners in Energy offering, has supported the development of this energy action plan. This document will outline how the Garfield Clean Energy Collaborative and Xcel Energy will continue to work together to support the community as they implement their energy action plan, strive to generate 35 to 50 percent renewable energy by 2030, and reach the following energy efficiency goals and levels of customer participation:

Focus Area	Incremental Electricity Impact (in kWh)	Incremental Natural Gas Savings (in therms)
Commercial, Industrial, and Agricultural Sectors	5,100,000	26,000
Residential Sector	365,000	26,700
Public Institutions	1,745,000	62,700
Total Conservation Goal (April 2017-December 2018)	**7,210,000**	**115,400**

Participants	Commercial Sector (i.e., industry, institutions, agricultural, etc.)	Residential Sector
Baseline	104	662
Newly Engaged	137	384
Total Participant Goal (April 2017-December 2018)	**241**	**1,064**

The term of this joint support, as defined in this document, will extend from April 1, 2017, until December 31, 2018. This is a voluntary agreement and not intended to be legally binding for either party.

Xcel Energy will support Garfield Clean Energy Collaborative in achieving the goals of its energy action plan, by area of focus, in the following ways:

- **Commercial, Industrial, and Agricultural Sectors:**
  - Increase energy efficiency in businesses by participating on a strategy team and coordinating with Xcel Energy program staff.
  - Support the development of streamlined multi-media marketing and outreach material content for targeted business sectors and energy efficiency programs.
  - Support business sector identification and send program information using existing Xcel Energy customer lists.
  - If needed, support development of industrial outreach materials or case study.
  - Support outreach and education to the large energy users identified in plan (oil and gas industry).
  - Help create targeted programs and outreach for agriculture energy users by identifying agricultural energy experts, supporting content development for an energy efficiency workshop, or supporting education/marketing materials.
  - Support development of outreach and training materials (case studies and best practices information).
  - Support funded by Xcel Energy for this focus area is not to exceed 125 hours. These hours will include those provided through our Partners in Energy team from Brendle Group and does not include support provided by Xcel Energy internal staff.

- **Residential Sector:**
  - Boost energy efficiency in the residential sector by participating on a strategy team and coordinating with Xcel Energy program staff (e.g., look at ways to leverage programs, such as Xcel Energy's Home Energy Squad, in key areas).
  - Support development of streamlined multi-media marketing and outreach material content for residential sector.
  - Support content for congregation outreach efforts.
  - Provide up to $1,500 in outreach material printing and postage for mailing to customers.
  - Support funded by Xcel Energy for this focus area is not to exceed 64 hours. These hours will include those provided through our Partners in Energy team from Brendle Group and does not include support provided by Xcel Energy internal staff.

- **Public Institutions:**
  - Assist Garfield Clean Energy Collaborative in leading by example within government/public facilities by supporting development of training content for facilities managers for government and educational locations.
  - Support and coordinate efforts to plan workshop for public facilities. Provide up to $200 for a venue. Funding can't be used to purchase or reimburse alcohol.
  - Help develop a case study for outreach and engagement purposes.
  - Support and build upon Garfield Clean Energy efforts around energy management and energy education within Garfield County schools.
  - Support funded by Xcel Energy for this focus area is not to exceed 60 hours. These hours will include those provided through our Partners in Energy team from Brendle Group and does not include support provided by Xcel Energy internal staff.

- **Renewable Energy:**
  - Help accelerate residential and commercial solar adoption by developing streamlined content of renewable energy opportunities for homeowners and businesses and helping distribute related marketing and education materials.
  - Provide renewable program coordination and support.
  - Provide input and guidance to help Garfield Clean Energy and partners better understand Xcel Energy's renewable energy mix and assist in developing list of renewable energy opportunities to reach renewable energy targets, including possibly participating in strategy team or workshop.
  - Support funded by Xcel Energy for this focus area is not to exceed 46 hours. These hours will include those provided through our Partners in Energy team from Brendle Group and does not include support provided by Xcel Energy internal staff.

- **Building Design and Construction:**
  - Coordinate with Xcel Energy program staff on design and business new construction resources.
  - Support new material development that may be included for building departments.
  - Support funded by Xcel Energy for this focus area is not to exceed 25 hours. These hours will include those provided through our Partners in Energy team from Brendle Group and does not include support provided by Xcel Energy internal staff.

- **Policy:**
  - Strengthen state, regional, and local policies and funding sources to accelerate efficiency and renewable energy by serving as a liaison where appropriate.
  - Support funded by Xcel Energy for this focus area is not to exceed 10 hours. These hours will include those provided through our Partners in Energy team from Brendle Group and does not include support provided by Xcel Energy internal staff.

- **Provide comprehensive project management and support of the energy action plan approval process.**
  - Facilitate check-in meetings, track and report energy results and activity to date, coordinate and deliver, where appropriate, implementation kick-off activities.
  - Provide $7,500 to reimburse expenses from incremental labor resources, such as additional intern costs.
  - Support funded by Xcel Energy for this focus area is not to exceed 90 hours. These hours will include those provided through our Partners in Energy team from Brendle Group and does not include support provided by Xcel Energy internal staff.

Garfield Clean Energy Collaborative commits to supporting the energy action plan to the best of its ability by:

- Achieving the energy efficiency and renewable energy impacts outlined in the energy action plan.
- Performing the leadership, coordination, tracking, and outreach duties as outlined in the energy action plan.
- Providing Xcel Energy an opportunity to review marketing materials to assure accuracy when they incorporate the Xcel Energy logo, Partners in Energy logo, reference Xcel Energy, or any of its products or services.
- Sharing the collateral, energy action plan document, supporting work documents, and implementation results from the Garfield Clean Energy Action Plan with the public. The experience, successes, and lessons learned from this community will inform others looking at similar or expanded initiatives.

These tasks by area of focus include but are not limited to:

- **Commercial, Industrial, and Agricultural Sectors:**
  - Coordinate and convene strategy teams as needed for increasing energy efficiency in businesses, industrial facilities, and agriculture.
  - Identify and track target trades and conduct direct outreach.
  - Coordinate development of outreach materials with Xcel Energy, Holy Cross Energy, Black Hills Energy, and Glenwood Springs Municipal Utility.
  - Plan and participate in EnergySmart Contractor Expo to deliver outreach and create engagement.
  - Help develop a database of agricultural energy users and coordinate, develop content, and recruit attendees for an agricultural workshop or deliver educational content through other means.
  - Organize a regional SRS C-PACE financing training for contractors. This was completed in February 2017.
  - Identify early adopters of CPACE and publicize.

- **Residential Sector:**
  - Coordinate development of outreach materials and approach with Xcel Energy, Holy Cross Energy, Black Hills Energy, and Glenwood Springs Municipal Utility.
  - Identify target programs for focused outreach.
  - Identify potential funding sources.
  - Coordinate with Xcel Energy to offer local contractor trainings and workshops.
  - Work with partners to develop and implement congregation outreach program.

- **Public Institutions:**
  - Continue to build on existing Garfield Clean Energy government/school energy management program and develop case studies and outreach materials, along with county utilities and regional partners, to market energy management options.
  - Build on existing Garfield Clean Energy school energy management programs to strengthen and build educational opportunities.
  - Develop and host workshop about data-driven energy management in public buildings and schools, respectively.
  - Support targets and benchmarking for government partners.

- **Renewable Energy:**
  - Research and gather information about on-site and community solar opportunities and resources in the region.
  - Coordinate with Xcel Energy and other regional utilities to develop outreach materials that compile available renewable options; distribute to market sectors appropriately.
  - Seek potential funding sources.
  - Plan and host a renewable energy workshop outlining options and promoting support. This was completed in March 2017.
  - Work with partners to create strategic action and investment plan for meeting renewable energy targets.
  - Coordinate with Xcel Energy and other regional utilities to identify future renewable energy opportunities and share with eligible residents and businesses.

- **Building Design and Construction:**
  - Seek potential funding sources.
  - Identify and recruit local officials and building department officials to explore improved building codes.
  - Organize and host annual contractor expo, as well as training on building efficiency, high performance design, and innovations.

- **Policy:**
  - Conduct research for and propose pilot program relative to Demand Side Management (DSM) dollar sharing.
  - Research and propose data-gathering improvements.
  - Convene policy focus group/workshop to prepare for 2018 legislative session.

XCEL ENERGY PARTNERS IN ENERGY

Memorandum of Understanding
Implementation Phase

All communications pertaining to this agreement shall be directed to Erica Sparhawk, on behalf of Garfield Clean Energy Collaborative and Tami Gunderzik on behalf of Xcel Energy.

Xcel Energy is excited about this opportunity to support the Garfield Clean Energy Collaborative in advancing their goals around their intended focus areas. The resources outlined above and provided through Partners in Energy are provided as a part of our commitment to the communities we serve and Xcel Energy's support of energy-efficiency and renewables as important resources to meet your future energy needs.

For Garfield Clean Energy Collaborative:

Date: 4/21/2017

For Xcel Energy:

Date: 4/24/17

Date:

Appendix E: Longer-term Strategy Action Steps

Focus Area 1: Commercial/Industrial/ Agricultural

Strategy 1: Increase Energy Efficiency in Businesses throughout the County

Longer-term Activities

- Identify target trades that are underrepresented and offer Xcel Energy contractor trainings to maintain availability
- Measure progress
- Identify next best business targets and plan for year 2 implementation
- Explore ways to address how to create broader accessibility of rebate funding county-wide

Strategy 2: Catalyze Energy Savings by Industrial Energy Users

Longer-term Activities

- Develop outreach materials for the oil and gas industry and other large users (including efficiency success stories that highlight economic benefits of efficiency) and frame opportunities around programs that best serve large users, such as Xcel Energy Custom and Process Efficiency
- Identify or develop meaningful case studies that show benefits of efficiency and economic incentives for optimized operations
- Streamline available information about data access and monitoring, including options, eligibility, cost, and reporting and develop materials that help businesses interpret their data for long-term benefits
- Leverage Xcel Energy InfoWise energy management tools or Energy Navigator to help inform decision-making for large commercial customers
- Work with oil and gas customer to implement efficiency projects and set efficiency goals
- Provide public recognition for customer efforts and outcomes
- Produce a case study after work is completed with the first industrial business to showcase to other companies and the Colorado Energy Office
- Continue to leverage industry and other networks to recruit new participants
- Work with Colorado Energy Office to develop a pilot program that targets energy efficiency savings for oil and gas industry businesses
- Identify grant or other funding to create ongoing support and develop specific incentives for this sector
- Propose collaboration with the Colorado Energy Office to fund or support outreach to the oil and gas industry (could be a pilot endeavor replicable in other areas of the state)

Strategy 3: Create Targeted Programs for Agricultural Energy Users (Outdoor and Indoor)

Longer-term Activities

- Leverage energy coaching from CLEER and expand and strengthen GCE database of agricultural businesses and resources; follow up with the agricultural properties who have used GCE programs to date to get input on what has worked well so far
- Continue to engage agricultural producers in implementing energy and water-efficiency projects
- Identify new topics for 2018 workshops and engagement
- Enroll one producer annually in C-PACE program for upgrades
- Identify the unique needs of this subset of partners that are a new economic driver in the county and also account for significant energy use, and create a program to help this sector become more resource efficient

Strategy 4: Promote Use of C-PACE and Other Financing Tools

Longer-term Activities

- Encourage early adopter(s) to benchmark energy use and verify savings and highlight success
- Continue to promote C-PACE financing along with partnerships between efficiency, lighting, and solar contractors for a comprehensive approach to upgrades
- Develop white paper identifying types of properties for which C-PACE does not work and propose additional solutions
- Identify lender(s) willing to invest in projects smaller than $50,000
- Identify the gap areas in C-PACE (types of properties that it does not fully serve) and work with state and local partners to develop proposals for ways to address additional/varied financing needs

Focus Area 2: Residential Energy Use

Strategy 5: Boost Efficiency in the Residential Sector

Longer-term Activities

- Identify funding sources to promote greater rebate equity across the county
- Apply for grants to secure additional funding for the CARE program
- Enroll additional multifamily complexes across the county
- Engage additional congregations based on success of year-1 activities
- Develop ideal bonus incentive for rebate equity and identify consistent funding for bonus (grants, etc.)

Focus Area 3: Public Institutions

Strategy 6: Lead by Example at Municipal and Government Facilities

Longer-term Activities

- Promote C-PACE as a new financing option (exclusive of solar given the lack of tax incentives for non-profit organizations)
- Develop and share resource efficient procurement policies, including joint procurement opportunities that encourage best-cost purchasing and using energy efficient products
- Identify multiple funding sources to support strategy initiatives
- Develop disaster preparedness planning that incorporates government solar arrays by incorporating on-site storage and using the solar energy on site during black-outs
- Reach out to other government agencies to participate (Colorado Department of Transportation, U.S. Forest Service, fire districts, etc.)
- Continually improve the existing energy monitoring and active energy management programs and add the following services:
  - ✓ Student interns to assist in following up with facilities teams
  - ✓ ENERGY STAR ratings when possible
  - ✓ Communications techniques to reach and engage building occupants

Strategy 7: Engage Schools and Educational Facilities

Longer-term Activities

- Restart/create school energy club programs in the local school districts throughout Garfield County, RE-1, RE-2 and RE-16 – connect the energy savings at schools with taking action at home
- Continually improve the existing energy monitoring and active energy management programs and add the following services:
  - ✓ Student interns to assist in following up with facilities teams
  - ✓ ENERGY STAR ratings when possible
  - ✓ Communications techniques to reach and engage building occupants

Focus Area 4: Renewable Energy

Strategy 8: Accelerate Residential and Commercial Solar Adoption

Longer-term Activities

- Conduct outreach using existing channels to different market sectors about renewable options available in the county
- Provide education to entities on value of using private capital to fund renewable energy projects
- Increase funding incentives for installing solar and create equity in incentives county-wide and simplify the incentive landscape (currently solar incentives west of Glenwood Springs are much less than the incentives available in the Roaring Fork Valley
- Review how the solarize efforts worked in Delta and Boulder counties to inform best practices and recommendations
- Reach out to local solar installers to determine if they would participate in a solarize program, whether they have the bandwidth; determine how it would work if an outside company came into the county to do the solar installs
- Publish a case study on the value of local governments investing in power purchase agreements highlighting how they work and how they benefit taxpayers and the local economy
- Host workshop explaining community solar - what it is and existing and upcoming opportunities
- Host a workshop for businesses and governments on using private capital to pay for renewable energy - help explain the payback, investment amounts needed, etc.
- Encourage GCE member municipalities to adopt Bill Brook's Solar ABCs and/or participate in the Colorado Solar Energy Industries Association Solar Friendly Communities Program
- Develop and implement a regional "solarize" campaign

Strategy 9: Advance Utility-scale, Regionally-produced Renewable Energy

Longer-term Activities

- Provide a recommendation for a standardized approach to solar permitting across all the jurisdictions in Garfield County and potentially neighboring counties Secure funding to support next steps and recommendations from workshop
- Convene a focus group with regional partners and renewable technology experts to start the discussion, select targets, develop a timeline, and identify potential investors
- Research permitting requirements across the regions' jurisdictions and identify ways to simplify and consolidate the process
- Provide recommendations to all jurisdictions for how to simplify permitting and collaborate on process so that it is easier for contractors and customers to participate
- Encourage municipalities to partner with larger scale solar developers (power purchase agreement model)
- Investigate and support creating a regional renewable energy district

Focus Area 5: Innovative Design and Construction in All Sectors

Strategy 10: Build in Efficiency and On-site Renewables from the Start

Longer-term Activities

- Partner with the Colorado Energy Office on building energy code adoption
- Work with all GCE jurisdictions to adopt the same base level codes throughout the county

Focus Area 6: Policy and Institutional Frameworks

Strategy 11: Strengthen State, Regional, and Local Policies and Funding Sources to Accelerate Energy Efficiency/Renewable Energy

Longer-term Activities

- Continue efforts to work with state agencies (Office of Economic Development and International Trade, Colorado Energy Office, and Department of Local Affairs) for statewide energy efficiency/renewable energy for economic diversification program
- Identify an additional funding stream to complement existing funding streams to strengthen GCE as an intergovernmental collaborative that can deliver programs in a sustained, robust manner
- Develop a white paper identifying supportive policies that local governments, the Public Utilities Commission, state agencies, or the legislature could implement that would accelerate regional energy
- Based on the findings of the white paper, work with appropriate state, regional, and local partners to create policy changes that could include the following (as mentioned by stakeholders):
  - ✓ Inform and encourage more power purchase options
  - ✓ Allow behavior-based, data-based, and operations-related energy savings to qualify as demand side management and be eligible for funding support for data setup and incentives that reward persistent savings and operational changes over time
  - ✓ Encourage more certainty about Solar*Rewards® program and address rural-urban competition for Solar*Rewards

  - ✓ Suggest and encourage ways to streamline the Solar*Rewards program
  - ✓ Work for remote net metering (New York state example) as a component of a statewide policy package, allowing for a large installation in one place to feed a meter at another location
  - ✓ Include support for the continuation of net metering as it currently stands
  - ✓ Coordinate work with other organizations around the state on statewide programs and accompanying communications efforts
- Share examples from other states making the most energy efficiency and renewable energy gains and work with utilities and other organizations to explore whether these policies would work in Colorado
- Develop a list of policies and conditions that pose barriers to rebate and energy coaching equity across the county/region, develop proposed solutions, and meet with policymakers and decision makers to encourage adoption
- Describe how solar permitting processes differ throughout the region (Parachute to Aspen); convene local permitting stakeholders at a work session to explore and develop proposed ways to standardize and simplify
- Set goal of working to make residential PACE an option available in Colorado as it is being implemented in several locations in California that have created an approach that overcomes the barriers that stopped residential PACE nationally (for an example see sonomacountyenergy.org)
- Contact foundations interested in innovative models for connecting energy efficiency and clean energy to economic diversification and resilience