

An Energy Action Plan for
Summit County, Colorado



March 1, 2016

Acknowledgements

Special thanks to High Country Conservation Center for co-convening Summit County stakeholders with Xcel Energy's Partners in Energy team.



Thanks also to the following organizations and individuals for participating in developing this Energy Action Plan.



Summit County's Energy Action Planning Team

The planning team included a diverse group of Summit County organizations, towns, businesses, and institutions committed to achieving greater energy efficiency.

High Country Conservation Center- Convener

Martha James Johnson, High Country Conservation Center
Cody Jensen, High Country Conservation Center
Jen Schenk, High Country Conservation Center

County and Town Representatives

Joyce Allgaier, Town of Frisco
Kate Berg, Summit County
Lina Lesmes, Town of Silverthorne
Julia Puester, Town of Breckenridge
Greg Roy, Town of Silverthorne
Mark Truckey, Town of Breckenridge
Ned West, Town of Dillon
Emily Wood, Town of Frisco



Organizations and Businesses

Woody Bates, Summit County School District
Adrienne Boland, Innovative Energy
Jeff Grasser, Copper Mountain Ski Area
Jessica Hoover, Breckenridge Grand Vacations
Rachel Lunney, Northwest Colorado Council of Governments
Sha Miklas, A Basin Ski Area
Mike Nathan, A Basin Ski Area
Bryan Trujillo, Colorado Mountain College
Ray Weller, Breckenridge and Keystone Ski Resorts
Matt Wright, Deeper Green Consulting

Xcel Energy Representatives - Convener

Tami Gunderzik, Xcel Energy Partners in Energy Program Manager
Sharon Panas, Xcel Energy Account Manager
Judy Dorsey, Brendle Group – Facilitator
Susan Blythe, Brendle Group – Facilitator



SUMMIT COUNTY ENERGY ACTION PLAN

EXECUTIVE SUMMARY

Our Commitment

Summit County businesses, residents, local government, education institutions, non-profits and agencies are committed to reducing energy use and increasing renewable energy generation. Several efforts underway since 2011 have helped flatten the energy use growth curve compared to what would have been expected given the growth in population. This Energy Action Plan provides additional focused attention and resources on short-term targets and actions (the next 2 years) that will set the community on a more substantial trajectory toward reducing greenhouse gas emissions and energy use.

Our goal: Triple 2014 energy reduction levels by the end of 2017, build off short-term momentum for persistence in subsequent years, and achieve a 15 percent reduction in greenhouse gas emissions by 2020.

How Will We Get There? The county will focus on these priority areas:

Residential Program Reinforcement	Strategies: Home Energy Audits CARE (Colorado Affordable Residential Energy) Audits LED Lightbulb Give-away
Ski Areas & Other Commercial Entities	Strategies: Ski Area Collaborative Network Expanded Sustainable Business Program
Hotel & Lodging Sector	Strategy: Hotel & Lodging Collaborative Network
Renewables	Strategy: Solar Campaign



PARTNERS IN ENERGY
AN XCEL ENERGY COMMUNITY PARTNERSHIP

Playbook for Achieving Our Goals

Ongoing – Tracking

- Conduct regularly scheduled strategy implementation team meetings to maintain momentum and track progress
- Conduct annual review and adjustment of Energy Action Plan
- Track strategy progress and share results bi-annually with larger planning group and community
- Celebrate successes as often as possible to reinforce participation
- Continue to develop strategies to meet county needs

Immediate Actions (January – June 2016)

- Identify and convene key stakeholders for networks (ski and hotel/lodging)
- Convene town and county representatives to set new funding targets/ commitments for Sustainable Business Program expansion
- Develop opportunity packets with all available programs, deadlines, requirements, and points of contact
- Develop campaign strategy for commercial refrigeration
- Coordinate with Xcel Energy on solar rebate requirements and limitations and develop education materials
- Plan LED bulb give-away event
- Coordinate with CLEAResult on providing direct install as part of residential audits and design promotional materials

Longer-term Actions (July 2016 – Dec. 2017)

- Conduct LED bulb give-away
- Conduct residential energy audits and perform direct installs
- Drive individual ski area goal setting and share expertise within collaborative network
- Develop and deploy Sustainable Business Expansion recognition structure
- Convene hotel/lodging workshop to deploy opportunity packets and share expertise
- Conduct targeted outreach to high use commercial customers, institutions, and property management and lodging organizations
- Deploy commercial refrigeration campaign
- Celebrate Breckenridge Solar Garden installation
- Implement projects and develop centralized tracking by focus area

Table of Contents

Acknowledgements	ii
Introduction	1
High Country Conservation Center	1
Partners in Energy	2
Summit County Overview	2
Geography, Population, and Demographics	2
Housing	4
Business and Economy	6
Commitment to Sustainability	6
Existing Energy Practices	7
Where Are We Now? – Baseline Energy Analysis	9
Summit County’s Current Energy Use	9
Energy Use Segmentation	10
Where Do We Want to Go? – Summit County’s Energy Vision, Focus Areas, and Goals	12
Energy Vision	12
Focus Areas	13
Focus Area 1: Residential Program Reinforcement	13
Focus Area 2: Ski Areas and Other Commercial Entities	13
Focus Area 3: Hotel and Lodging Sector	14
Focus Area 4: Renewables	14
Goals	14
Historical Conservation Performance	14
Energy Action Plan Goals	16
How Are We Going to Get There? – Strategies	17
Identifying and Prioritizing Energy Efficiency Strategies	17
Implementation Steps and Strategies	17
Focus Area 1: Existing Program Reinforcement	17
Focus Area 2: Ski Areas and Other Commercial Entities	20
Focus Area 3: Hotel and Lodging Sector	25

Focus Area 4: Renewables..... 27

How Are We Going to Stay On Course? – Monitoring and Reporting 29

Operational Actions and Tracking..... 29

Communication and Reporting 30

Changing Course: Corrective Action..... 30

Ongoing Planning Team Support..... 30

Recognition for Achieving Goals..... 31

Beyond the Plan Horizon 31

Appendix 1: Partners in Energy Planning Memorandum of Understanding 32

Introduction

High Country Conservation Center partnered with Xcel Energy to convene the Summit County energy action planning process illustrated in Figure 1. As the first Partners in Energy Community in Colorado, Summit County is leading the way to better leverage existing programs and resources both within the county and through Xcel Energy.

Summit County started its current planning process with an existing energy framework developed in 2011 and developed this plan to build on both the ideas and the progress resulting from that effort. Specifically, this plan provides context on Summit County’s baseline energy use since 2011, population and energy growth, significant commercial and residential sectors, existing efficiency programs, and historic participation rates. It also presents goals identified by the planning team for areas of priority for the county and strategies for achieving those goals. The Energy Action Plan is just that – a plan to guide activities and specific implementation. Xcel Energy and High Country Conservation Center, along with other county organizations and businesses, will work together over the next 18 months to deploy the strategies identified and measure progress (see Figure 2 for ways Xcel Energy is committed to help).



Figure 1: Partners in Energy Process for Success



Figure 2: Resources from Xcel Energy for Implementation

High Country Conservation Center

High Country Conservation Center is a community non-profit organization focusing on energy efficiency and clean energy, waste reduction, and sustainable food production. The organization executes a variety of programs and initiatives, such as home energy audits and ratings and Colorado Energy Smart collaboration, green business programs

for three of the towns in Summit County, supports community solar garden efforts, and supports energy education county-wide.

High Country Conservation Center is the county champion for this Energy Action Plan and will lead its deployment with help from other Summit County stakeholders and Xcel Energy.

Partners in Energy

Xcel Energy is the main electric and natural gas provider serving Summit County. In the summer of 2014, Xcel Energy launched Partners in Energy to support communities, such as Summit County, in developing and implementing energy action plans. The content of this plan is derived from a series of planning workshops held in the community with a planning team committed to representing local energy priorities.

Xcel Energy will support Summit County in implementing the plan and will develop a Memorandum of Understanding that outlines specific support Xcel Energy will provide to help Summit County deploy its strategies and achieve its goals.

Summit County Overview

Summit County, Colorado has a tourism economy driven by four major ski areas – Arapahoe Basin, Breckenridge Ski Area, Copper Mountain, and Keystone Resort. The county was first established in 1861 after prospectors discovered gold and silver in the area in 1859. Current-day ski resorts were once mining towns and the remnants of that heritage can still be found today.

Geography, Population, and Demographics

Summit County is centrally located in Colorado and its 608 square miles include 6 municipalities (Blue River, Breckenridge, Dillon, Frisco, Montezuma, and Silverthorne). In addition, the county includes the Blue River State Wildlife Area, parts of Arapaho and White River National Forests, Summit County Recreational Pathway System, and Top of the Rockies National Scenic Byway – about 80 percent of the county is public land.



Figure 3: Summit County Boundary

Over 80 percent of the community is Caucasian with an overall median age in 2015 of 38, which is expected to increase to 39 by 2020. According to population projections prepared by the State Demographer, Summit County's population is expected to increase over the next 20 years, although at a lesser rate than experienced during previous decades. These projections for 2010 to 2015 indicate growth of 9.6 percent (2,674 residents), with an average annual growth rate of approximately 1.9 percent (Table 1). Looking forward to the year 2030, the State Demographer projects that Summit County's permanent resident population will grow to 43,700, with an average annual growth rate of approximately 2.8 percent per year. Figure 4 presents 2010 demographic data for the county, which indicate limited diversity although this is expected to change slowly over the next few years.

Table 1: Projected Growth in Summit County

Projected Permanent Resident Population Growth

<i>Time Frame/Years</i>	<i>Percent Change</i>	<i>New Residents Added</i>	<i>Projected Ending Population</i>
2010-2015	9.6%	2,674	30,668
2015-2020	14.8%	4,553	35,221
2020-2025	12.7%	4,481	39,702
2025-2030	10.1%	4,000	43,702

Source: U.S. Census Bureau and State Demographer.

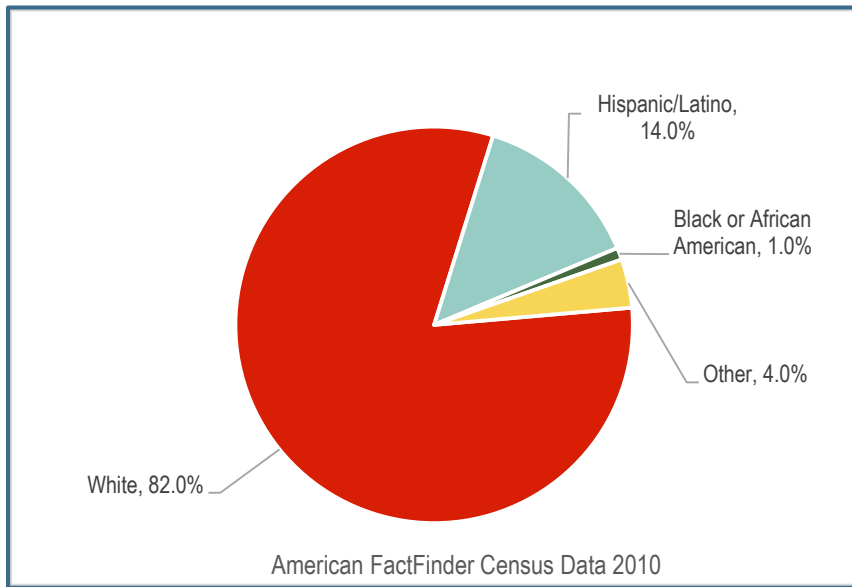


Figure 4: Summit County Demographics

Housing

While the permanent population in the county is growing, only 33 percent of the housing units are owner occupied, and even fewer (17 percent) are long-term rental units. The majority of units (50 percent) are used for short-term occupancy by tourists and other visitors (Figure 5). Of the owned units, many are second homes that are occupied only occasionally (Figure 6).

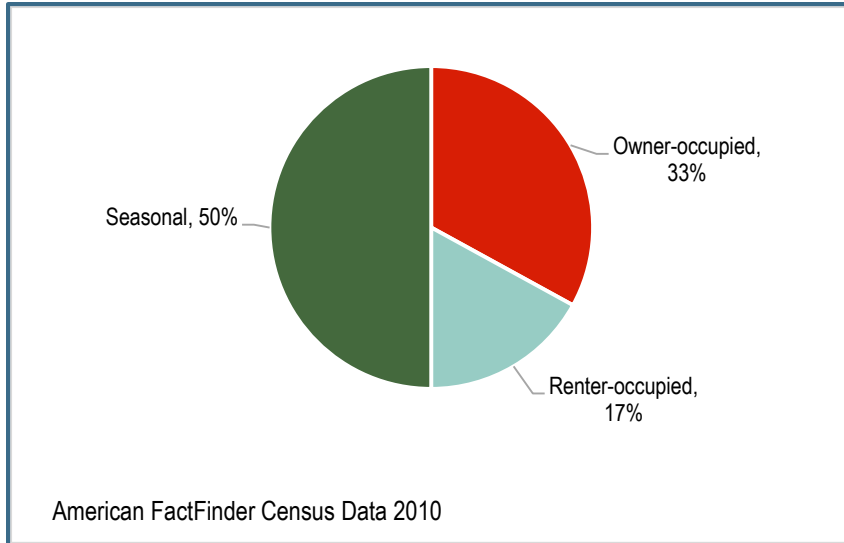


Figure 5: Housing Breakdown

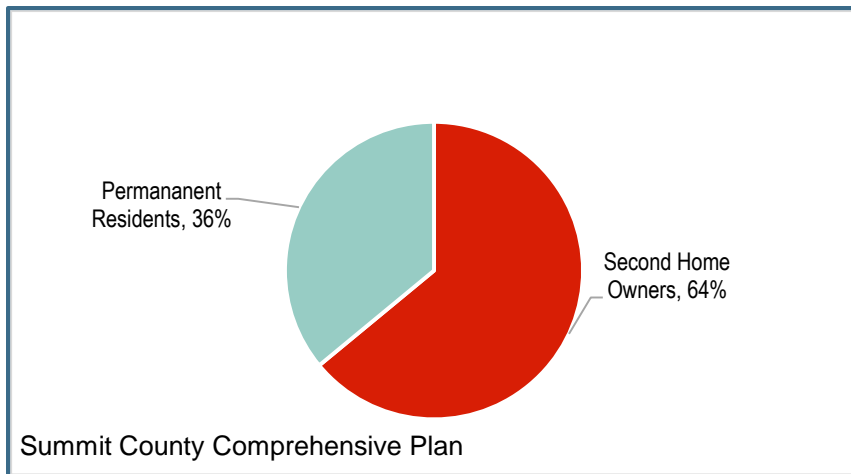


Figure 6: Influence of Second Homes

In addition, much of the housing stock is fairly old, with 80 percent built between 1979 and 1999 and about 20 percent built from 2000 to present (American Fact Finder 2013). Of the existing housing units, 42 percent are single family and 57 percent are multi-unit properties (2 units or more).

For a variety of reasons familiar to resort communities, the county faces affordability and availability issues relative to housing, and real estate price escalation is a trend.

Business and Economy

Summit County has approximately 2,100 businesses and employs about 18,600 people according to 2012 census data documented in American Fact Finder (factfinder.census.gov). The unemployment rate is higher than the national average at 6.2 percent and annual household income is just over \$60,000 (summit.co.us).

Major employers in the county include four ski resorts – Keystone (Vail Resorts), Breckenridge (Vail Resorts), Copper Mountain, and Arapahoe Basin. Ski industry trends (reported by Ralf Garrison from Destimetrics out of Denver in October 2015 ([Summit Daily News](#))) indicate a gain in lodging revenue of 15 percent over the 2014-2015 ski season for Summit County compared to a 9 percent gain industry-wide. In addition, Garrison also reported that “business continues to grow during the summer, with gains on peak days in 2015 between 20 and 30 percent higher than 2014 boosted by holidays and special events.” This growth will certainly affect energy use in Summit County if trends continue at this pace.

Summit County School District, Summit County, Town of Breckenridge, Breckenridge Grand Vacations, Centura Health, and Beaver Run (Bridge Hospitality LLC) make up the remaining top 10 employers in the county. There also are many food and service businesses that cater to the tourist economy. Because tourism is largely tied to outdoor sports, the population can increase to more than four times the permanent population during ski season, with retail business busiest in mid-summer.

Commitment to Sustainability

In 2011, Summit County outlined its purposes for creating its initial Energy Plan: “...to lower greenhouse gas emissions, improve energy efficiency and conservation, and increase renewable energy production.” The anticipated effects from the 2011 plan included energy and monetary savings for residents and businesses, improved quality of life, reduced carbon footprint, investment in the local economy, a boost to building trades, less economic risk from a volatile energy market, and benefits to a snow-based economy (Summit Energy Plan updated September 2011).

These purposes still resonate and early workshop feedback during the planning process



for this Energy Action Plan confirmed a continued commitment to and priority around managing and influencing growth and infrastructure, addressing climate change, developing the local workforce, supporting renewables, and saving costs.

Existing Energy Practices

To make progress toward those purposes, Summit County has gained traction with its Sustainable Business Programs, residential audits through Colorado Energy Smart, progressive building codes, ski resort participation in the National Ski Areas Association Climate Challenge and efficiency projects, and higher than average participation levels in some Xcel Energy residential rebate programs. In addition, two solar gardens were built in Breckenridge in the last few years.

These and other existing initiatives and activities are foundational to the success of the actions outlined in this plan and are included in Table 2 as a basis from which to build.

Table 2. Existing Efforts in Summit County

Summit County Energy Initiatives

Colorado Energy Smart Residential Program (2014 performance)

- *Over 95 businesses certified*
- *Annual Audits: 127*
- *Annual Retrofits: 48*
- *Annual Contractor revenue: \$280,047*

Northwest Colorado Council of Governments/Housing Authority

- *Low-income housing audits and weatherization*

Sustainable Business Programs

- *Frisco Clean Tracks*
- *SustainableBreck Business Program*
- *Energy Smart Silverthorne*

Sustainable Building Codes

- *Summit County*
- *Breckenridge*
- *Frisco*
- *Silverthorne*

Real-time Energy Monitoring (Energy Navigator)

- *Summit County School District*
- *Colorado Mountain College*
- *Energy Explorers Kids' K-12 curriculum*

National Ski Areas Association Climate Challenge

- *Arapahoe Basin*
- *Copper Mountain*

Resort Efforts

- *Process Efficiency Participation by Vail Resorts since 2012 with goal to reduce energy footprint 20% by 2020 from 2008 baseline*

Streetlight Upgrade

- *Breckenridge transition to LED fixtures*

Summit County Solar Gardens

- *Two 500-kW gardens in Breckenridge*

Where Are We Now? – Baseline Energy Analysis

Summit County’s Current Energy Use

An early step in the planning process was to review the county’s current energy use. The Xcel Energy team calculated and presented community energy statistics for 2014 as well as some historical data back to 2007. Comparing these data helped the planning group understand how and where energy is used in the county as well as the progress made since the 2011 Plan.¹

Electricity and natural gas data supplied by Xcel Energy show that Summit County had 24,969 residential premises and 4,101 commercial premises that, together, used 541 million kWh of electricity and 38 million therms of natural gas in 2014. These totals are combined into MMBtu (million British Thermal Units) and are represented for commercial and residential segments in Figure 7.

The number of premises here (4,101) differs from the census data count of commercial establishments fairly significantly (about double) because a single business can have a number of separate premises and some commercial premises are nodes of distribution rather than actual business entities.

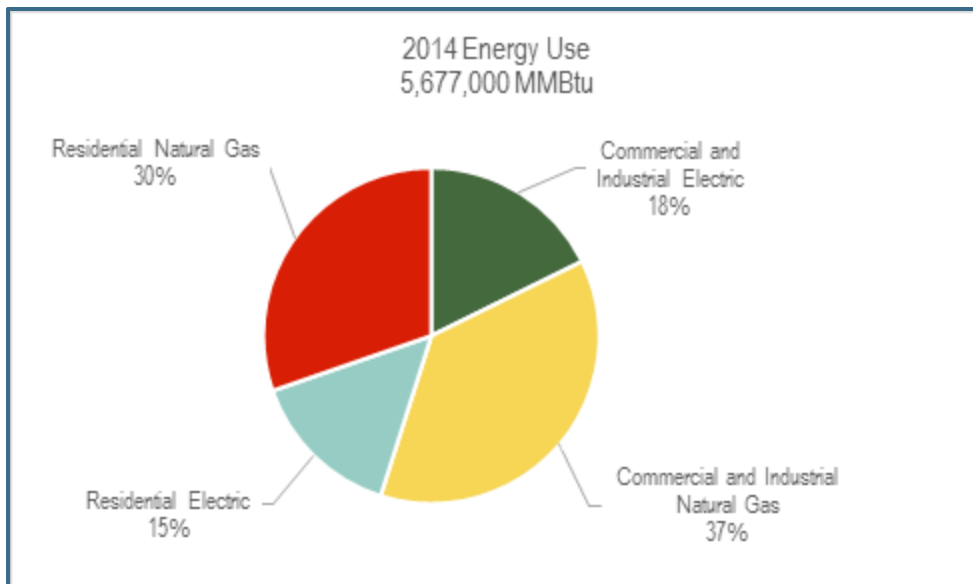


Figure 7: Summit County Energy Use in 2014

¹ All energy data presented through this process were developed for planning purposes and may contain variations from data obtained through other sources. All energy and program 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 percent of the total or they will be removed from the summary).

Figure 8 presents energy use data back to 2007. The data for years 2007, 2009, 2012-2014 were provided by Xcel Energy and data for 2008 and 2010 were estimated. Summit County consumption has been fairly steady over the last 8 years considering population growth, although 2013 and 2014 show some increases.

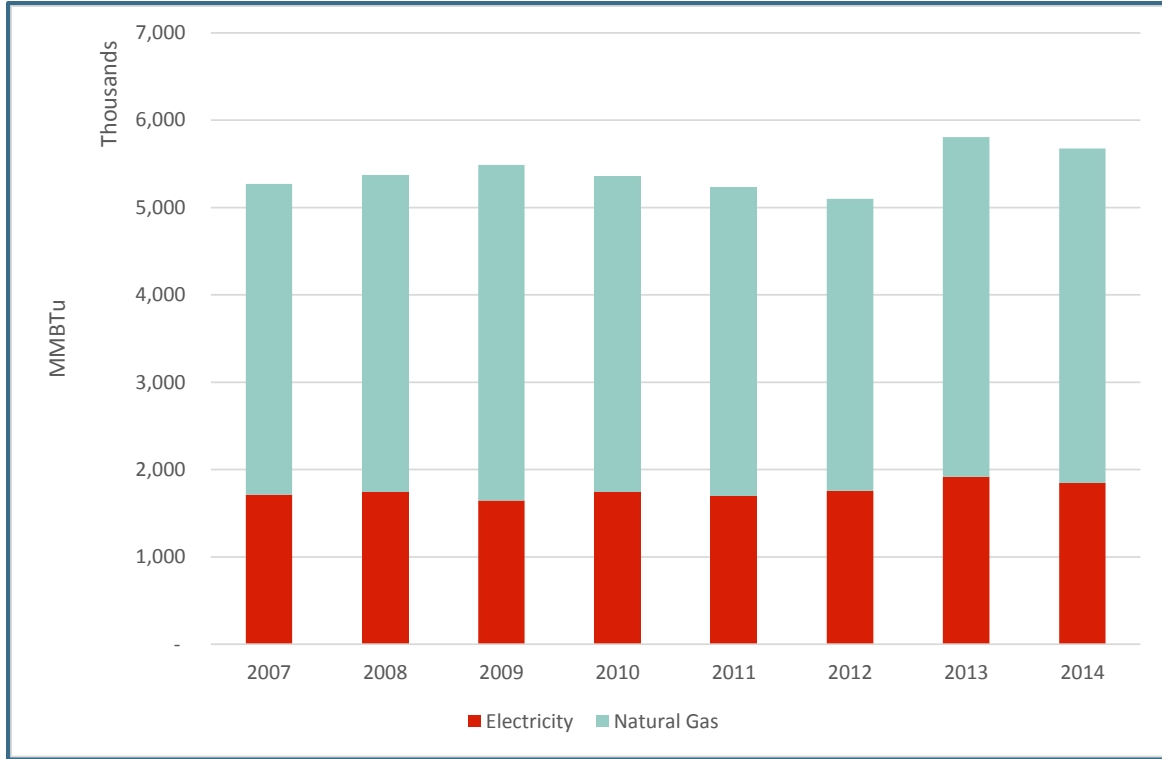


Figure 8: Community Energy Use (MMBTu)

Energy Use Segmentation

With additional input from planning team members and further queries of Xcel Energy data, estimates of energy use by segment were developed to inform areas of priority and greatest impact (Figure 9). The assumptions used to determine the relative sizes of the sectors shown in the chart are listed after Figure 9 and were checked against actual 2014 Xcel Energy consumption data for Summit County. As the figure illustrates, commercial use, as well as lodging and hotels make up a large part of the total.

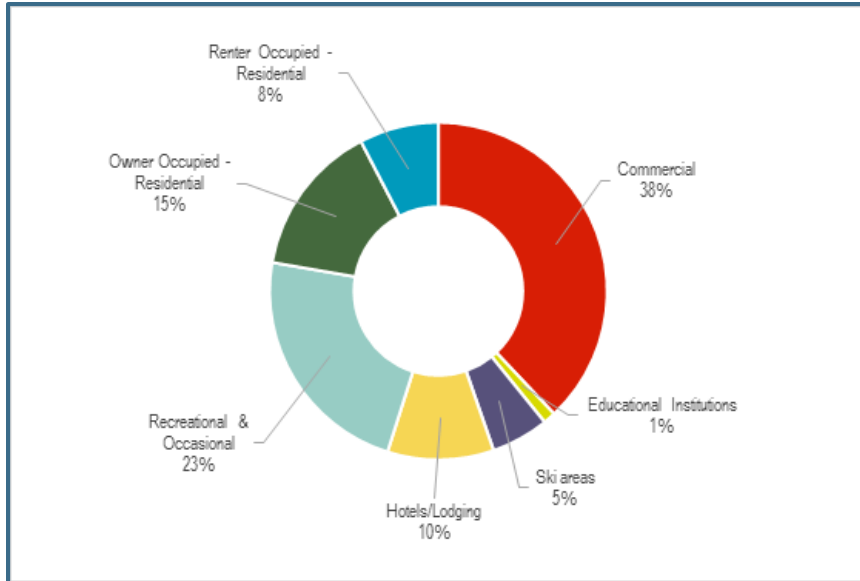


Figure 9: Estimated Summit County Energy Use Breakdown (5,677,490 MMBtu total)

- **Recreational/Occasional Residential:** non-permanent housing units (count from <http://factfinder.census.gov> General Housing Characteristics: 2010, occupancy from Breckenridge Grand Vacation data. <https://www.homeaway.com/info>)
- **Owner Occupied Residential:** permanent resident housing owned by occupant (count from <http://factfinder.census.gov> Selected Housing Characteristics, 2009-2013 American Community Survey 5-year Estimates)
- **Renter Occupied Residential:** permanent resident housing leased by occupant (count from <http://factfinder.census.gov> Selected Housing Characteristics, 2009-2013 American Community Survey 5-year Estimates)
- **Hotels/Lodging:** commercially metered hotels, motels, lodges, and condominiums in regions with more than 7,000 heating degree days (<http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF> 2012 data; Commercial Building Energy Consumption Survey benchmarks; utility data from Breckenridge Grand Vacations, Rocky Mountain Lodging for occupancy [<http://denver.cbslocal.com/2015/02/03/colorado-hotel-occupancy-prices-rise-to-record-levels/>], web search for hotels in Summit County)
- **Ski Areas:** Estimated for Arapahoe Basin, Breckenridge, Copper Mountain, and Keystone combined (based on Brendle Group analysis for the National Ski Areas Association [NSAA] and extrapolated on the basis of resort sizes in Summit County)
- **Educational Institutions:** Summit County School District and Colorado Mountain College utility data (public data in Building Navigator)

- **Other Commercial:** anything left after removing the previous categories (includes municipalities, which combined represent less than 2% of total energy consumption)

Where Do We Want to Go? – Summit County’s Energy Vision, Focus Areas, and Goals

Energy Vision

Summit County has been engaged in energy conservation activities since it developed the 2011 Energy Plan. The original planning process took about a year of monthly meetings with an engaged group representing four towns, the county, ski areas, a local architect, key businesses, and others. The 2011 plan was funded with resources from the American Recovery and Reinvestment Act of 2009 (ARRA) through the Governor’s Energy Office (GEO).



The 2011 Energy Plan vision was reviewed and adopted by the current planning team with an understanding that it is important to craft messaging and intent moving forward. For example, this Energy Action Plan will work toward the vision by focusing on a 2-year implementation horizon without letting go of the longer view. In addition, the trajectory of the Energy Action Plan is to continue to build and foster a culture of environmental and social responsibility and also strive for more locally produced energy to insulate against events beyond the county boundaries.

2011 Energy Plan Vision

“The vision of the Summit County Energy Action Plan is to power our community in a way that protects the natural environment upon which our economy and prosperity is based; secures our energy future by providing energy independence (local energy), security and efficiency; and fosters a culture of environmental and social responsibility to ensure the sustainability of our mountain lifestyle for current and future generations.”

*“Successful implementation of this plan will **lower greenhouse gas emissions, improve energy efficiency and conservation, and increase renewable energy production.**”*

Focus Areas

With the backdrop of looking to shrink the existing annual energy footprint in Summit County and encourage renewables, four focus areas were identified. The rationale behind the focus areas was built on the basis of utility data analytics and greatest potential for savings, the county’s mission, and input on priorities and values.

Focus Area 1: Residential Program Reinforcement

High Country Conservation Center and its partners have made good progress in the residential market with home audits and energy coaching. Instead of looking to develop new programs to reach this critical market, this plan involves ensuring these existing programs and efforts continue and have the local support they need as well as some additional resources through Xcel Energy and others to deepen their scope and effectiveness.

Focus Area 2: Ski Areas and Other Commercial Entities

Because this focus area makes up an estimated 43 percent of total energy consumption in the county, it is an important area to target efficiency efforts for greatest results. Not only are the four ski areas included, but also entities such as government facilities, sanitation districts, institutions (schools), and locally owned businesses as well as national franchises that are a large part of Summit County’s tourist economy and can make a real difference in energy use in the county.

Focus Area 3: Hotel and Lodging Sector

Continuing to address the drivers within a resort economy, the third focus area targets properties designed for short-term occupancy that are estimated to account for 33 percent of total county energy use (Recreational & Occasional and Hotels/Lodging combined from Figure 9). These properties are prevalent and particularly challenging given the natural disconnect between building owner and occupant; however, because building owners and property managers are responsible for the cost of utilities, they are key to outreach and efficiency in this arena.

Focus Area 4: Renewables

Because Summit County's vision includes striving for more locally produced energy, it is important to address renewables in this Energy Action Plan. Using outreach channels identified for the other focus areas to increase awareness of and resources for increased renewable opportunities, both commercial and residential, will encourage both large and small installations in the county over time.

Goals

Historical Conservation Performance

This Energy Action Plan considers the roles existing conservation initiatives in Summit County as well Xcel Energy Demand Side Management (DSM) program participation and conservation savings have played for the past several years in order to determine realistic goals moving forward. Figure 10 shows cumulative Xcel Energy conservation data for the county starting in 2009. Average first-year annual electric savings from 2009 to 2014 is 0.64 percent of total community electric consumption, the average first-year annual therm savings is 0.1 percent of the total community natural gas usage, and the blended savings is 0.24 percent of total community energy consumption.

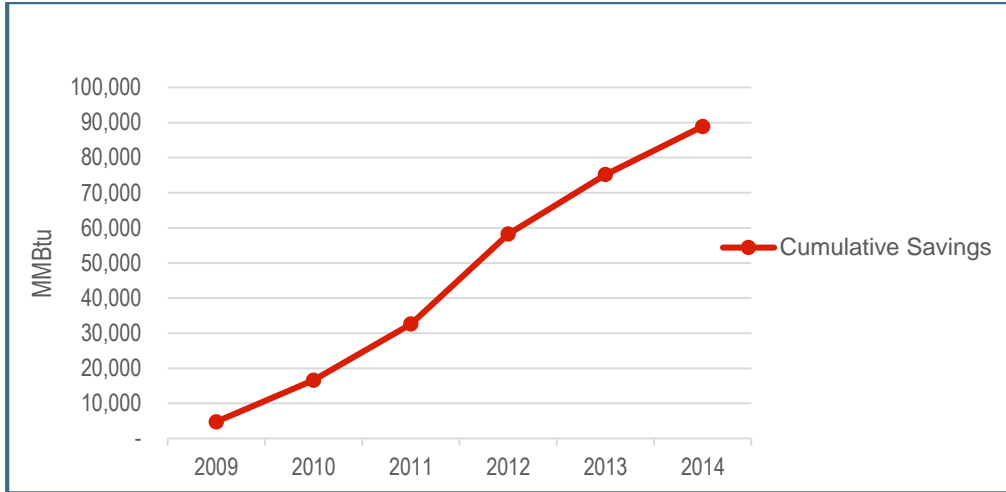


Figure 10: Community Energy Savings from DSM Program Participation (MMBtu)

For comparison, Xcel Energy’s annual statewide goal is 1.5 percent reduction for electricity and 1.0 reduction for natural gas. These data give a sense for what is possible through Partners in Energy.

Energy Action Plan Goals

Partners in Energy is an opportunity to coordinate 18 months of concerted implementation to reduce energy use and to build awareness and persistence moving forward. The planning team recognizes that setting a realistic goal for this timeframe represents a significant increase in savings and efficiency participation above a business-as-usual scenario and aligns with making progress toward a more aspirational goal. The overarching goals for this Energy Action Plan are as follows:

- **Triple the level of annual community-wide energy savings by the end of 2017**
- **Reduce community-wide greenhouse gas emissions by 15 percent by 2020**

It is notable that Xcel Energy has been reducing the greenhouse gas emissions intensity of its electric mix since 2005 with plans for further progress through the 2020 planning horizon (see [Xcel Energy Corporate Responsibility Report](#)). Because of Xcel Energy’s efforts, greenhouse gas emissions in Summit County are projected to fall by 35 percent over 2005 emissions by 2020 as a result of lower emitting fuel sources in the electricity mix delivered to the county. This reduction, combined with the annual savings from the strategies detailed in the following section and continued participation at 50 percent of estimated rates for 2017 through 2020, provide a path to achieve the 30 percent reduction in greenhouse gas emissions by 2020. Figure 11 illustrates the potential and anticipated outcomes.

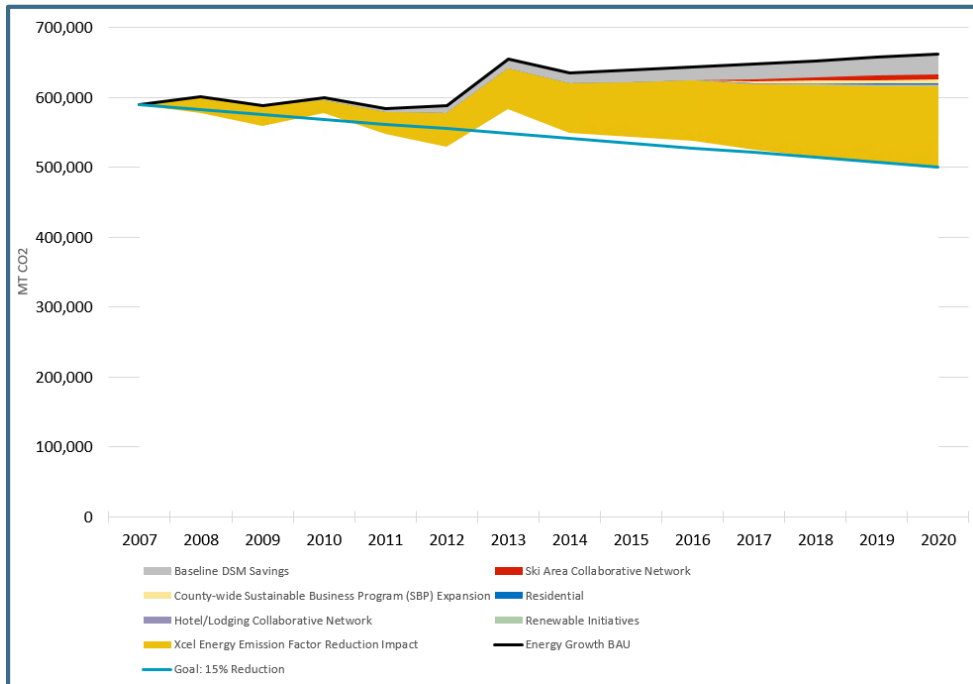


Figure 11: Combined Energy Savings and Emissions Factor Reduction (Metric Tons CO2e)

How Are We Going to Get There? – Strategies

Identifying and Prioritizing Energy Efficiency Strategies

A plan is nothing without related action. The planning team developed specific energy strategies for each focus area by examining community energy data, brainstorming and prioritizing possible actions, and assessing the potential impacts compared to the identified goals.

Each strategy has its own action plan that identifies a responsible party or group, outlines implementation steps and a timeline, considers the costs and benefits, identifies partners or resources, and assigns metrics for tracking progress.

Implementation Steps and Strategies

Summit County will implement its Energy Action Plan over the course of the next 18 months, beginning with a presentation to the County Commissioners in early February 2016.

Focus Area 1: Existing Program Reinforcement

Summit County, and High Country Conservation Center in particular, are engaging residential customers in a variety of ways already and want to take advantage of the team and infrastructure in place for delivering on these initiatives in ways that support and enhance the potential participation. In addition, the residential sector is a key to reducing overall county energy use and the strategies described below will drive toward that reduction.

Strategy 1: Energy Smart Colorado for Residents

Description

Continue to offer home energy audits to residents in Summit County and complete energy efficiency projects. Launch CARE (Colorado Affordable Residential Energy) program for income-qualified residents.

Targets

Estimated 188,000 kWh and 39,000 therms (4,500 MMBtu) by the end of 2017

- 180 Energy Smart residential energy audits
- 180 Xcel Energy Home Energy Squad® direct installs
- 90 energy retrofits completed (1/2 of audits completed – 50% conversion rate)

Scope

- Engage towns to provide continued funding support for existing programs
- Coordinate with Xcel Energy to provide Home Energy Squad direct install services during residential energy audits
- Coordinate with CARE program for income-qualified residents

Responsible Parties

Team Lead: High Country Conservation Center, Cody Jensen
 Deeper Green Consulting, Matt Wright
 High Country Conservation Center Board Members
 Local Energy Auditors and Home Performance Contractors

Timeline

February 2016: In-person meeting among Xcel Energy, CLEAResult, and High Country Conservation Center to discuss ongoing partnership to meet energy reduction goals. Coordinate with CLEAResult on providing direct install as part of residential audits and request supplies and additional promotional materials for Xcel Energy Refrigerator Recycling and Showerheads offerings.

March 2016: Conduct Energy Committee Meeting to Discuss goals (bi-monthly meetings for quarterly reporting)

July 2016: Initiate discussions with towns and the county to confirm continued financial support for existing programs and refine outreach approach to reach targets.

Ongoing: Track progress and share results with larger planning group.

Funding

Energy Outreach Colorado
 U.S. EPA Grant – 2016 only
 Local municipalities

Partners

Energy Smart Colorado
 Energy Outreach Colorado
 Local municipalities
 Xcel Energy’s Home Energy Squad program administrator
 Xcel Energy’s Partners in Energy program administrator

Outreach Channels

High Country Conservation Center website
 Municipality websites
 Summit Daily News

Measurement

kWh and therms saved
 Number of audits/direct installs
 Xcel Energy DSM tracking

Strategy 2: LED Bulb Give-away

Description

Provide free LED bulbs to county residents, resulting in an immediate reduction in energy use.

Targets

Estimated 384,000 kWh (1,300 MMBtu) by the end of 2016

- 5,000 free LED bulbs provided by Xcel Energy in local homes
- 7,000 subsidized LED bulbs purchased by Town of Breckenridge

Scope

- Work with Xcel Energy Home Lighting to get free and reduced cost LED bulbs
- Request financial participation from municipalities and Summit County for additional subsidized LED bulbs for ongoing participation
- Plan give-away event and outreach

Timeline

February 2016: Request LED bulbs from Xcel Energy Home Lighting
 February 2016: Approach local municipalities and Summit County about additional participation
 March 2016: Plan event and outreach
 July 2016: Host event

Responsible Parties

High Country Conservation Center, Cody Jensen (team lead)
 Town of Breckenridge, Mark Truckey or Julia Puester

Partners

High Country Conservation Center
 Summit County municipalities
 Summit County government
 Xcel Energy Home Lighting program

Outreach Channels

Board of County Commissioners
 Property management companies/homeowner associations
 Summit Daily News
 Summit County School Board
 Town Councils

Measurement

Number of bulbs distributed

Focus Area 2: Ski Areas and Other Commercial Entities

Given the impact of and leadership by ski areas in the county, as well as other commercial entities, including institutions and local governments, this focus area has the greatest potential for reducing energy consumption. The strategies for addressing this focus area rely heavily on collaboration, shared information and education, and recognition for participation and progress. Note that the participant targets for each strategy are additive and do not overlap.

Strategy 3: Ski Area Collaborative Network

Description

Convene a ski area collaborative network and leverage Ski Area Summit and ski area energy managers' meetings to identify experts, set individual ski area goals, support coordinated implementation of a range of projects to meet ski area goals, and demonstrate influence and leadership.

Targets

Estimated 4,430,000 kWh and 50,600 therms (20,000 MMBtu) savings from February 2016 through December 2017. These savings estimates are based on a **potential mix of projects**, such as those listed below:

- Commercial Refrigeration: 11
- Custom Efficiency: 4
- Motor Efficiency: 8
- Process Efficiency: 1
- Recommissioning: 2
- Lighting Efficiency: 16

Scope

- Gain buy-in of ski area CEOs and COOs during Ski Area Summit
- Solicit network members and convene regular meetings
- Ask ski areas to set individual energy goals and incorporate those goals into community-wide goals
- Ask ski areas to share energy reductions (in kWh and MMBTU) with High Country Conservation Center and each other to track progress towards community-wide goals
- Leverage ski area energy managers' twice annual meetings
- Identify experts at each area to provide leadership
- Share successes and challenges and influence others in communities
- Communicate program goals and successes in Summit Daily News

Responsible Parties

Team Lead: Vail Resorts, Ray Weller
 Arapahoe Basin, Sha Miklas, Mike Nathan
 Copper Mountain, Jeff Grasser, Mark Kramer
 High Country Conservation Center, Jen Schenk
 Town of Frisco, Joyce Allgaier
 Vail Resorts, Graham Goodman, Scott Yule

Timeline

March 2016: Introduce collaborative network concept and plan Ski Area Summit
 March 2106: Identify and convene key stakeholders for network
 June 2016: Drive goal setting and publicly announce goals
 Summer 2016, summer 2017: Implement projects

Funding

Ski areas
 Xcel Energy rebates

Partners

High Country Conservation Center – Sustainable Business Programs
 Xcel Energy’s Partners in Energy program administrator
 Xcel Energy’s Process Efficiency program administrators

Outreach Channels

Direct contact with key staff at ski areas
 Ski Area Summit

Measurement

Numbers and types of projects implemented by end of 2017
 Energy reduction (kWh and therms) by ski area

Strategy 4 focuses on businesses beyond the ski areas, and includes local businesses, local government facilities, and institutions.

Strategy 4: Sustainable Business Program Expansion

Description

Expand existing Sustainable Business Programs to serve both small and medium businesses as well as institutions and government entities and serve as a cohesive channel for education and project implementation, as well as participant recognition.

Targets

Estimated 3,040,000 kWh and 48,200 therms savings (15,000 MMBtu) from February 2016 to July 2017. These savings estimates are based on a **potential mix of projects**:

- Commercial Refrigeration: 36
- Computer Efficiency: 4
- Lighting Efficiency: 4
- Lighting Small Business: 49
- Recommissioning: 3
- On-site Assessment: 65
- Building Tune-up: 40
- Energy Management Systems: 3
- Motor Efficiency: 4

Scope

- Coordinate with towns and unincorporated county areas, including Keystone and Copper Mountain
- Identify real partners and evaluate staffing resources needed to run an expanded program through High Country Conservation Center
- Get buy-in for increased resources (local governments, county, High Country Conservation Center)
- Develop a commercial refrigeration campaign to target grocery, convenience, liquor, and restaurant businesses
- Develop relationships with applicable contractors to perform work and help facilitate projects for customers
- Identify businesses that use the most energy (including grocery and big box stores) and target them specifically for participation and leadership
- Recognize participants and provide public recognition/marketing incentives for participation
- Track project costs, energy savings, and applicable carbon reductions
- Develop a county-wide scoring/certification tool instead of relying on each municipality

Responsible Parties

Team Lead: High Country Conservation Center, Martha James Johnson

High Country Conservation Center, Cody Jensen

Northwest Colorado Council of Governments, Rachel Lunney

Summit County, Kate Berg

Summit County School District, Woody Bates

Town of Breckenridge, Mark Truckey

Town of Dillon, Ned West

Town of Frisco, Emily Wood

Town of Silverthorne, Lina Lesmes

Timeline

- March 2016: Develop plan for expansion, including staff costs and costs to develop opportunities packet
- March 2016: Engage Xcel Energy and Franklin Energy to develop commercial refrigeration campaign
- April 2016: Convene town and county representatives to present costs and set new funding targets/commitments for High Country Conservation Center
- Summer 2016, Summer 2017: Deploy commercial refrigeration campaign and begin implementing projects
- July 2016: Develop and deploy consolidated opportunities information packet and recognition structure
- Late Summer 2016: Conduct outreach to high use customers and others
- Summer 2016, Summer 2017: Implement projects

Funding

- Energy Smart Revolving Loan Program
- Colorado Energy Office
- Summit County
- Towns of Breckenridge, Dillon, Frisco, and Silverthorne
- U.S. Department of Agriculture (USDA)
- Xcel Energy DSM program (rebates)

Partners

- Northwest Colorado Small Business Development Centers, Lindsey Stapay
- Summit County Chamber of Commerce, Judi LaPoint
- Summit Independent Business Alliance
- Xcel Energy's Partners in Energy program administrator

Outreach Channels

- Established business programs
- Northwest Colorado Council of Governments
- Northwest Colorado Small Business Development Centers - Small Business Development & Workshops
- Summit County Chamber of Commerce
- Summit Independent Business Alliance
- Summit Daily News
- Participating town and county websites and news venues
- County bus advertising

Measurement

Numbers of business participants
 Types of projects implemented by 2018
 Energy reduction (kWh and therms)

Focus Area 3: Hotel and Lodging Sector

Given the nature of a resort community and the volume of overnight visitors that come to Summit County in all seasons, there are a variety of properties providing accommodation that have a significant effect on energy use in the county.

Strategy 5: Hotel and Lodging Collaborative Network**Description**

Convene a sustainable lodging collaborative network to inform property management companies, home owners' associations (HOAs), hotels, and lodging associations about energy opportunities and the expanded Sustainable Business Program.

Targets

Estimated 1,524,000 kWh and 15,000 therms (6,700 MMBtu) from January 2016 to July 2017. These savings estimates are based on a **potential mix of projects**:

- 10 Small Business Lighting projects
- 14 Commercial Refrigeration projects
- 6 Recommissioning projects
- 17 Lighting Efficiency projects

Scope

- Identify potential network participants from property management companies, HOA boards, and hotel representatives
- Design and convene a Sustainable Lodging Workshop to raise awareness
- Build a consolidated opportunity pack, including funding sources and return on investment estimates
- Partner with Colorado Mountain College bachelor program in sustainability to partner on supporting one of the targets above (or any of the strategies)
- Maintain regular contact with associations and recognize high performers
- Collaborate with Xcel Energy on more small and medium sized rebate programs
- Engage towns to provide platforms for outreach and program marketing
- Track savings, participation, and program costs

Responsible Parties

Deeper Green Consulting, Matt Wright (team lead)
 Breckenridge Grand Vacations, Jessica Hoover
 High Country Conservation Center, Cody Jensen
 High Country Conservation Center, Jen Schenk
 Town of Breckenridge, Julia Puester

Timeline

March 2016: Identify stakeholders
 March 2016: Begin conversation with Colorado Mountain College on leveraging sustainability curriculum to serve increased county needs
 April 2016: Develop communications plan for regularly getting information out to businesses and associations
 May 2016: Design workshop objectives and content
 June 2016: Develop and deploy consolidated opportunities packet to be delivered at workshop
 June 2016: Convene a stakeholder workshop with at least 50 attendees (donated venue could be CMC, ski areas, county building with small fee to cover food, etc.)
 Ongoing: Coordinate with Sustainable Business Programs and Ski Area Collaborative efforts to increase enrollment in these programs
 Fall 2016 and Summer 2017: Implement projects

Funding

Summit County
 Xcel Energy DSM programs (rebates)
 U.S. Department of Energy, Energy Loan Guarantee Program
 U.S. Department of Agriculture, Rural Energy for America Program

Partners

Breckenridge Lodging Association
 Colorado Mountain College
 IMPACT Energy, Melissa Kline
 Summit Combined Housing Authority
 Xcel Energy's Partners in Energy program administrator

Outreach Channels

- Breckenridge Lodging Association
- Breckenridge Tourism Office
- Colorado Department of Regulatory Agencies, HOA Information and Resource Center web site and HOA listings
- Ski resort hotel managers
- Summit County Chamber of Commerce

Measurement

- Numbers of lodging participants
- Types and numbers of projects implemented by 2018
- Energy reduction (kWh and therms)

Focus Area 4: Renewables

Summit County’s vision includes striving for more locally produced energy. Raising awareness about the viability of renewable energy, increasing access for participating homes and businesses, and encouraging more production will perpetuate this vision.

Strategy 6: Solar Campaign

Description

Encourage solar projects (gardens, roof-top systems, etc.) on municipal buildings/properties, School District properties/facilities, and residential facilities.

Targets

- 560 kW installed solar with estimated generation of 833,000 kWh (2,800 MMBtu) by the end of 2017
- One 500-kW solar garden
 - Ten 6-kW residential systems

Scope

- Engage towns to provide funding support and land
- Recruit anchor tenants for planned solar garden
- Explore land opportunities for additional solar gardens
- Encourage towns/county to identify municipal buildings with solar potential and start solar feasibility studies
- Contract with solar garden installer (Clean Energy Collective did the solar gardens in Breckenridge)

- Develop purchase packages with a variety of options, including lower minimum buy-ins) and establish platform for businesses and Community members to partake in solar offerings
- Incorporate renewable energy participation into other strategies (i.e., incentivize/encourage small businesses, homeowners, HOA's, ski areas, and other commercial entities to participate in community-based renewable energy offerings)
- Engage Xcel Energy to offer grid connection incentives for large solar projects and for distributed systems on commercial properties

Responsible Parties

Team Lead: Innovative Energy, Adrienne Boland
 Deeper Green, Matt Wright
 High Country Conservation Center, Martha James Johnson
 Town of Frisco, Joyce Allgaier

Timeline

March 2016: Initiate discussions with towns county, and School District on conducting a feasibility study to determine where there is the greatest potential for solar installations

March 2016: Develop targets and plans and present to Town Councils and County Commissioners

April 2016: Work with Summit County and town governments to arrange donation/purchase of land for solar gardens and start bid process with solar installers

May 2016: Select winning bid

June 2016: Celebrate Breckenridge 500 kW solar garden on McCain property

July 2016: Engage Xcel Energy to collaborate with towns and county and offer grid connection incentives for large solar projects and for distributed systems on commercial properties

2017: Potential implementation of feasibility study findings

Ongoing: Advertise solar panel purchasing and establish and maintain a platform for community and businesses to participate in renewable energy offerings

Funding

Local municipalities
 Power purchase agreements
 U.S. Department of Energy Loan Guarantee Program
 U.S. Department of Agriculture, Renewable Energy for America Program
 Xcel Energy Solar Rewards incentives

Partners
Renewable Energy Association
Clean Energy Collective
Active Energies
Colorado Mountain College
Solar installers
Outreach Channels
Summit County Board of County Commissioners
Summit Daily News
Town Councils and town web sites
Measurement
Number of systems installed
kW produced

How Are We Going to Stay On Course? – Monitoring and Reporting

Summit County is dedicated to achieving the goals outlined in this plan and recognizes consistent effort, communication, tracking, and accountability is essential for success. This section outlines the monitoring and reporting structure that will help maintain momentum, document success and challenges, and measure outcomes.

Operational Actions and Tracking

The planning team will continue to meet every 6 months through the end of 2017 to note progress, address challenges, and offer support and solutions. In addition, strategy teams have been formed and leaders identified. These teams will meet regularly to further plan and implement the strategies. A representative from each of the strategy teams will be represented at the 6-month planning team meetings to share progress, successes, and challenges. In between meetings, the planning team will stay up to date on implementation efforts using a shared site for resources, messaging, polling, and a group calendar. This site will be

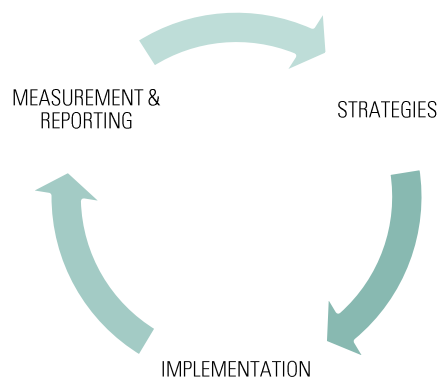


Figure 12: Implementation Process

maintained by High Country Conservation Center with input from each strategy team lead.

Xcel Energy Partners in Energy will provide a tracking mechanism into which each strategy team can record progress, including Xcel Energy results related to DSM program participation and will provide an update based on these data at each 6-month planning team meeting.

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. High Country Conservation Center and Summit County will post progress updates on their respective websites, and leaders of the collaborative networks will establish regular conduits for sharing information with their members. In addition, press releases, newsletter pieces, postings to social media, etc., will be developed to communicate progress and success throughout the implementation phase.

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 residential 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, the regularly scheduled strategy team meetings as well as the 6-month 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.

Ongoing Planning Team Support

The continued support and insight of the Summit County planning team is crucial for this plan's success. Individual members will be involved in advising and supporting individual strategies as well as engaging those beyond the planning team to get strategies off the ground. Their level of effort will include 6-month planning team meetings and participation on strategy teams for which they have volunteered. If a

planning team member is not able to commit to continued participation, he or she will appoint an alternate to fill the role.

Recognition for Achieving Goals

Each of the strategies outlined in this plan will have its own methods for recognizing participants and high performers; however, it will be important to let the county at large know how things are progressing and also to recognize the collaborative efforts of those involved in hitting the plan targets. At critical milestones, High Country Conservation Center and Xcel Energy will publish updates on progress, share successes, and congratulate participants and partners through the High Country Conservation Center web site and press releases. In addition, to recognize the achievement of plan targets, Xcel Energy will provide funding to support equipment for residential direct installation through High Country Conservation Center.

Beyond the Plan Horizon

Summit County can be an example to other communities in Colorado that are hoping to engage their population, businesses, and institutions and reduce their energy consumption. To this end, Summit County intends to share its story, including successes and challenges, to inform best practices in energy planning in Colorado.

Furthermore, Summit County intends to revisit this Energy Action Plan once the Partners in Energy implementation period draws to a close to set new goals for subsequent years, acknowledging that taking small bites is more effective than eating the whole elephant at once. This recursive planning approach incorporates all the lessons learned, new technologies, new programs, changing resources, and evolving priorities for the community

Appendix 1: Partners in Energy Planning Memorandum of Understanding