



ECOACTION REPORT 2017

TRACKING OUR COMMUNITY'S PROGRESS TOWARD A SUSTAINABLE FUTURE
Ouray County & San Miguel County | Colorado



Community



Emissions



Energy



Waste

OUR MISSION: To inspire, initiate, and support collaborative community actions that enhance resilient economic, environmental, and social systems.

OUR PARTNERS:

Thank you to all our partners, sponsors, donors and supporters for their continued commitment to sustainability:

- Town of Telluride*
- Town of Mountain Village*
- San Miguel County*
- Town of Ridgway
- City of Ouray
- Ouray County
- Town of Ophir
- Town of Norwood
- San Miguel Power Association
- Black Hills Energy
- Telluride Foundation
- Energy Outreach Colorado
- Colorado Energy Office
- Colorado Department of Public Health and Environment
- Colorado Statewide Sustainability Network
- University of Colorado Denver
- Alternative Power Enterprises
- Ace Hardware - Timberline
- Mountainfilm
- Planet Bluegrass
- Telluride Ecology Commission
- ROCC Ridgway Ouray Community Coalition: Clean Energy Committee

*FOUNDING PARTNERS



CONTACT INFORMATION

EcoAction Partners
335 ½ W. Colorado Ave.
PO Box 1625
Telluride, CO 81435
970-728-1340
info@ecoactionpartners.org
www.ecoactionpartners.org

FOR MORE INFORMATION VISIT: ECOACTIONPARTNERS.ORG

ECOACTION PARTNERS IS A 501(C)(3) ORGANIZATION IN GOOD STANDING WITH THE IRS.

GREETINGS!

I am pleased to bring you our first EcoAction Report, which pulls together 7 years of data on Greenhouse Gas (GHG) emissions for our region. Created in 2007, EcoAction Partners continues to fulfill our mission to build outstanding partnerships to develop and implement sustainability programs in San Miguel and Ouray Counties.

From where I sit, I can hear Prospect Creek flowing and powerful with snow melt from the ski area. Our snowpack is critical to our region. It draws tens of thousands of visitors from around the world to ski and do other sports; it is the basis of our winter economy. This watershed, originating in the San Juan Mountains, also supports plants, animals, and human life as it flows into the Colorado Basin. Our snowpack ultimately provides drinking water for millions of people in the cities of Phoenix, AZ & Los Angeles, CA. Wow! This little corner of Colorado is significant. We are all connected.

The federal government's denial of the science supporting the rise in GHG emissions, and increased temperatures, is alarming. However, it is a wake-up call to ensure that we are doing all we can at the local level, both as individuals and as a community. Please take responsibility for your actions and voice support for state and regional programs that track and reduce greenhouse gas emissions. Now is the time.

Thankfully our local governments are forward thinking. It was through an intergovernmental agreement between Telluride, Mountain Village and San Miguel County that EcoAction Partners (then The New Community Coalition) was created to serve as our region's sustainability organization. Since then, EcoAction Partners has grown our regional network and now includes the founding partners AND the towns of Norwood, Ophir, Ridgway and the City of Ouray, and Ouray County. These governments participate in the Sneffels Energy Board, a regional group dedicated toward reducing regional greenhouse gas emissions and coordinated by EcoAction Partners since 2009 (more info in the pages that follow).

As participants in the Sneffels Energy Board, all governments have made great strides in reducing their own utility usage through lighting, weatherization and energy efficiency upgrades and installing or offsetting with renewable energy systems. Through these efforts we have seen the government utility energy emissions reduce significantly, despite increased services across the region. Through these actions, governments are leading the way, but their emissions are only a small slice of the pie. About 97% of our Greenhouse Gas Emissions comes from the community.

EcoAction Partners collects and presents our community's Greenhouse Gas Emissions data annually. We use this data to engage our constituents, and to target programs that promote energy efficiency, renewable energy and GHG emission reductions.

The report that follows presents: our community's greenhouse gas emissions data, actions that our government partners have taken to reduce their energy use, programs and rebates available through San Miguel Power Association, a key partner in energy reduction, and other EcoAction Partners programs. I hope you find this information useful and an impetus to get involved! We welcome you.

Thank you,



HEATHER KNOX
Executive Director
EcoAction Partners

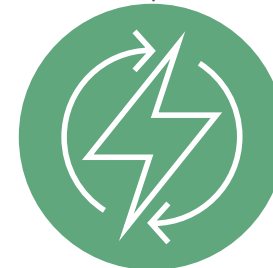
OUR ECOACTION AREAS:



**EMPOWER &
ACKNOWLEDGE LOCAL
SUSTAINABILITY
ACTIONS**



**TRACK PROGRESS
TOWARD REGIONAL
GREENHOUSE GAS
EMISSIONS GOALS**



**PROMOTE ENERGY
EFFICIENCY &
RENEWABLE ENERGY**



**REDUCE WASTE
THROUGH RECYCLING,
COMPOSTING &
EDUCATION**

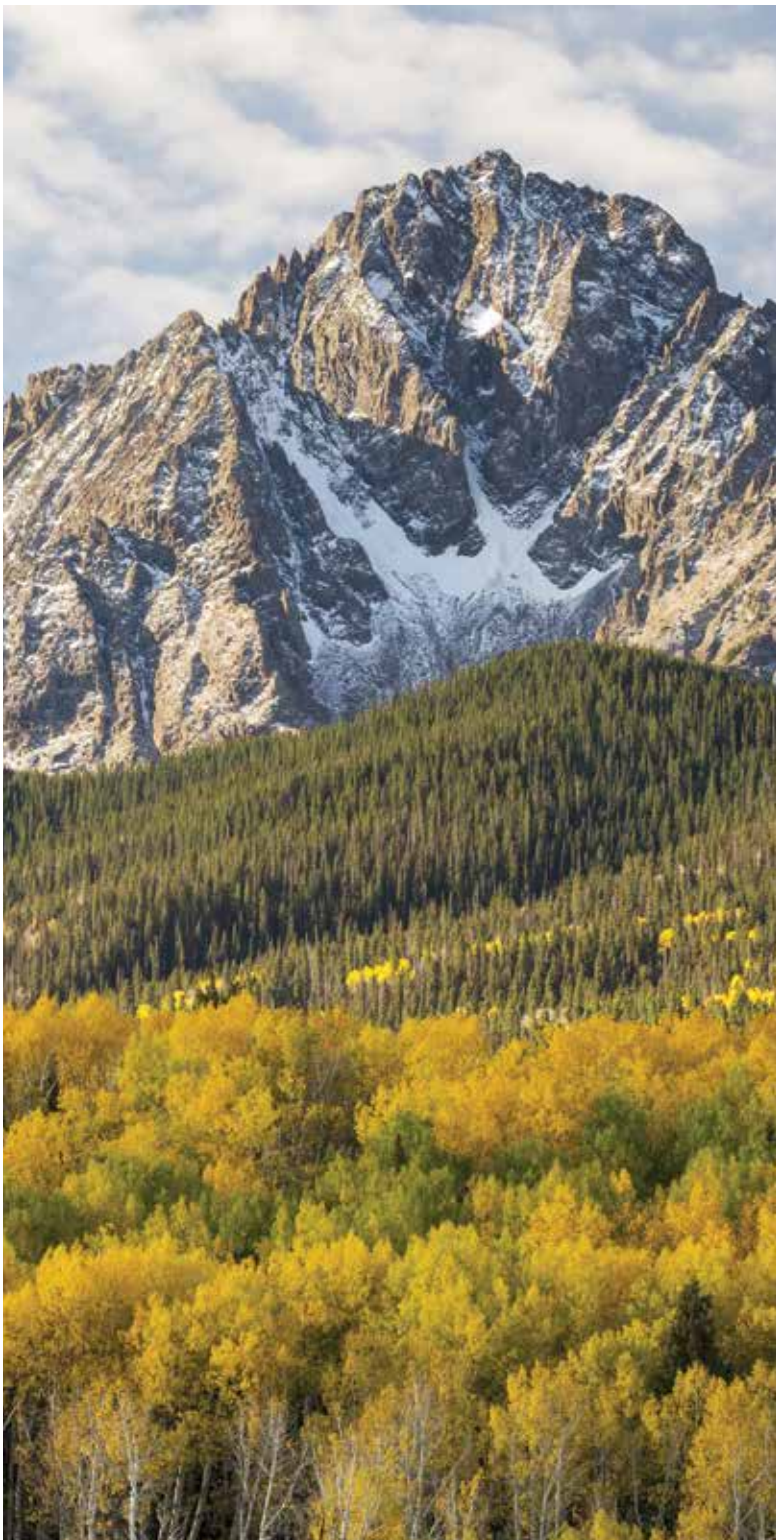


TABLE OF CONTENTS

Discover how EcoAction Partners with...

Regional Leaders	6
Communities	10
Businesses	18
Schools & Youth	21
Universities	22
Governments	23
Local Utilities	32

...to build a more sustainable future across the region.

Inside you'll also find exciting details about accomplishments made by...

LOCAL GOVERNMENTS:

Town of Telluride	24
Town of Mountain Village.....	26
San Miguel County.....	27
Town of Ophir.....	28
Town of Norwood.....	28
Town of Ridgway.....	29
City of Ouray	30
Ouray County.....	31

And...

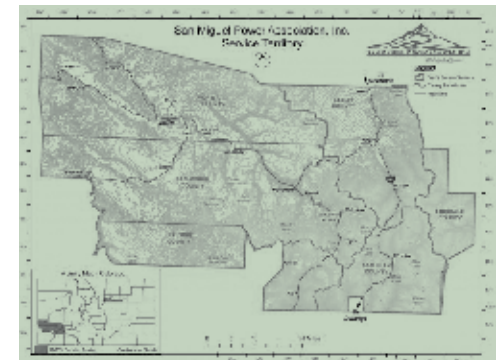
LOCAL UTILITIES:

San Miguel Power Association – Electricity.....	32
Black Hills Energy – Natural Gas	33

...to proactively address sustainability in your community.

THE 2017 ECOACTION REPORT HIGHLIGHTS:

- Why sustainability matters for our region
- Who is stepping up on sustainability with EcoAction Partners
- What kinds of collaborative actions we are taking
- How much progress has been achieved to date
- Where you can get engaged and join in the action



OUR PROGRAMS:

- **Sneffels Energy Board:** Convening local leaders to set and accomplish regional sustainability goals that reduce greenhouse gas emissions and consumption of valuable natural resources across the region.
- **Regional Greenhouse Gas Emissions Inventory:** Reporting community progress toward reducing emissions and providing data for regional programs.
- **Greenlights:** Encouraging the switch to LED lighting with rebates of up to 75% off per bulb.
- **SMPA Income Qualified Weatherization:** Assisting low to mid-income residents in making home energy efficiency improvements and participating in a community solar array.
- **Alpine Bank Energy Loans:** Offering a way for individuals and families to finance energy efficiency improvements and renewable energy projects for their homes and businesses.
- **Green Business Certification:** Empowering local businesses to complete energy efficiency improvements and conservation measures.
- **Festival & Event Composting:** Reducing landfill waste generated at events across the region through Compost, Recycling & Trash (CRT) Stations, vendor support, and attendee engagement.
- **Truth or Dare:** Challenging kids and families in our community to reduce their carbon footprints, save money, energy, and waste through a fun and educational school program.
- **Green Projects Grant Program:** Funded capital projects for residents, businesses, non-profits and governments that deliver measurable greenhouse gas reductions in San Miguel County.

NEW & UPCOMING!

- **SMPA Community Solar Pledge:** Giving community members the opportunity to express their desire for SMPA to work toward developing a new community solar array in the region.
- **Green Festival Certification:** Finding further opportunities for festival organizers, vendors and attendees to conserve valuable natural resources and reduce their collective carbon footprint.
- **Regional Composting Network:** Planning of convenient 'neighborhood' composting centers that will divert landfill waste, reduce emissions and generate compost for agriculture.
- **Commercial Property Assessed Clean Energy (C-PACE):** Coming soon to your county. C-PACE will provide financing to property owners for a variety of improvements, including new heating or cooling systems, lighting, water pumps, insulation, solar panels and other renewable energy projects.



LEARN MORE ABOUT HOW YOU CAN TAKE ECOACTION TODAY! ECOACTIONPARTNERS.ORG

ECOACTION PARTNERS WITH REGIONAL LEADERS

to set goals, coordinate actions & track progress

SNEFFELS ENERGY BOARD

SHARED VISION

Preserve our clean air, water and environment for future generations.

REGIONAL SUSTAINABILITY GOALS



Emissions:

- Reduce GHG emissions 20% by 2020 from 2010 baseline levels



Energy:

- Decrease per-capita energy consumption 20% by 2020
- Renewable Energy: Obtain 20% of the region's electricity from renewable sources by 2020



Waste:

- Divert 75% of landfill waste by 2020



Water:

- Decrease water consumption 10% by 2020



Transportation:

- Reduce energy consumed per capita by ground and air travel

COLLABORATIVE SUSTAINABILITY ACTION PLAN

To learn more about how the Sneffels Energy Board is coordinating sustainability programs across the region, explore:



STRATEGY & ACTION PLAN: Collaborative Sustainability Action Plan & Implementation Methodology for San Miguel & Ouray Counties



Convening Leaders for Optimal Impact

Recognizing the power of collaboration, EcoAction Partners formed the Sneffels Energy Board in 2009 to address sustainability at a regional level.



Program Goal

Reduce GHG emissions and consumption of valuable natural resources in the region through coordinated community engagement, project implementation, and policy change at both local and state levels.



How It Works

The Sneffels Energy Board brings together local leaders to collaborate on setting and accomplishing regional sustainability goals. Partners of the Board meet quarterly to share information & experiences, design successful regional programs, identify new opportunities, and analyze progress. Advantages of this regional approach include a stronger voice to influence political change, greater leverage for grants, ability to address regional challenges together and improved sharing of best practices.



Participating Partners

EcoAction coordinates the Sneffels Energy Board with government and staff representatives from San Miguel and Ouray counties, the towns of Telluride, Mountain Village, Ophir, Norwood, Ridgway and the City of Ouray as well as utility partners, San Miguel Power Association, Black Hills Energy and citizen group representatives.



Results & Accomplishments

- Establish Regional Sustainability Goals
- Publish the Collaborative Sustainability Action Plan to guide program implementation regionally
- Annually collect, analyze and report on regional greenhouse gas emissions data
- Gather and share information from the Colorado statewide sustainability network
- Develop and award regional grant programs
- Identify regional opportunities to partner on waste reduction initiatives
- Adoption of building energy conservation codes across the region
- Activation of Energy Mitigation Programs in Telluride and Mountain Village to address external energy consumption (such as heated driveways)



Track progress toward regional greenhouse gas emissions goals

As part of facilitating the Sneffels Energy Board discussions, EcoAction Partners is our region's resource for collecting, analyzing and reporting on Greenhouse Gas Emissions data.

REGIONAL GREENHOUSE GAS EMISSIONS INVENTORY (2010-2016)

How was it developed?

The comprehensive GHG Inventory baseline report for San Miguel and Ouray Counties was developed by the University of Colorado at Denver: Center for Sustainable Infrastructure Systems*. EcoAction Partners annually updates the report and performs further analysis of energy use at both regional and local levels.

*Based on ICLEI/WRI protocols and the Demand-Centered Hybrid Life Cycle Analysis methodology. GHG emissions are tracked in "metric tons of carbon dioxide equivalent" (mtCO2e)

What does it show?

The report aggregates regional emissions from utility energy, transportation (including airline travel), waste, food, water and wastewater treatment" and other trans-boundary contributions. Beginning in 2010, the seven-year data trends reflect progress toward reducing emissions 20% by 2020 from the 2010 baseline in the context of our region's weather, economic, visitor and population fluctuations

Why is it useful?

Interpreting the Inventory results helps to shed light on the factors driving our emissions trends, demonstrating the success of energy efficiency programs and renewable energy projects to date, and informing where to direct continued energy conservation efforts. The Inventory results and analysis are shared annually with each government and their communities to facilitate continued progress toward reduction goals.

Setting Course – Focus on Energy in Buildings

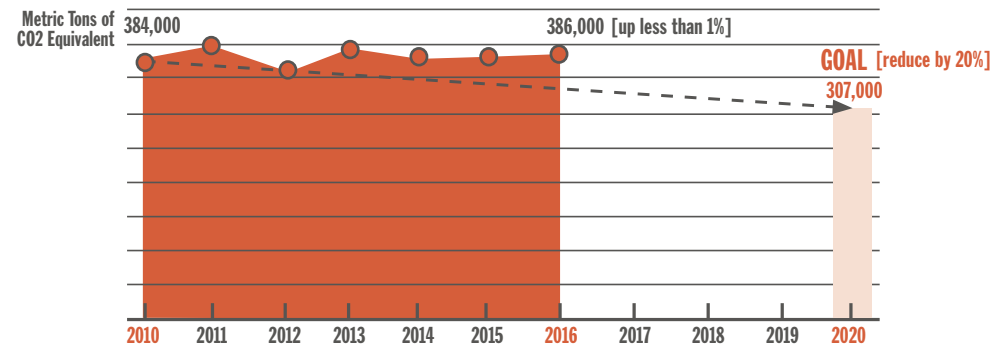
From the baseline emissions study completed in 2010, it was clear that over 50% of our emissions came from energy use – essentially, the electricity, natural gas and propane used to power our homes and businesses. To address this major source of regional GHG emissions, EcoAction Partners and the Sneffels Energy Board set reducing energy use from fossil fuels as a top priority.

Making Progress – Government Success, Community Engagement

Since 2010, regional governments have reduced their energy use, increased renewable energy production, and invested in Renewable Energy Credits – effectively cutting their portion of GHG emissions to less than 1%. In order to reach our goals, EcoAction Partners' primary focus is engaging the regional community in greenhouse gas reduction programs.

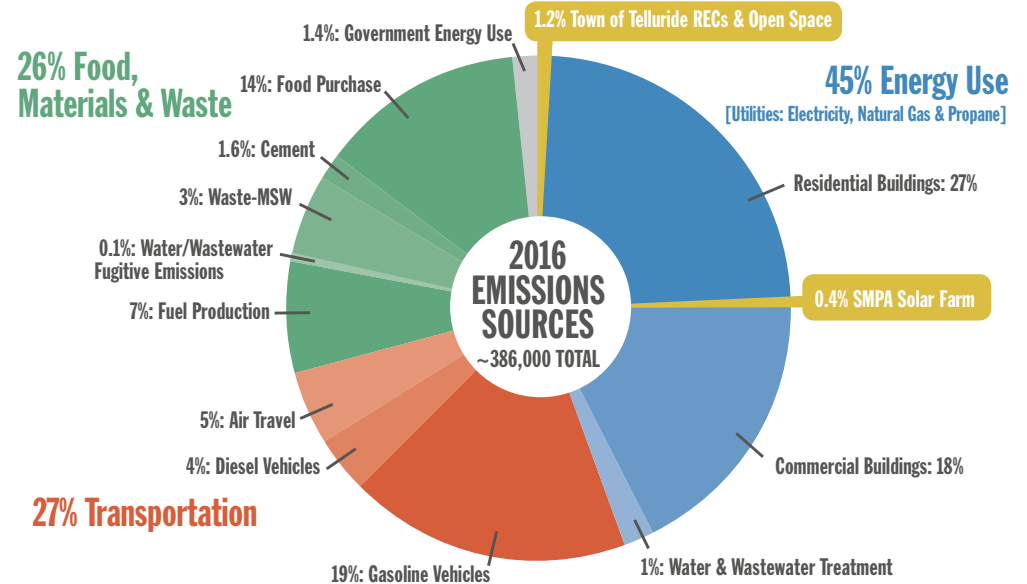
REGIONAL GREENHOUSE GAS EMISSIONS – OURAY & SAN MIGUEL COUNTIES

TOTAL GHG EMISSIONS 2010-2016



Total regional greenhouse gas emissions have increased slightly since 2010, with the dip in 2012 reflecting the economic recession. This upward trend, which is driven primarily by population and visitor increases, does not put us on track to meet our 2020 goal.

In order to reach our goal of reducing emissions by 20%, we must understand the major sources of our emissions, and use this insight to drive focused reduction efforts.



ENERGY USE (45%) remains the primary source of regional emissions in 2016, confirming EcoAction Partners' focus on energy programs designed for residential and commercial buildings.

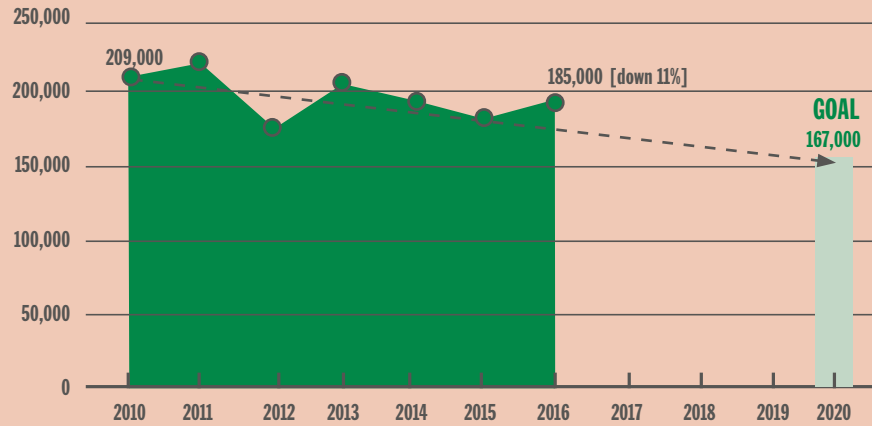
TRANSPORTATION (27%) is also a leading emissions contributor, emphasizing the need for local governments to continue to develop and implement regional transit solutions.

FOOD, MATERIALS AND WASTE (26%) are primarily estimated based on population data. Increasing local food supply and reducing waste through recycling and composting are our primary methods for reducing this portion of emissions.

REGIONAL ENERGY SPOTLIGHT: SAN MIGUEL & OURAY COUNTIES

Metric Tons of CO2 Equivalent

ENERGY USE EMISSIONS



Energy = Electricity + Natural Gas + Propane

Since 2010, we have successfully decreased emissions from Energy Use by 11% – moving us in the right direction to reduce emissions from energy use 20% by 2020.

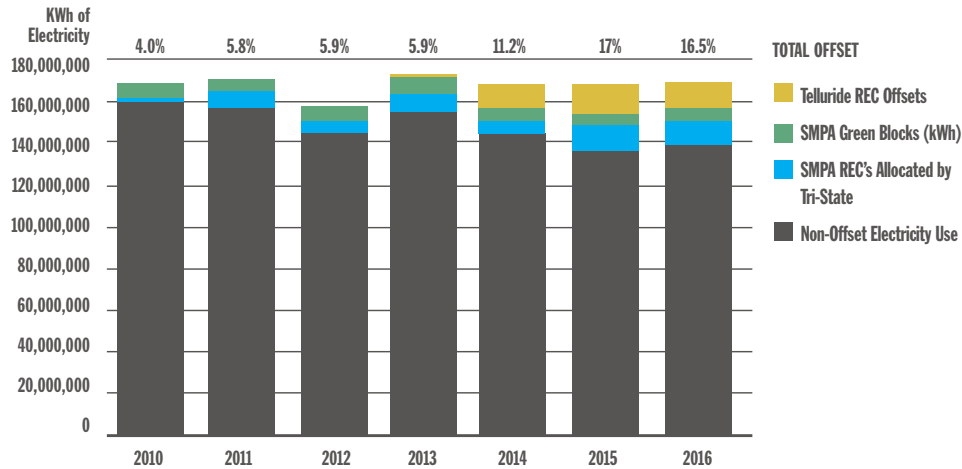
This trend shows the value of efficiency, energy offsets, and renewable energy projects completed over the past seven years, and reinforces the need for continued investments in these solutions.

TRI-STATE EMISSIONS FACTOR

The particular Tri-State mixture impacts our “electricity emissions factor”, i.e. greenhouse gas emissions per kilowatt hour of electricity used. The value is provided annually to SMPA for the previous year’s electricity and is used in our GHG emissions calculations. In comparison to most electric utilities nationwide, this value is high due to the percentage of coal in the electricity supply mixture. The Tri-State emissions factor has improved since 2010, as cleaner energy supply sources are brought online.

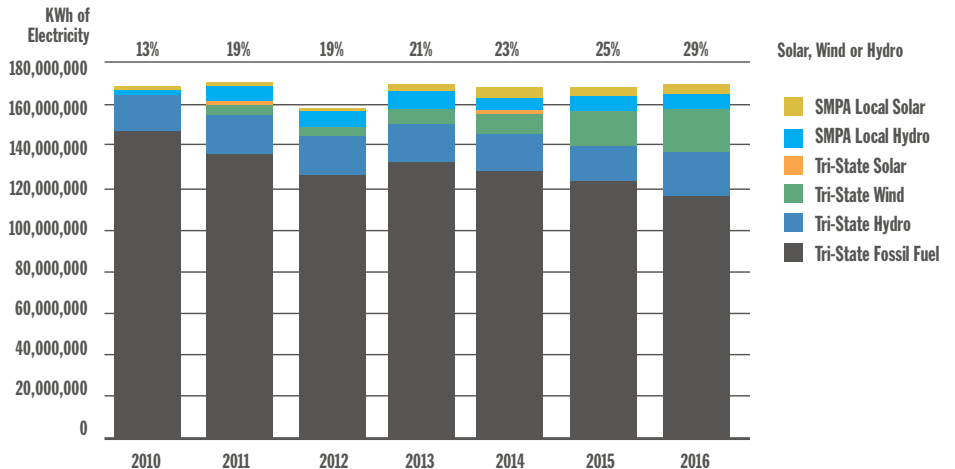
ELECTRICITY USE

WITH OFFSETS: Locally Owned Renewable Energy Credits (RECs)



This chart shows the amount of our electricity for which we locally own the RECs. The Town of Telluride’s purchase of RECs from the Ridgway Hydro Dam, and SMPA’s Green Blocks Program, are ways in which RECs have been purchased by the governments and community to reduce GHG emissions. Since 2010, we have increased our ownership of renewable energy from 4% to 16.5%.

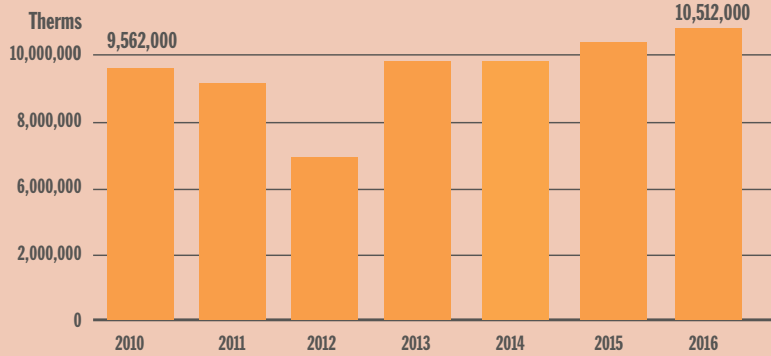
WITH RENEWABLES: Electricity Generation Sources



Electricity for our region is generated from a mixture of sources. Locally, we generate power from micro-hydro and solar systems. Tri-State’s mixture includes fossil fuels, hydro, wind and solar. Overall, electricity generation from Renewable Energy sources has more than doubled since 2010 from 13% to 29%.

REGIONAL ENERGY SPOTLIGHT CONTINUED: SAN MIGUEL & OURAY COUNTIES

NATURAL GAS USE 2010-2016 – NORMALIZED FOR WEATHER

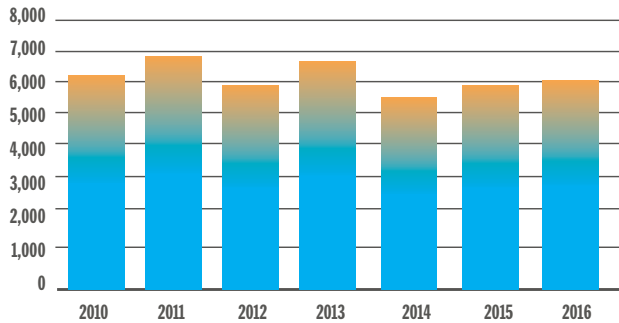


NATURAL GAS USE HAS INCREASED 10%

Natural gas is primarily used in our region for heating buildings as well as for water heating, snowmelt systems, and internal and external fireplaces. Because gas use fluctuates with outdoor winter temperatures, the data has been normalized for weather, so that we can better see usage trends.

WEATHER

HEATING DEGREE DAYS*

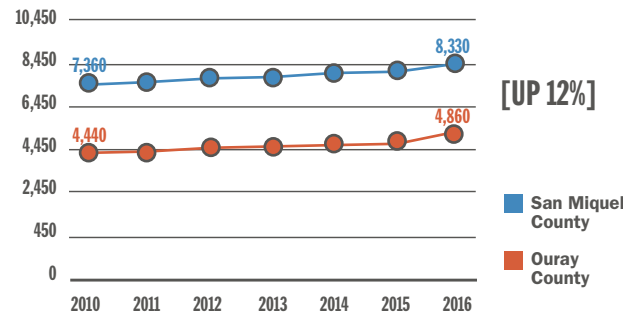


This chart helps us understand how cold it is in our region from year to year, and indicates the amount of heat needed to maintain comfortable building temperatures. The high points in 2011 and 2013 show years when we had colder weather - requiring more heating. The dip in 2014 shows more mild weather that year - requiring less heating.

*Heating Degree Days (HDD) equals the number of degrees that a day's average temperature is below 65° Fahrenheit, the temperature below which buildings need to be heated. For example, if the day's average temperature is 50° F, its HDD is 15. This chart shows the annual sum total of HDD values in a given year.

POPULATION

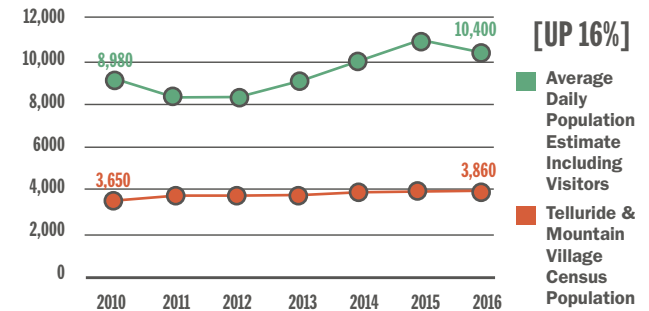
COUNTY CENSUS DATA



Regionally, our population has increased by approximately 1400 people since 2010, an increase of almost 12%. Population growth results in construction of new buildings and homes, driving increase in energy use and GHG emissions.

VISITORS

TELLURIDE & MOUNTAIN VILLAGE VISITORS AS MEASURED BY WASTEWATER TREATMENT*



Including visitors, the average annual daily population in Telluride and Mountain Village more than doubles from 3,860 to 10,400 in 2016. This is the most accurate data we have to identify changes in the visitor population to the region from year to year. Based on this estimate, visitor numbers show a steady increase since 2012, up 16% from the 2010 baseline level.

*Visitor population is measured at Telluride's Wastewater Treatment Plant, based on the Biochemical Oxygen Demand (BOD) needed by aerobic biological organisms to break down organic material present in the wastewater.

WHILE SUCCESSFUL ENERGY PROGRAMS HAVE REDUCED ELECTRICITY-RELATED EMISSIONS, POPULATION GROWTH AND VISITOR INCREASES ARE CREATING AN OVERALL EMISSIONS INCREASE. ECOACTION PARTNERS' PROGRAMS STRIVE TO ENGAGE THE ENTIRE COMMUNITY: BUSINESSES, RESIDENTS AND VISITORS.

ECOACTION PARTNERS WITH COMMUNITIES

to engage citizens, facilitate actions, and offer incentives

GREENLIGHTS PROGRAM



ORDER ONLINE
LED BULBS
UP TO 75% OFF



2015-16 Results & Accomplishments

Together We Save!

376	TOTAL PARTICIPANTS
7,362 LED	BULBS PURCHASED
\$67,596	SMPA REBATES
\$31,761	GOVERNMENT REBATES
\$99,357	TOTAL REBATES
86,000 kWh	ENERGY CONSERVED
73 METRIC TONS	CO2 REDUCED

That's Equivalent to:

77,900 LBS	COAL NOT BURNED
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ECOACTION AREA:

Promote energy efficiency & renewable energy



Program Goal

Encourage the switch to LED light bulbs throughout the region to reduce energy use and save money.



How It Works

This rebate program, gives residents and businesses the opportunity to purchase LED light bulbs at an extremely discounted rate of up to 75% off. The rebate is factored into the purchase price, so buyers don't have to wait for a refund.



Participating Partners

LOCAL GOVERNMENTS

GREENLIGHTS is available throughout the region:

Telluride	Nucla	San Miguel County
Mountain Village	Naturita	Ouray County
Ridgway	Rico	Montrose County
Ouray		Delores County



SPONSORS

San Miguel Power Association (SMPA) is the primary program sponsor, offering a rebate of 50% off per bulb at the time of purchase. Participating governments are matching half of the SMPA rebate bringing the total rebate up to 75% off per bulb. Thanks to support for Greenlights from the Telluride Foundation, EcoAction Partners is able to extend the reach of this program to new locations.



VENDORS

Bulbs are available for purchase online through these local retailers.



WWW.ECOACTIONPARTNERS.ORG/GREENLIGHTS

SMPA INCOME QUALIFIED IQ WEATHERIZATION

SUCCESS STORY

Kenneth and Evelyn Nelson from Ridgway, Colorado applied for and were accepted in the San Miguel Power Association Income Qualified Weatherization program. EcoAction Partners staff performed an energy audit on their home, and spoke to the client about the improvements that were indicated. Necessary improvements included exterior caulking and sealing around their attic paneling, along with other standard energy efficiency measures. This work was completed on their home at no cost to the family.



“ SMPA IQ Weatherization provided us with invaluable weatherization upgrades to help our home heat and cool more efficiently. I have no doubt these upgrades, like sealing windows and attic, wrapping the water heater, and replacing light bulbs with energy efficient bulbs, has save us money on our energy bills. We also qualified for a new, discounted, eco-friendly refrigerator which has been so wonderful for our family!
— EVELYN NELSON



Program Goal

Assist low to mid-income residents in making home energy efficiency improvements and participating in renewable energy.



How It Works

Established in 2016, the SMPA IQ weatherization program provides a free Home Energy Assessment to qualified renters and homeowners. The most cost effective energy efficiency measures are prioritized and then implemented at no cost to the homeowner. Once the home is weatherized, the member is provided complimentary solar panel(s) in the new SMPA solar garden to further offset a portion of their electrical use.



Locations Available

The program is available to all income-qualified members of San Miguel Power Association.



Results & Accomplishments

The 2016 goal was to reach 12-15 residences with this program. Beyond the results listed below, the improvements will save the homeowners money on their utility bills and make their homes more comfortable.

2016 SMPA IQ Results

HOMES ENROLLED	ASSESSMENTS COMPLETED	EFFICIENCY IMPROVEMENTS	ENERGY CONSERVED	CO2 REDUCED
24	16	132	505 Therms	2.7 Metric Tons



Participating Partners

Energy Outreach Colorado, San Miguel Power Association and Black Hills Energy provide funding, technical assistance and rebates in order to implement the SMPA IQ weatherization program.



ALPINE BANK ENERGY LOAN PROGRAM



Program Goal

Offer a way for residents and businesses to finance energy efficiency and renewable energy improvements.



How it Works

Seeing the need for financing, EcoAction Partners approached Alpine Bank to create a loan product to fill this niche. Loans up to \$8,000 unsecured are available (and greater amounts with collateral) for energy efficiency and renewable energy improvements. The loan payments can be structured over a length of time so that the energy savings, and thus utility savings, is greater than the loan payment, so the improvements provide a positive cash flow.



Participating Partners

Alpine Bank is the lead partner for the Energy Loan Program.



Alpine Bank

Member FDIC

SAN MIGUEL POWER ASSOCIATION COMMUNITY SOLAR PLEDGE



Program Goal

In collaboration with Mountainfilm's New Normal Initiative in 2017 and SMPA, this pledge provides an opportunity for community members to express their support and desire for SMPA to work toward development of a new community solar array in the region.



How it Works

Go to www.smpa.com/content/community-solar-power-pledge or www.ecoactionpartners.org/blog/solar-pledge-2017 and fill out your pledge to purchase solar panels. The more support SMPA receives, the sooner the possibility for a new array in the region to be built for members to buy. Power produced by solar panels in a community array offset a member's utility bills.



Participating Partners

SMPA & Mountainfilm



GREEN BUILDING CODES:

As mentioned in the energy use analysis, new construction impacts energy use. Thus, EcoAction Partners has been actively involved in improving energy efficiency of new construction in the region, beginning with facilitating the establishment of progressive building energy codes in 2009. Through CO state grant assistance, EcoAction implemented an Energy Star for New Homes program from 2008-2010, which provided many educational opportunities for the regional building community. EcoAction continues to assist regional building departments in updating and implementing Building Energy Codes, including Renewable Energy Mitigation Programs (REMP) that address exterior energy use.

GREEN PROJECTS GRANT PROGRAM



Program Goal

- To reduce greenhouse gas emissions by at least 100,000 pounds of carbon per year through energy efficiency and renewable energy projects as well as other innovative means.
- Demonstrate how potential funding can be used to measurably reduce greenhouse gases.



Objectives

Green Projects Grants support projects that meet the following objectives:

- Measurably reduce greenhouse gas emissions in San Miguel County
- Decrease energy consumption in San Miguel County
- Promote energy efficient and renewable energy systems; energy efficiency will be prioritized over renewable energy systems
- Leverage rebates and other funding sources
- Promote environmental and economic sustainability of San Miguel County
- Increase public awareness on the benefits of energy efficiency, renewable energy, and GHG reduction



How it Works

Utilizing funding from a one-time San Miguel County energy impact fee, the program solicited “incentive grants” that:

- Measurably reduce greenhouse gasses
- Prioritize energy efficiency, and
- Leverage other funding sources



Participating Partners

The Grant Program was initiated through a partnership of San Miguel County and EcoAction Partners.



Results & Accomplishments

GRANTEE	PROJECT	GHG EMISSION SAVINGS (POUNDS CO2e)	PROJECT LIFESPAN YEARS
Telluride School District	New LED parking lot lights & motion sensors tied to classroom lights	72,000	15+
Norwood School District	Switched to LED fixtures & bulbs in the gymnasium, common room, student union & exterior	58,400	15+
Town of Mountain Village	Switched to LED fixtures & bulbs for the Gondola Terminals	202,600	15+
Town of Ophir Ophir Town Hall	1. Weatherization: a window & door replacement 2. Photovoltaic installation	3,900	20+
Ah Haa School for the Arts	Switched to LED fixtures & bulbs in the historic Depot building	27,000	20+
San Miguel Power Association	Switched to LED fixtures and bulbs in Telluride branch office	27,000	15+
Telluride Historical Museum	New insulating interior windows, creating a second barrier for the historic single-pane windows	18,500	25+
Telluride Ski & Snowboard Club	Insulated ceiling to R19; updated heating system; switched to LED fixtures and bulbs.	45,100	20+
Residential Project	Removal and replacement of a coal burning furnace to a natural gas	Assessment difficult; Assumed very significant.	Forever
Residential Project	Switched to LED bulbs	10,100	20+
ANNUAL TOTAL	464,800 LBS + SIGNIFICANT lbs from removal of coal furnace = over 200 mtCO2e		

Completed Green Projects include 9 public projects and 2 private projects, one of which was the removal of a coal burning furnace. This program has reduced well over 465,000+ lbs. of carbon annually for the life of the projects (10-25+ years). 1 public project and 1 private project will be completed in 2017.

FESTIVALS & EVENTS



Reduce waste through recycling, composting & education **COMPOST RECYCLING & TRASH PROGRAM [CRT]**



Program Goal

Reduce landfill waste generated at festivals and events across the region and utilize the opportunity to engage attendees and vendors in continuing waste reduction efforts at their home or business.



How it Works

EcoAction Partners has worked with many festivals, events and organizations in our region to help them reduce and divert waste. Efforts involve working with event management to ensure sourcing local and organic food vendors, use of compostable and recyclable products, educating festival staff and attendees, training and managing volunteers for Compost, Recycling and Trash (CRT) stations.



Participating Partners

EcoAction Partners began working with local festivals in 2010 to require 100% composting of all organic waste. Telluride Bluegrass Festival, which brings approximately 15,000 visitors annually from around the world, is now a 'Zero Waste Event'. Through our partnership, Planet Bluegrass (the event organizer) has become a leader in festival composting and the educational impact has been enormous. Telluride Mountainfilm is also a Zero Waste Event, reaching and educating international visitors as well as locals. EcoAction manages CRT for Mountainfilm and the annual Telluride July 4th Fireman's picnic which draws around 12,000? people to the region each year.



Results & Accomplishments

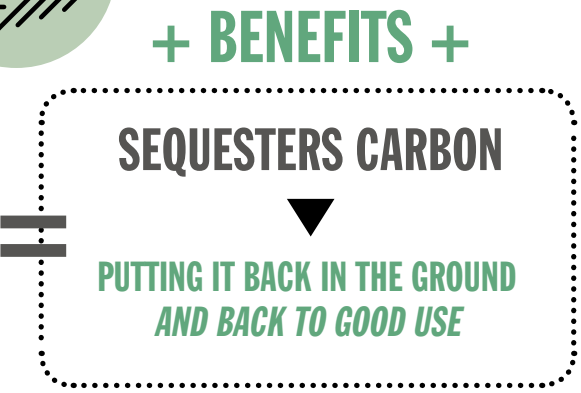
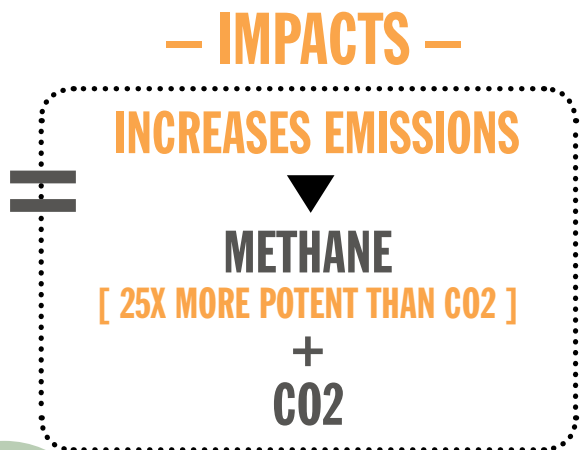
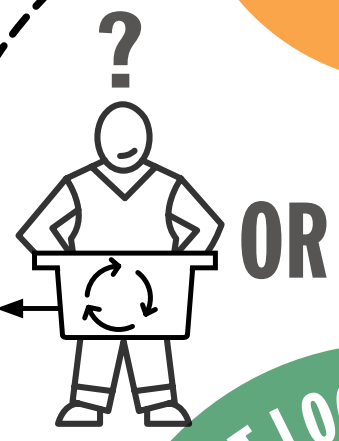
- Develop Compost-Recycling-Trash (CRT) waste reduction system for events
- Implement CRT methodology for all events using Telluride Town Park
- Supply CRT equipment to all Telluride events
- Conduct CRT training in Ridgway
- Duplicate CRT for events in Mountain Village and Ridgway, when appropriate
- Need estimates here of the total # of people who used CRT waste reduction system in 2016

FESTIVAL BOOTHS:

Each year, EcoAction Partners hosts information booths at Mountainfilm, the Telluride Bluegrass Festival, the SMPA Annual membership meeting, and other festivals and events. These outreach efforts educate not only our own regional community but also visitors from all over the world. We aim to engage locals in signing up for programs and encourage visitors to take lessons learned back to their home communities.

COMPOSTING 101

COMPOSTABLE MATERIALS =
35% OF OUR WASTE STREAM



CREATING A REGIONAL COMPOSTING NETWORK



EcoAction Partners recently completed a State of Colorado RREO Planning Grant: Sneffels Waste Diversion Planning Project



Reduce waste through recycling, composting & education

The Sneffels Energy Board set the objective of diverting 75% of the overall waste from landfills by reducing waste production at the source, recycling and composting.



Program Goal

Establish a regional composting network that will:

- **Reduce landfill emissions** – decomposing food in the landfill creates methane and carbon dioxide. Methane, as a greenhouse gas, is 25 times more dangerous in the atmosphere than CO₂. (Source: US Environmental Protection Agency).
- **Reduce vehicle emissions** – by removing food from the waste stream and processing it locally, many 70+ mile truck trips to the landfill would be eliminated.
- **Benefit local agriculture** – using compost in our local farms and community gardens reduces the need for chemical fertilizers by adding nutrients to the soil.
- **Prevent Soil Erosion and Conserve Water** – When applied to soil, compost helps loosen the compaction of heavy soils and helps soils retain water, minimizing erosion and reducing the amount of irrigation needed for landscaping or crops.
- **Sequester carbon** – recent studies have shown that applying compost to degraded grass and rangelands will sequester carbon in the soil. A perfect circle.
- **Educate and engage** the public and students in the benefits of composting.



How It Works

As a starter program, EcoAction Partners is applying for grant funds to purchase and install 6 compost units that will be placed at locations in Telluride, Mountain Village, Ophir, Ridgway and Ouray – creating ‘neighborhood’ composting centers. The compost center locations have been selected based on estimated usage, output and space available within existing secure areas.

Households would subscribe to participate in their neighborhood program, and take their food & yard waste to compost equipment located in bear-proof enclosures. On-site managers will oversee daily operations at each site. Site managers and EcoAction Partners will compile and analyze the results to compare the different types of units, identify best practices for our unique high altitude environment, and address any challenges.

The valuable compost produced at each location would then be used on community gardens, for local agriculture, or for carbon sequestration on degraded grass / rangelands. An exciting project potential includes the opportunity to partner with Telluride Schools to provide youth education opportunities. Students will learn hands-on how recycled organic matter can return to the soil and sequester carbon, reducing the need for agrichemicals and providing students with a full understanding of the post-consumer food lifecycle.



Participating Partners

State grant funders will partner with EcoAction Partners on this project, as well as the respective towns to provide space and support for this effort. Compost managers, participating community members, local schools, farmers and ranchers will all serve as valuable partners.



Locations Available

The five proposed composting locations would serve communities throughout Ouray and San Miguel counties.



Results & Accomplishments

- Completed a Regional Composting Plan
- Coordinated with local governments to determine facility placement and management options
- Submitted two grant proposals for neighborhood composting equipment in five locations including the Telluride middle/high school.

WHAT STEPS HAS ECO-ACTION TAKEN TO MAKE LOCAL COMPOSTING A REALITY?

1 – STUDY OUR WASTE STREAMS

2 – FIND DIVERSION OPPORTUNITY: COMPOSTING

3 – DEVELOP ‘NEIGHBORHOOD CENTERS’ PLAN

4 – APPLY FOR GRANT FUNDING



ECOACTION PARTNERS WITH BUSINESSES

to engage business owners, facilitate actions, and generate recognition

GREEN BUSINESS CERTIFICATION PROGRAM:



Results & Accomplishments

Since the program launched with 3 pilot businesses in 2013, it has expanded into 23 certified businesses, 8 service provider partners, 2 certified festivals, and a property management pilot program.

- Telluride Ski & Golf and Telluride Sports are new partners in 2017, working to qualify all of their their properties and businesses for certification.
- Of the certified businesses, 96% have replaced incandescent lighting with LED bulbs and upgraded to programmable thermostats, and almost 70% track their utility bills (the number 1 first step to identifying how energy is being used!)
- The Green Business Certification program grew out of the Main Street Efficiency Initiative (MSEI), a grant awarded to EAP by the Governor's Energy Office in 2011. For this program, twelve businesses and non-profits in Ouray and San Miguel Counties applied to become more energy-efficient with the assistance of EAP, local energy auditors, and energy-efficiency rebates.

ECOACTION PARTNERS
GREEN BUSINESS
CERTIFICATION 



Program Goal

Assist local businesses in identifying, prioritizing and completing energy efficiency improvements and conservation measures.



How it Works

EcoAction Partners Green Business Certification Program collaborates with businesses to help them identify and prioritize sustainability actions. Typical improvements result in reduced energy use and utility bills, recycling system improvements, and other environmentally-friendly actions that reduce the business's carbon footprint. Additionally, we work with each business to establish new annual sustainability goals.

This program also increases visibility and marketability. Certified businesses are rewarded with Green marketing: window cling and certificate, social media marketing and promotion at local events, and Green website listings in partnership with the Telluride Tourism Board and local governments.



Participating Partners

SMPA is the primary funding partner for the Green Business program.

**All businesses pay an annual certification fee as a program partner.*



Locations Available

San Miguel & Ouray Counties



CERTIFIED GREEN BUSINESSES:

Mountain Village:

INN AT LOST CREEK & TALAY GRILLE: 100% LED lighting, utility bill tracking, 50% local sustainably-sourced organic food, compost food waste, guest room towel/linen saving program, low-flow water fixtures, recycle all soaps and shampoos and plastic containers, established and maintain an employee green team

BOOT DOCTORS: LED lighting, installation of programmable thermostats, recycling of old boots & skis, and active education and engagement of staff in sustainability efforts, electricity bill savings estimated at over \$700/year

FAIRMONT HERITAGE PLACE FRANZ KLAMMER LODGE: converted washing machines to front loading (1/3 water use and energy savings), 80% of shower heads replaced with low flow fixtures, herb gardens along pool, re-usable grocery bags in all rooms, no plastic water bottles in guest rooms, Clean the World program repurposes plastic water bottles and soap bars. Green team with a member from each department of the hotel, green manager, and monthly meetings.

TELLURIDE RESORT STORE: Decreased heating cost by insulating building, reuse all paper materials and packing materials, have a written work policy for using alternative modes of transportation for all employees with incentives.

LUMINOSITY: LEED Accredited Professional – 5 Completed LEED Projects nationally. In addition, several projects were certified with Green Star, a similar program based in Australia and they purchase carbon offsets for all travel

TELLURIDE NATURALS: 75% of products are locally crafted, require reusable bag purchase if request bag, all programmable thermostats, and all LED Lighting.

HOTEL MADELINE: Replaced 100% of conventional thermostats with programmable thermostats, and have replaced guest's faucets with low flow aerators.

Ridgway:

ALPINE BANK RIDGWAY: LED lighting, programmable thermostats, extensive utility bill tracking, SMPA solar farm purchase, and working on tracking travel reduction as a result of videoconferencing use by staff.

ALTERNATIVE POWER ENTERPRISE: LED bulb replacement resulted in \$66 monthly savings, replaced 4 single pane windows saving 24% on heating energy use, purchased eco boost diesel trucks, send solar tech tips to customers to help with annual energy savings.

SMPA: Updated to LED lighting & programmable thermostats, changed 3 outdoor lights to have occupancy sensors for a 57\$ annual savings.

RIGS: Use energy efficient fixtures for water savings, replaced 4 LED bulbs in 2016 with \$22 annual savings, purchases reusable products that are also for sale for customers.

Ouray:

GUIDE GARAGE: Use energy efficient fixtures, replaced 6 bulbs to LED with 59\$ annual savings, and they collect beacon batteries and reuse reclaimed materials for bookshelves and benches.

ALPINE BANK OURAY: Replaced 8 exterior bulbs with LED saving \$66 annually, use a small electric water heater that is very efficient, had an energy audit performed that helped find drafty spots, building is sealed and weatherized. They provide incentives for alternative carpooling and bike transportation, and purchase post consumer recycled products.

Telluride:

AH-HAA: Completed a full LED lighting retrofit, responsible art product reuse/disposal, responsible office management, bathroom remodel with low-flow fixtures.

ALPINE BANK TELLURIDE: Alpine Bank (efforts across all offices in Colorado): LED lighting, programmable thermostats, extensive utility bill tracking, SMPA solar farm purchase, and working on tracking travel reduction as a result of videoconferencing use by staff.

BOOT DOCTORS/PARAGON: LED lighting in all 3 stores, recycling of old boots & skis, and active education and engagement of staff in sustainability efforts.

Jagged Edge: On-site solar PV system, remaining electricity use is offset, communication with suppliers to reduce packaging, recycling or return of all shipping products, CFL/LED lighting.

LA COCINA DE LUZ: 70% local sustainably-sourced organic food, on-site restaurant compost program, LED lighting, low-flow water fixtures.

PICAYA: LED bulbs create a \$246 annual electric bill savings, 10% heating bill savings with programmable thermostats, require all vendors to have environmentally friendly packaging or recycled materials, 50% of store is locally sourced products, sponsors educational series on GMOS and recycling.

REINHART CONTRACTING: Dual panel solar system which outputs 600watts, uses a solar compacting toilet, implements using recycled or energy saving materials on all projects.

Telluride Historical Museum: LED lighting retrofit, storm window installation to reduce energy consumption (awarded Green Grant funding), power-down of all office equipment at night.

TELLURIDE REALTY & INVESTMENT (TRI): This business operates from a sustainably-built, off-grid home on Hastings Mesa that was featured in EcoAction Partners Green Home Tour a few years ago. Their other focus is to promote energy efficient, sustainable homes in the region.

WILKINSON PUBLIC LIBRARY: 99% of Lights are LED or CFL, all toilets are dual flush with \$4 savings to every 1,000 gallons used, compost food by working with our Zero Waste Program.

NEW FOR BUSINESSES!

FESTIVAL CERTIFICATION:

In partnership with Planet Bluegrass and Mountainfilm we are developing a Green Festival certification program. Focused on the special aspects and impacts of festivals and building upon the successful Zero Waste efforts at each of these festivals, this program identifies further opportunities for event businesses to reduce their GHG emissions. Actions involve the festival organizers, requirements for their vendors, and engage festival participants, ranging from offsetting all energy use and travel to encouraging consumption of local food and water.

PROPERTY MANAGEMENT:

EcoAction Partners is piloting a Property Manager certification program as a further means of engaging visitors in helping our region accomplish sustainability goals and address resource consumption at their lodging, whether short-term rentals or second homes in the area. We plan to fully launch this program next winter after incorporating input from our pilot program participants.

GREEN BUSINESS SERVICE PROVIDER LIST:

We are developing a list of Service Provider Partners that provide services to help a business become green. These businesses provide detailed energy assessments of buildings, LED Lighting, HVAC system optimization, energy efficient remodeling, green cleaning services, and more. Check out our current listing at: www.ecoactionpartners.org/service-providers/

C-PACE: ENERGY EFFICIENCY AND RENEWABLE FINANCING TOOL:

- San Miguel and Ouray Counties are in the process of adopting and implementing Colorado C-PACE, which offers property owners a new tool to finance energy efficiency, water-conservation and renewable energy projects. The Commercial Property Assessed Clean Energy (C-PACE) program offers commercial property owners the opportunity to spread energy and water project costs over a term of up to 20 years and repay them through an assessment on their property tax bill, with no upfront capital outlay.
- The program provides financing for a variety of improvements, including new heating or cooling systems, lighting, water pumps, insulation, solar panels and other renewable energy projects. Resulting energy savings typically outweigh the annual assessment payment thereby enabling cash flow positive projects. When a property is sold the PACE assessment stays with the property and transfers to the new owner who, in turn, enjoys the ongoing utility cost-savings associated with the project.
- Eligible properties include office buildings, hotels, retail, agricultural, non-profits, industrial buildings and multi-family properties – with five or more units. For more information or to apply for C-PACE financing, visit the Colorado C-PACE website at www.COPACE.com.



ECOACTION PARTNERS WITH SCHOOLS & YOUTH

To engage local families, motivate actions, and build life-long sustainability habits

Truth or Dare



Program Goal

Develop an educational challenge for kids and families in our community to reduce their carbon footprints, save money, energy, and waste. An equally important goal is to measure the emissions reductions achieved during the course of the program, but the intention is that lasting sustainable habits are formed.



How it Works

An elective school program designed for 9-13 year olds, Truth or Dare challenges students to significantly reduced their carbon footprints and conserve resources. Over the course of a week, students earn points and win prizes for their sustainability actions such as carpooling or unplugging electric gadgets when not in use. Leadership students introduce Truth or Dare to their peers through skits to get them excited about the program, and many of the actions involve the whole family, so the educational reach is amplified throughout the community.



Participating Partners

San Miguel Power Association is a primary partner for Truth or Dare and provides prizes to incentivize student participation.



Locations Available

Originally introduced to the Telluride Intermediate School students with overwhelming approval, Truth or Dare has expanded to other schools in our region including the Telluride Mountain School, and the public schools in Ouray, Ridgway and Norwood.

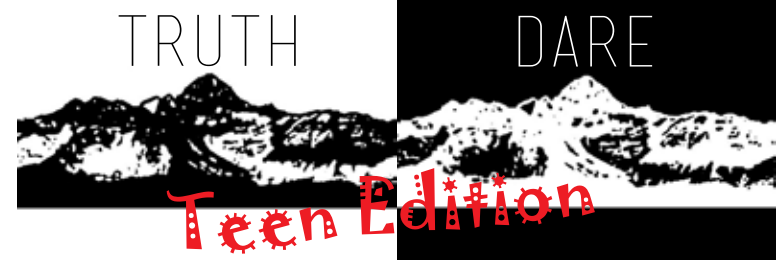


Results & Accomplishments

In 2017 four intermediate schools participated. Assuming actions taken continue, these students are collectively saving 25,600 pounds of carbon dioxide per year and having fun doing it!

This is equivalent to 11.6 mtCO₂e, or reducing almost 28,000 car miles driven per year!

YEAR	QTY SCHOOLS	PARTICIPANTS	GHG EMISSION SAVINGS (POUNDS CO ₂ E)
2014	1	34	8,300
2015	3	56	12,800
2016	4	76	15,700
2017	4	119	25,600



ECOACTION PARTNERS WITH UNIVERSITIES

to engage experts, conduct cutting-edge research, and design viable actions

Over the years, EcoAction Partners has developed a strong working relationship with the University of Colorado Denver. Together we have been able to identify areas needing study, facilitate data sharing, conduct analysis, and put the results to work practically on the ground here in our region. Information and insights gathered in these collaborative projects has been essential for planning and funding requests.



Ouray and San Miguel County Greenhouse Gas Emissions Inventory & Sustainability Energy Benchmarking and Actions 2010

This Inventory provides the baseline study from which each subsequent year of GHG emissions is calculated. In partnership with EcoAction Partners and the Sneffels Energy Board.

University of Colorado at Denver

Center for Sustainable Infrastructure Systems, July 2011



Town of Telluride Community Climate Action Plan and Greenhouse Gas Emissions Summary

Michelle Haynes

University of Colorado Denver

School of Public Affairs

December 2015



Evaluating a Proposed Telluride Composting Facility

John Wontrobski

University of Colorado Denver

School of Public Affairs

May 2015



Identification of Regional Composting Facility Sites and Its Costs

Philo S. Shelton III

University of Colorado at Denver

School of Public Affairs

November 2015



Could a Microgrid Work for Telluride?

How a small community could establish a microgrid to meet their energy needs by using high penetrations of local renewables and other distributed energy resources (DER) to increase efficiency and to benefit the local community and environment.

Carson Brown & team

University of Colorado Denver

Global Energy Management program

April 2017



Waste to Energy Feasibility Study for Telluride region

Feasibility study to determine the viability of building a thermal conversion waste to energy (WTE) facility in Telluride

Carolyn Davidson, Jessica Rawley, Matthew Martin

Colorado State University, Fort Collins

February 2012



PARTNER ACCOMPLISHMENTS: LOCAL GOVERNMENTS

In addition to the projects and programs created in partnership with EcoAction Partners, our government partners have accomplished many projects independently that support our regional goals. Some projects are government-specific, while others are community-wide. Highlights are listed below for each jurisdiction, but are by no means comprehensive of all sustainability efforts, past or current.

Prior to the creation of the regional Collaborative Sustainability Action Plan and baseline GHG Inventory, regional governments had either adopted their own goals, or taken actions that led to the creation of the regional plan and regional goals.

- In 2009, at the recommendation of EcoAction Partner's community energy working group, the Towns of Mountain Village, Norwood, Ophir and Telluride, along with San Miguel County adopted a resolution to match the State of Colorado's Climate Action Plan to reduce the each community's GHGs emissions 20% from 2005 levels by 2020.
- Also in 2009, San Miguel County signed on to the Cool Counties Initiative, setting a goal to reduce county geographical GHG emissions 80% below current levels (at time of adoption) by 2050.
- Ouray County governments were collectively working toward energy conservation and renewable energy through development and encouragement of varied renewable energy systems (micro-hydro, geothermal, green building and energy codes, efficient lighting plans and systems, assessing the viability of alternative renewable energy systems, etc.), but progress toward targets were un-quantified.

Thus, while only a few governments were tracking energy use of their facilities before 2010, all government energy use is now tracked and analyzed, to support them leading the way toward us reaching the goals identified in the Collaborative Sustainability Action Plan.



TOWN OF TELLURIDE ACTIONS



Emissions:

- Tracking of GHG emissions generated by government operations since 2003.
- Adopted a community-wide Telluride Climate Action Plan that is consistent with the goals and actions established in the regional Sustainability Action Plan.
- Maintains 1,026 acres of open space and park lands that sequester over 860,000 lbs of CO₂, equivalent to off-setting over 1,700,000 kWh of electricity.



Energy:

- Implemented efficiency improvements on Town facilities: installation of energy efficient lighting, programmable thermostats, insulating window shades, window inserts, skylight energy reflection coatings, and replacing water heaters and HVAC systems. These actions have helped minimize emissions even while staff, buildings and services have increased over time.
- Energy Efficient Building Codes require 100% energy mitigation for heating exterior spaces, 100% offset of energy used in the construction of new homes, energy and water conservation, specific insulation values, boiler efficiency and window R-values.
- Renewable Energy Projects:



2016 List of All Town Government Renewable Electricity Generation and GHG Mitigation Projects

PROJECT	YEAR ON LINE	POTENTIAL KWH RENEWABLES GENERATED PER YEAR ^a	POTENTIAL GHG REDUCTION (POUNDS CO ₂ E PER YEAR) ^{a,b}
Carhenge Bus Stop Solar Panel	2005	All power produced is used on-site and not measured	
Telluride / Mountain Village Regional Wastewater Treatment Plant Solar Array	2010	172,000	332,000
SMPA Community Solar Farm panel purchase to Offset Public Works & Transit Facility and Marshals Building Electric Use	2012	85,660	165,300
SMPA Community Solar Farm panel purchase to Offset Shandoka House and Pre-School	2014	90,338	198,700
Pandora Hydro Facility	2015	1,530,000	2,952,900
Telluride Regional WWTP Green Blocks Purchase	2012	99,600	192,200
Bridal Veil Hydro Facility REC Purchase	2011	395,100	762,500
Ridgway Dam Hydro Facility REC Purchase ^c	2014	13,000,000	25,090,000
TOTALS		15,372,698	29,690,000

a. Each year the actual value will change based on electrical generation. b. GHG reduction is calculated using the Tri-State conversion value from 2014 of 1.93

c. The full amount of RECs purchased is 13,000,000 kWh per year. The Town Government retains enough RECs to offset by 100% its GHG emissions associated with facilities and operations including the water and wastewater treatment plants. The remaining RECs are allocated to offset electricity consumption of the Telluride community.



Waste:

- Implemented & track construction waste mitigation for specific Town projects.



Transit:

- Operates a local and regional public transportation system, and encouraging staff to walk, use transit, or carpool to work.
- Commuter transportation emissions are reduced by the town's housing mitigation and local affordable housing programs.



Water:

- Water Conservation Plan implementation is decreasing leaks and water waste, reducing water consumption and associated electricity use for pumping and treatment.



TOWN OF TELLURIDE RESULTS:

- Telluride's Renewable energy projects are noticeably reducing electricity GHG emissions, resulting in non-renewable electricity use for the community decreasing almost 50% since 2010, including 100% offset of Telluride Town Government's electricity use of ~3 million kWh/yr.
- As a result, community-wide total GHG emissions have decreased by 25% since 2010!

NEW! TELLURIDE CARBON NEUTRAL!

By combining energy efficiency initiatives, carbon sequestration on open space, and the purchase of renewable energy credits from local renewable energy projects, Telluride town government has been Carbon Neutral since 2014.

The new goal for the community is to become carbon neutral too! So, we need you to join the party! Reduce your energy use, offset your emissions, and tread lightly on the Earth!

TOWN OF MOUNTAIN VILLAGE ACTIONS



Emissions:

- Tracking of GHG emissions generated by government operations since 2010.



Energy:

- Implemented energy efficiency improvements on government facilities from 2010-2014, reducing electricity consumption by 23%.
- Gondola's electricity use is 100% offset with SMPA Green Blocks (since 2007).
- Installed 40KW of solar panels on the Gondola terminals, with more planned using Green Gondola donations and Smart Building Program energy mitigation fees.
- Purchased 5 panels at the SMPA Community Solar array.
- Upgraded all plaza snowmelt systems with improved control systems to maximize efficient operation, resulting in GHG emissions reduction of over 123 mtCO₂e.
- Adopted updated building energy codes in 2013 including renewable energy mitigation fees for outdoor energy use. Fees collected are used for renewable energy systems on public facilities.
- Installed solar panels on two water department pump houses.
- Performed micro-hydro feasibility study for municipal water lines.
- Maintenance shop uses spent waste oil to heat shops.
- TMV Council Member designed, and TMV staff implemented, the innovative Relight Mountain Village LED discount program. from 2014-2016 for its residents and businesses, which replaced 13,735 bulbs in the community with LEDs, saving an estimated 966,150 kWh electricity annually.
- TMV offers financial incentives to its residential and business community for energy reduction strategies: 1) rooftop heat tape controls; 2) solar energy systems; 3) water conservation; 4) green building strategies.
- Energy education field trips for local school groups.



Waste:

- Implemented & track construction waste mitigation for specific Town projects.
- - Collects waste and recycling collection data from waste haulers with town contracts.
- - Efforts to reduce waste at summer Sunset Concert Series in collaboration with EcoAction Partners



Transit:

- Operates a local and regional public transportation system, and encourages staff to walk, use transit, or carpool to work.
- Commuter transportation emissions are reduced by the town's housing mitigation and local affordable housing programs.



Water:

- Water Conservation Plan implementation is decreasing leaks and water waste, reducing water consumption and associated electricity use for pumping and treatment.



TOWN OF MOUNTAIN VILLAGE RESULTS

- Overall, 2016 total government GHG emissions were down 6% from 7-year average; and down 16% from 2010 baseline emission levels.
- 2016 Natural gas use was 10% lower than 2010 baseline levels. Much of this decrease is due to improved controls on plaza snowmelt systems.
- 2016 Electricity use was 7% below 2010 baseline levels, due to efficiency upgrades and conservation efforts over the years.



SAN MIGUEL COUNTY ACTIONS



Emissions:

- Tracking of GHGs emissions generated by government operations since 2009.
- Funded innovative Green Projects Grant Program highlighted on page 13.



Energy:

- Purchased 15 solar panels at the SMPA Community Solar Farm in 2014, offsetting 6,225 kWh of electricity (5.6 mtCO₂e).
- LED lighting retrofits throughout government facilities achieve electricity reduction of 25-30% per building. Staged installation of new heat radiators in the Courthouse continues, increasing operational efficiency of boilers and improving staff comfort. The new boiler controls include a night-time setback. Courthouse natural gas has reduced 25% since 2010.
- Installed insulating cellular blinds and interior window inserts reduce heat loss and improve staff comfort.
- Programmable setback thermostats are used whenever possible.
- Completed retrofit from propane to natural gas in many facilities, reducing energy costs.
- Partnership with EcoAction Partners, SMPA, the Town of Mountain Village and the Telluride Ecology Commission to sponsor an annual public forum featuring energy efficiency and renewable program opportunities.
- Energy Efficient Building Codes require 100% offset of energy used in the construction of new homes, energy and water conservation, specific insulation values, boiler efficiency and window R-values.



Transportation:

- Purchase of fuel efficient fleet vehicles has resulted in a decrease in unleaded fuel use by 10.3% over three years, reducing fuel costs by almost 50%.
- Active involvement in the San Miguel County Transit Advisory Committee, which successfully obtained voter approval to form the San Miguel Authority of Regional Transportation (SMART). SMART continues to work toward improving regional public transit.



SAN MIGUEL COUNTY - COLORADO

SAN MIGUEL COUNTY RESULTS

- Since the addition of facilities in 2013, SMC electricity use has been reduced around 11%. Since 2010, SMC electricity has decreased 15%, even with additional facilities!
- Natural gas use tends to be more influenced by annual seasonal differences in climate, but overall the county has experienced a reduction in natural gas use of 8% since adding facilities in 2013.



TOWN OF OPHIR ACTIONS



Emissions:

- Tracking of government and community energy use since 2010.



Energy:

- Installed solar panels on town buildings in 2014, including the new water treatment plant.
- Purchased 9 solar panels purchased at the SMPA Community Solar Farm.
- Ophir Town Hall received door and window replacement upgrades through EcoAction Partners' Green Grants program, saving energy through reducing heat loss and air drafts through winter months.
- 2 LED bulbs supplied to each residence in 2014 to reduce residential electricity consumption.
- Completion of micro-hydro power production feasibility report, December 2010.



Water:

- Water line repair in 2013 reduced overall water supply by over 50%, significantly reducing energy used for pumping and chemicals required for water treatment.

TOWN OF NORWOOD ACTIONS



Emissions:

- Tracking of government natural gas and electricity use since 2010.



Energy:

- Replaced metal halide streetlights with LED lights reducing annual electricity use by 30,000 kWh.
- Replaced 8 windows in Town offices with energy efficient windows, improving staff comfort and reducing energy used to heat the space.
- LED lighting retrofit of 72 bulbs in Norwood Town Hall and Marshals Office in 2015, is reducing annual electricity use by over 3,000 kWh.
- 2017 planned project – LED lighting retrofit of 72 bulbs in the Community Center and Kitchen.



TOWN OF OPHIR RESULTS

- Town of Ophir government electricity is 100% renewable through on-site systems and purchases at the SMPA Community Solar Farm.
- Efficiency has reduced overall use, thus SMPA utility bills show a net positive “bank” of solar credits.
- Non-renewable electricity use continues to decrease as residents implement efficiency actions.



TOWN OF NORWOOD RESULTS

- The Town of Norwood has achieved a 15% decrease in electricity consumption since 2013 when a new facility was added.

TOWN OF RIDGWAY ACTIONS



Emissions:

- Tracking of government natural gas, electricity and fuel usage since 2010.



Energy:

- Conversion of street lights from high pressure sodium to LED lighting in 2016. Other highway streetlights are scheduled for LED retrofit during 2017.
- Ridgway Town Hall retrofit in 2013 included LED lighting, window replacement, insulating window blinds, and a boiler replacement, resulting in an 11% reduction in electricity use and natural gas savings of approximately 35% since 2011.
- Town of Ridgway purchased 7 solar panels at the SMPA Community Solar Farm in 2014.
- Converted to LED Holiday lights.
- Insulation Improvements at Water Plant and Public Works Buildings.
- Collaboration with City of Ouray to perform 3 energy audits of wastewater treatment plants to determine cost-effective efficiency improvements for both. Efforts continue.
- Adoption of Green Building and Energy Efficiency Code in 2010 for new construction, reducing energy used by new buildings.



Waste:

- Ridgway Town Park events – Increased waste reduction (CRT) efforts through training volunteers, established CRT stations, and composting by local volunteers.



Transportation:

- Sidewalks constructed & bike racks installed, encouraging carbon-friendly commuting in town.
- Purchase hybrid (Ford Fusion) police patrol car reduces fuel use.
- Carpooling efforts in Public Works for out of town employees.



Water:

- Waterline replacement project to mitigate leakage and conserve water. Water meter replacement for improved monitoring of water use.
- Water conservation plan developed and being implemented.



TOWN OF RIDGWAY RESULTS

- From 2010 to 2014, electricity consumption for the Town's facilities reduced by almost 14%. Since then, increases related to water and wastewater treatment have reduced that improvement down to a 4% reduction since 2010.
- Improvements to Ridgway Town Hall resulted in reductions of approximately 35% natural gas and 11% electricity use since 2011.



CITY OF OURAY ACTIONS



Emissions:

- Tracking of government natural gas, electricity and fuel usage since 2010.



Energy:

- First regional community to convert mercury vapor streetlights to LEDs in 2010. Achieving an annual savings of \$10,000 and approximately 85,000 kWh.
- Completed a 20 kW micro-hydro generating plant with a generation potential of 140 Mwh/yr at 80% capacity. Added Variable Frequency Drives to pump motors and improved air exchange at the Ouray Hot Springs Pool. Annual electricity savings / offset from both of these projects is approximately 130,000 kWh.
- Completed a geothermal heating system in the City Shop.
- Completed an inventory of all City-owned geothermal springs.
- Collaboration with Ridgway to perform energy audits of wastewater treatment plants to determine cost-effective efficiency improvements for both. Efforts continue.
- Energy efficient technology and improved utilization of geothermal hot springs integrated into construction of new pool & bathhouse.
- LED lighting retrofits in city buildings.
- Adoption of 2009 International Energy Conservation Code for new construction, reducing energy consumed by new buildings.
- 2016 Participation in EcoAction Partners' Greenlights LED program to assist the community in purchasing LED bulbs.



CITY OF OURAY RESULTS

- Since 2010, electricity consumption for the City's facilities has been reduced by 20%.



OURAY COUNTY ACTIONS



Energy:

- Tracking government energy consumption.
- Ouray County 4-H Event Center energy efficiency improvements in 2015, including heating system improvements, insulation and roof upgrades, resulting in improved comfort and 10% reduction in overall utility costs.
- Historic courthouse improvements include boiler and heating system replacement, and storm window installations, resulting in reduced annual heating costs of \$6600.
- Adoption of 2009 International Energy Conservation Code for new construction, reducing energy consumed by new buildings.



Waste:

- Operates the Ouray County Transfer station, collecting recycling, compacting trash, and protecting ground water. Trash compactor installed in 2009 reduces dumpster hauls by almost 70%, saving \$23,468 annually in operational costs.



Transit:

- Participation / leadership in Region 10 regional transit committee, working to improve transit options.



RIDGWAY OURAY COMMUNITY COUNCIL (ROCC) - CLEAN ENERGY COMMITTEE ACTIONS:

The ROCC Clean Energy Committee was created in January of 2016 when ROCC identified energy use as a high priority. The committee has become very active and successful in accomplishing community-level projects in Ouray County. A few key accomplishments are identified here:



Energy:

- Partnership with EcoAction Partners and SMPA to become educated on community programs, and promote them to increase Ridgway/Ouray citizen participation.
- Efforts to increase the availability of Electric Vehicle charging stations in the county.
- ROCC gave \$5000 to the Ridgway Public Schools to purchase LED classroom lights, spear-headed engagement by the school for the lighting replacement, and are tracking results. Electricity savings of 19% have been achieved, and the utility cost savings have paid back the project costs in 4.5 months. The group is also tracking impacts on student learning, as research shows that learning is better with LED lights.
- Solar system feasibility for town-owned buildings and the school are being explored.
- Several committee members are working to encourage smooth, quick adoption of C-PACE (See above) by Ouray County.



Waste:

- Organized and staffed Recycling in the Park - A successful month of recycling and composting at the Ridgway Concert Series after volunteers were trained by EcoAction Partners.

PARTNER ACCOMPLISHMENTS: LOCAL UTILITIES



In addition to the projects and programs created in partnership with EcoAction Partners, our utility partners have developed many programs and accomplished projects independently that support our regional goals.

ELECTRIC UTILITY PARTNER: SAN MIGUEL POWER ASSOCIATION

SMPA ENERGY EFFICIENCY & RENEWABLE ENERGY ACCOMPLISHMENTS

San Miguel Power Association (SMPA), our regional rural electric cooperative, has successfully implemented programs and projects that are assisting us in reaching our regional energy goals. In addition to the programs currently underway in partnership with EcoAction Partners (described earlier), the projects below highlight a few key accomplishments:

The SMPA Community Solar array, located near Paradox and constructed in December, 2012 offers access to 1.1 megawatts of renewable power for members who own panels. The array completely sold out in 2015, demonstrating the high level of support for the solar power and leaving a demand for the development of an additional community solar farm in the future.

The SMPA Income-Qualified solar array is online and participants who have completed their efficiency upgrades through the I.Q. Weatherization program are signing up to accept electric power from it. The array was built on the site of a former landfill next to the Norwood waste transfer station. The combination of energy efficiency upgrades and solar energy from the array provides a unique type of assistance for SMPA members who might otherwise struggle to pay their electric bill. This landmark program is made possible through partnerships with the Colorado Energy Office, Energy Outreach Colorado, GRID Alternatives, EcoAction Partners, The Telluride Foundation, E3 Insight and SMPA.

SMPA's Energy efficiency rebate programs include rebates for LED lighting, electric appliances, energy audits and weatherization improvements and many other efficiency upgrades. SMPA members have a high level of participation in these programs. The estimated cumulative savings achieved by the SMPA energy efficiency rebate programs since 2008 is 11,520,000 kWh.

SMPA's renewable energy rebates for grid-tied, net-metered systems, significantly reduce the upfront cost of installing renewable energy. Rebate amounts are \$0.75/watt installed for solar PV and wind systems and \$1500 for a solar hot water system with electric backup heat. Since 2008, a total of \$861,359 has been rebated to members over the years, resulting in over 1 megawatt of additional solar net meter capacity installed in

SMPA's service territory. Overall, with help from SMPA's solar PV rebate and incentives like the Federal solar tax credit, SMPA members have invested over \$6.7 million into the local renewable energy economy.

SMPA's Green Fund is strictly chartered to help fund local renewable energy and energy efficiency projects that benefit SMPA members and the environment. SMPA members may make participate through two programs:

- **Green Blocks:** This program allows members to draw their energy from 100% renewable sources through the use of Renewable Energy Credits (RECs). One Green Block represents 100 kilowatt hours of renewable energy and costs \$1.00 per block, per month, added to the monthly bill.
- **Green Cents:** Small change can make a big difference. Green Cents participants have their power bills rounded up to the nearest dollar. SMPA collects the extra and puts it into the Green Fund to support local renewable projects.

SMPA staff also works with governments, schools, and businesses to implement projects that significantly reduce energy use & costs for the governments and improve efficiency. Recent projects include:

- The Township LED retrofit initiative has replaced nearly all of the old inefficient lighting sources in the SMPA service territory. In total 396 outdated Mercury Vapor, High Pressure Sodium, and Metal Halide were removed and replaced with High efficiency LED street lights and/or yard lights. Projects have been completed in the City of Ouray, and Towns of Nucla, Naturita, Norwood, Rico and Silverton, for an approximate combined savings of 293,500 kWh and approximately \$40,000.
- Many local businesses and institutions have taken advantage of the LED rebate program, replacing old inefficient lighting with LEDs and significantly reducing energy use. Large businesses like Hotel Madeline, Telluride Ski & Golf, The Peaks Resort, Alpine Bank, and the Telluride Airport have participated in the Greenlights LED rebate program, replacing inefficient lighting with LEDs and significantly reducing energy use. Schools in Norwood, Telluride, Ridgway, and Ouray have also converted to LED lighting. This has also been used as an educational opportunity for students.

Partner Accomplishments: Local Utilities - SMPA Continued...

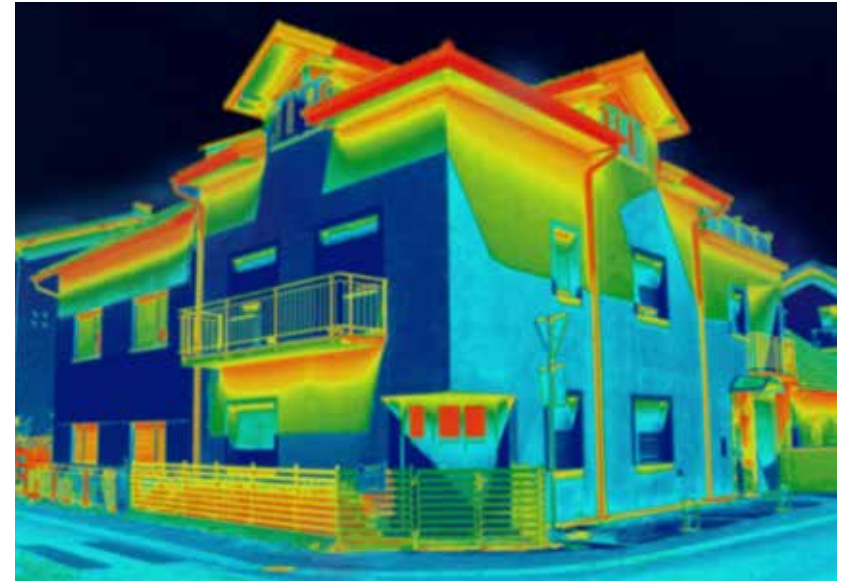
- Renewable energy projects listed under each government have required the partnership and participation of SMPA to connect the net-metered systems to the distribution lines, and to make the projects financially feasible.

SMPA is very active with the communities, including participation on the EcoAction Partners Board of Directors, Sneffels Energy Board, sponsoring & presenting at regional Energy Events such as the San Juan Sustainable Living Forum, Ridgway Riverfest, Ridgway-Ouray Community Council and the annual San Miguel Energy Forum.



NATURAL GAS UTILITY PARTNER: BLACK HILLS ENERGY CORPORATION

- Black Hills representatives provide annual natural gas usage data to support our GHG Inventory tracking efforts and present program information at our annual energy event. Black Hills offers programs to assist residential & commercial customers with energy efficiency improvements.
- Rebates are available for energy audits, weatherization, boilers, water heaters, appliances, & more at www.excessisout.com
- The residential program is managed by EnergySmart Colorado: www.energysmartcolorado.com/all-other-counties/.





Community



Emissions



Energy



Waste

PLEASE DO YOUR PART!

PARTICIPATE with EcoAction in reducing your emissions, energy and waste at home and at work

THANK your governments and utility partners for participating

SUPPORT EcoAction Partners

THANK YOU!

“ As a long-time member of the board of EcoActions Partners and its predecessor, I am proud to point to the contributions of this organization in organizing regional efforts, building a common vocabulary and reporting system, and promoting projects and programs with quantifiable results toward reducing our energy consumption. —TODD BROWN



CONTACT INFORMATION

EcoAction Partners
335 ½ W. Colorado Ave.
PO Box 1625
Telluride, CO 81435
970-728-1340
info@ecoactionpartners.org

FOR MORE INFORMATION VISIT: ECOACTIONPARTNERS.ORG

LEADERSHIP TEAM:

Heather Knox: Executive Director

Kim Wheels: Energy Specialist

POSITIONS:

Marketing & Communications Coordinator: Hilary Lewkowicz

Green Business Coordinator & SMPA IQ Auditor/Coordinator: Jake Niece

Greenlights Program Manager: Ken Haynes

Compost, Recycling, Trash Coordinator: Tyler Simmons

Truth or Dare Coordinator

SMPA IQ Weatherization Energy Experts

BOARD MEMBERS:

Audrey Morton: President

Jack Sibold: SMPA

Todd Brown: Town of Telluride

Delanie Young: Telluride Alternate

Kris Holstrom: San Miguel County

Michelle Sherry: Town of Mountain Village

Laila Benitez: Mountain Village Alternate

Kathy Green: Community – at large

Angela Dye: Community – at large

