

STRATEGY & ACTION PLAN

***COLLABORATIVE SUSTAINABILITY ACTION
PLAN & IMPLEMENTATION METHODOLOGY FOR
OURAY AND SAN MIGUEL COUNTIES
2010-2020***

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EXECUTIVE SUMMARY

The STRATEGY is a guide to multi-jurisdictional energy action planning providing a framework to facilitate streamlined, inter-entity collaboration in our region's efforts to effectively manage energy resources, reduce energy costs and meet energy, transportation fuel, water, and waste reduction goals. Our "region," in this document, is defined as Ouray and San Miguel Counties.

The STRATEGY offers a number of related recommendations in the form of a mission, vision, goals, targets, guiding principles, objectives, strategies for achieving objectives and potential action items. Over time, new action items may be generated, using the guiding principles of the STRATEGY. None of these recommendations are binding, and are only intended to guide the initial stages of development of energy-related programs and projects.

The content of the STRATEGY is informed by the findings of regional energy use data from local utilities and regional governments, San Miguel County's 2007 Emissions Inventories, and ideas developed at collaborative planning meetings held throughout 2010 of the Western San Juan Community Energy Board (WSJCEB). Recommendations prioritize the greatest opportunities revealed by our Inventories and regional guiding principles.

The WSJCEB recognizes that there are still gaps in our data gathering. Our Action Plan (see Section 3) identifies the specific pieces of data that still need to be obtained in order to establish a complete baseline of our region's energy, fuel, and water use and waste production. While we recognize that our data collection is thus far incomplete, we believe our analysis of priorities to be accurate. We will continue to gather and update data as is feasible and adjust priorities as needed in order to reach our goals.

The STRATEGY is designed as a reference tool for our region's governments and stakeholders as they implement our jurisdictional Energy Action Plans and develop energy-related programs and policies.

A primary barrier to implementation of energy-related programs in the region is our small and dispersed population. Single jurisdictions typically do not have the financial or human resources or population to leverage economies of scale. By developing partnerships and sharing resources, the communities of the region can build capacity for the implementation of energy programs and projects.

In addition, a great opportunity exists through developing this regional partnership, as we have existing shared resources throughout the region's population. Many people live in one town, but work in another. Both counties experience a high commuter rate of people traveling from surrounding counties to work in our region. Because we have shared impacts (transportation, housing costs, etc.) we must work together to fully understand and address a sustainable future for our economies, environment, and people.

As technology and funding evolve, the STRATEGY will also evolve to reflect the priorities and capabilities of energy conservation policy in the region.

1. Background and Opportunities Identified

1.1 Energy Planning Efforts

The narratives of energy planning in the region are varied. Energy Planning in San Miguel County began with commitments by several jurisdictions in the region to meeting the goals of the Colorado Governor's Energy Office's (GEO) "Climate Action Plan." Ouray County committed to an Energy Planning process in January 2010, with the beginning of the GEO's Community Energy Coordinator program.

After collaborating to create The New Community Coalition (TNCC) in 2007, San Miguel County jurisdictions directed TNCC to develop a Greenhouse Gas Emissions Inventory, which established a community-wide baseline of 2007 CO_{2e} emissions, for government energy use and also for community-wide emissions. The Ouray County jurisdictions began the data-gathering stages of establishing a baseline of energy use for Ouray County governments in the spring of 2010 and are nearly complete.

The San Miguel County Inventory revealed that human activity in San Miguel County in 2007 produced approximately 282,000 tons of "carbon dioxide equivalent" (CO_{2e}) emissions.

During the development of this document, TNCC was selected to participate in the Sustainable Communities Program by University of Colorado Denver's Center for Sustainable Infrastructure Systems (CSIS) in partnership with the Colorado Municipal League and the Wal-Mart Foundation. Through this program a GHG Inventory for both San Miguel and Ouray Counties will be performed, based on 2010. The Inventory will include utility energy, transportation including airline travel, waste, food, and other trans-boundary contributions to our regional GHG emissions. The report will include analysis of the impact of some of the planned action items in the Action Plan if implemented across the region. It will be completed in May, 2011.

While Ouray and San Miguel counties may be considered relatively small in size and population compared to other regions of the state, with a corresponding smaller contribution to energy consumption and GHG emissions, we understand Western Colorado is poised to grow significantly in population, and we believe the more pristine and rural nature of our region mandates immediate attention in order to optimally sustain the residents and business for the benefit of our communities and the larger Colorado economy.

We recognize that overall sustainability of the region is larger than just direct energy use reduction. Thus, we aim to address the many facets of energy use and GHG emissions reduction, including transportation reduction, water conservation, waste reduction, renewable energy development, local food production and other aspects of sustainability. In addition, implementation of this plan is expected to develop green jobs and establish a more stable local economy for the region.

This process is interdependent of the various entities and people within and without our region, and is very complex requiring support and understanding of diverse demands

and resources. The WSJCEB understands that while one jurisdiction may readily appear to be the largest consumer of electricity and natural gas for residential uses, they may also have the greatest resources at hand to address the objectives stated. On the other hand, the jurisdictions in Ouray County may appear to be the smallest consumer but at the same time, Ouray County is also poised to experience rapid growth and may have the fewest resources available to keep up with achieving goals. Short and long-term considerations will be evaluated throughout this process and a regionally-comprehensive viewpoint maintained of how best to collaborate for everyone's success.

The plan has identified a number of target goals (listed in Section 2.4 & Section 3) based on 2009 energy use data, the 2007 GHG emissions inventory for San Miguel County and other factors such as anticipated future growth in the region, commuters and the ability of the governments and community to take action.

1.2 Energy (Electricity, Natural Gas and Propane)

Electricity and natural gas use data for the region for 2009 was obtained with the cooperation and assistance of our local utility companies, San Miguel Power Association (SMPA) and SourceGas. These entities provided the data broken down by jurisdiction and by type of use. Staff members / elected officials in each of the government entities provided the government energy use baseline data. (Ouray County data is from November, 2009 thru October, 2010. SourceGas data is from September, 2009 thru September, 2010)

Table 1 and the pie charts of Figure 1 show the relative electricity, gas, and propane used by the different jurisdictional areas of Ouray and San Miguel Counties. This data includes building energy use as well as other end users such as the Telluride / Mountain Village gondola, ski area lifts, streetlights, etc.

Residential and Commercial gas and electricity use in Ouray and San Miguel County are large energy consumers. In comparison, energy use by the governments in each jurisdiction is relatively small. Thus, while the governments have identified actions to take to reduce their energy use specifically, the WSJCEB deems it highly important to engage the overall community in the process of implementing actions to achieve energy reduction goals.

Agricultural energy use was also obtained, however the numbers and overall percentage of energy use is negligible in our region.

Propane energy use was obtained from one provider (Ferrel Gas) for the region. Some of the governments track their propane use, but obtaining values per jurisdiction or by type of account throughout the region was not feasible for this report. It is anticipated that propane contributes a slightly larger portion of overall energy use, as many homes and agricultural lands are not served with natural gas. TNCC is working to obtain more data for use in the GHG Inventory.

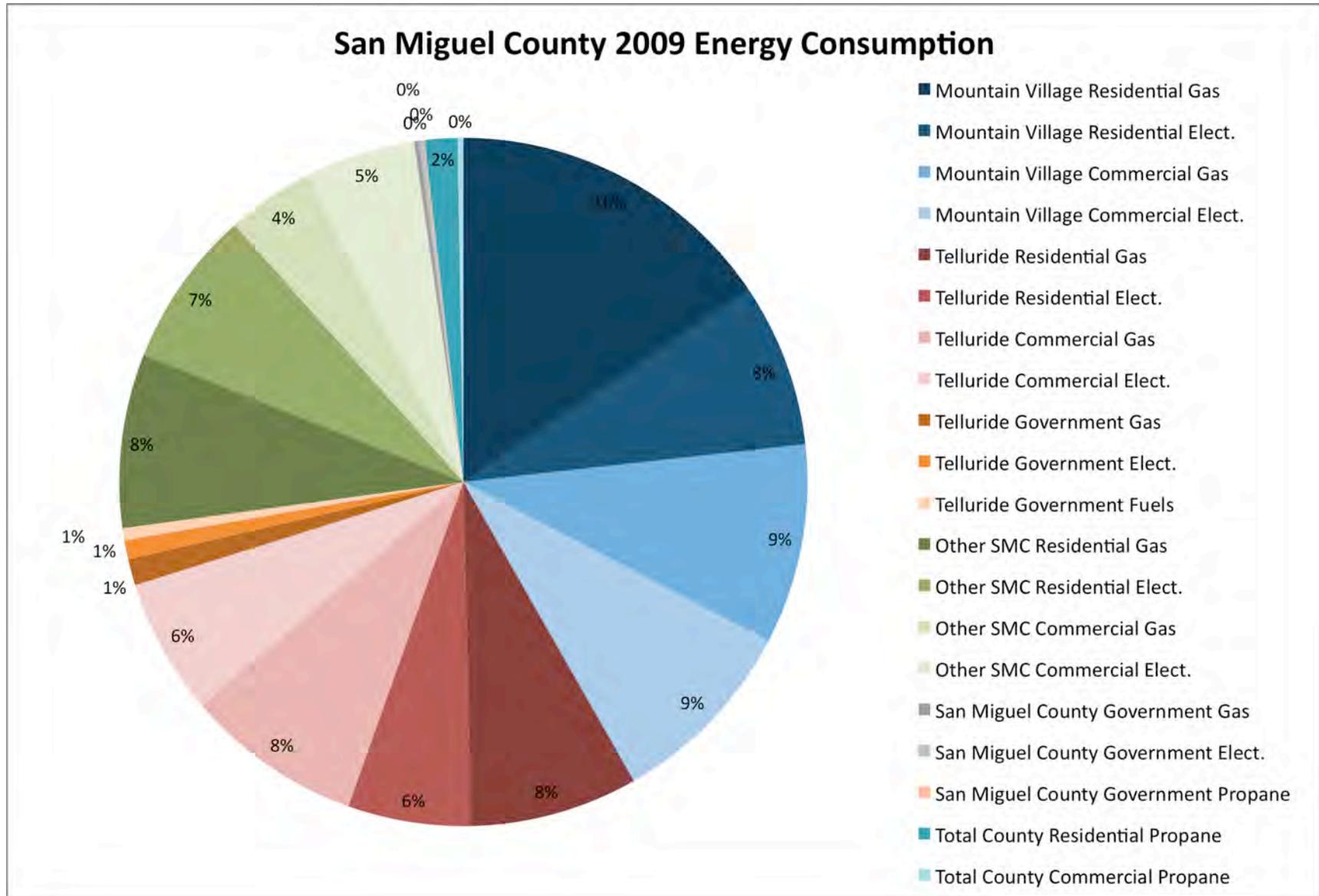
Table 1

2009 Utility Energy Use for Ouray and San Miguel Counties			
	Gas	Electricity	Propane
	(therms)	(kWh)	(gallons)
Ouray Residential	257,288	5,387,132	
Ouray Commercial	186,171	5,575,702	
Ouray Government	20,000	890,000	
Ridgway Residential	202,800	3,083,082	
Ridgway Commercial	187,767	4,834,933	
Ridgway Government	4,267	508,251	
Other Ouray County Residential	248,889	16,373,431	220,000
Other Ouray County Commercial	25,840	6,252,703	50,000
Ouray County Government	11,804	258,158	
All Ouray County Total	1,133,023	41,854,047	270,000
Mountain Village Residential	1,530,588	22,778,601	
Mountain Village Commercial	921,642	27,099,499	
Mountain Village Government	187,471	5,279,158	
Telluride Residential	775,581	17,197,031	
Telluride Commercial	816,295	19,073,737	
Telluride Government	121,690	2,670,938	
Other SMC Residential	629,358	20,347,554	170,000
Other SMC Commercial	315,323	13,241,395	30,000
San Miguel County Government	22,754	620,953	
Norwood Residential	142,041	1,555,835	
Norwood Commercial	80,119	2,107,855	
Placerville/Sawpit Residential	29,477	137,555	
Placerville/Sawpit Commercial	8,212	49,425	
Ophir	0	527,858	
All San Miguel County Total	5,393,080	127,392,466	200,000

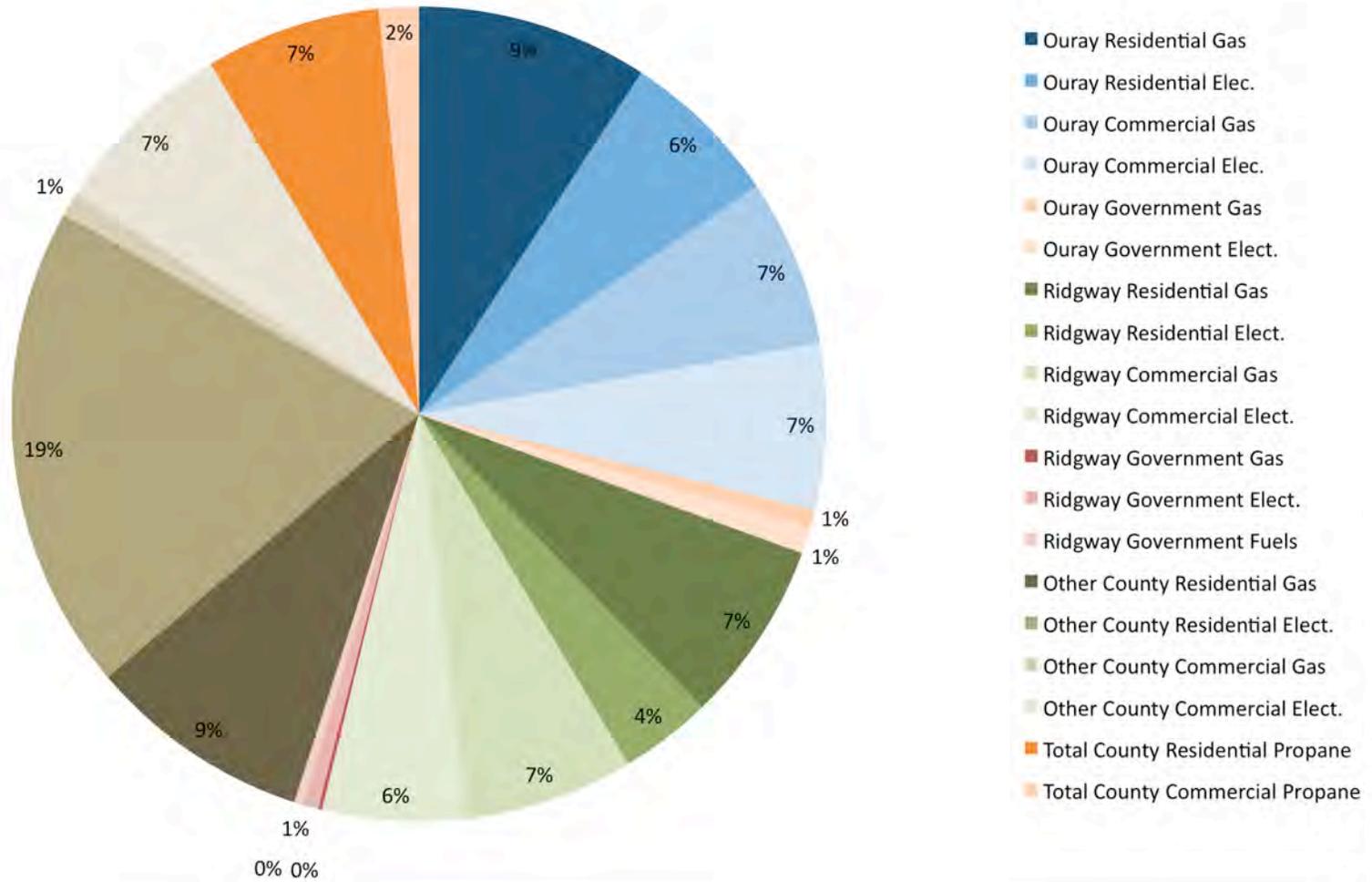
Note: Utility data was converted to the common unit of BTU's for the purposes of comparison in the pie charts below.

Equivalent Cost Estimate:

Using average rates for the utilities listed in the above chart, an estimate of total cost for energy use was calculated for 2009. San Miguel and Ouray Counties spent an approximate \$31,000,000 on energy!



Ouray Country 2009 Energy Consumption



1.3 Transportation

Transportation data for San Miguel County is available for 2007 from the previous GHG Inventory. The data is fully explained in Appendix A of that study. In brief, transportation vehicle number studies included: a CDOT traffic survey performed throughout San Miguel County over 48 hr periods from 2003-2008, Town of Telluride and Town of Mountain Village traffic studies, and 2 monitoring stations were set up in Dolores and Montrose Counties to track commuting traffic in/out of the county. ICLEI software was used to analyze the data and obtain an overall energy consumption value.

For the purposes of this STRATEGY, we have estimated Ouray County transportation numbers using the San Miguel County GHG Inventory value. A rough estimate was obtained by calculating the total electricity and gas use for each county and applying the same percentage relationship between them to transportation. Considering that much of the commuter traffic to/from San Miguel County travels through Ouray County from Montrose, this was deemed a fairly reasonable method of estimation for the purposes of this report. Obtaining more accurate transportation data for Ouray County is a stated action item in Action Plan and will be obtained through the GHG Inventory.

Air traffic in/out of the Telluride regional airport was not included in the San Miguel County GHG Inventory. Obtaining accurate air traffic transportation data for the airport is a stated action item in Action Plan and will be obtained through the GHG Inventory. GHG emissions attributable to air travel in/out of other counties will also be assessed.

The governmental jurisdictions are in varying stages of collecting and tracking fleet vehicle fuel use. All are committed toward establishing a regular tracking of fuel use and implementing actions to reduce usage.

Based on the values listed below, transportation in the region represents a significant challenge. Managing modes of transportation and demand as our communities grow is a critical component of the region’s energy use.

The WSJCEB will ask the Region 10 Transit Authority to include energy conservation and emissions in their transit planning. Addressing transit is an important aspect of reaching our fuel use reduction goals.

Table 2: Transportation Data

	Diesel and Gasoline (MMBtu's)
San Miguel County	664,314
Ouray County	139,506

1.4 Waste

Reducing the production of waste is a major component of this sustainability action plan. The standard method of calculating GHG emissions related to waste in GHG Inventories is to estimate the amount of waste put into a landfill, and then to estimate

the amount of GHG produced by that waste annually. Unfortunately, we have not begun tracking volume of waste produced in our counties, and it actually gets hauled outside of our region. In the San Miguel County GHG Inventory, a rough estimate was calculated using standard ICLEI numbers for waste production for a population. This type of estimate would not give us an accurate baseline from which to track reduction. Therefore, we have made it an Action Item to work with waste hauling companies to come up with a method of tracking the volume of trash and recycling collected in the region. Data collection is a goal for the GHG Inventory.

1.5 Water

Water consumption in the counties has not been quantified. It will be critical to establish a method of tracking water use per jurisdiction and per house/business/government entity. The jurisdictions with water and/or wastewater treatment plants are committed to developing the methodology to track water use and convey usage to each user as an action item of this STRATEGY. Much of the unincorporated areas are not served on public water systems, so they will not be included in the tracking, however outreach efforts of education and water conservation incentives will include them.

2. Strategic Energy Plan

2.1 Mission

The Western San Juan Community Energy Board* will advance the New Energy Economy so that our communities will have economic opportunities related to energy efficiency and renewable energy and will develop and thrive in a sustainable manner.

*The New Community Coalition; Our local governments: San Miguel and Ouray Counties, the Towns of Telluride, Mountain Village, Norwood and Ridgway, and the City of Ouray; Our regional utility providers: San Miguel Power Association and Source Gas.

2.2 Vision

The Vision of the Western San Juan Community Energy Board (WSJCEB) is to preserve our clean air, water, and natural environment for future generations. We will achieve this through being a leader in reducing the per capita consumption of valuable natural resources through education, efficiency, and the implementation of renewable energy projects.

2.3 GAP Analysis

The WSJCEB went through a process of identifying the strengths, weaknesses, opportunities and threats (SWOT) within our region that will affect the achievement of our mission. From the ideas generated from the SWOT analysis, the WSJCEB performed a GAP analysis to identify the difference between the current status and the ultimate sustainability vision for the region. The following are the identified GAPS that must be bridged in order to reach our vision for the region.

Education of People: Everyone, including homeowners, renters, contractors, and governments, needs to be continually informed about what they can do to reduce per-capita energy and water consumption, and how reducing consumption is both money- and environment-saving. A highly visual, public overall measure of progress needs to be implemented. The areas of sustainability in which we need to focus are:

- Energy Efficiency
- Renewable Energy
- Waste
- Buying Local
- Water

Transportation: We need a coordinated regional approach to transportation. Lack of coordinated regional transportation causes:

- Higher overall energy consumption and greenhouse gas production
- Higher individual cost
- Even more wear and tear on our roads
- Decreased efficiency in identifying financial opportunities and resources for success

Leadership:

- We need Baseline Data– need per capita consumption data and a public measure of progress (see Education)
- We need coordination of projects to maximize focus, avoid duplication of effort, and leverage our shared voices to higher authorities (see Utilities, for example)

Utilities:

- Need enabling policies and incentives for utilities for development of renewable energy
- Partnership opportunities for achieving outcomes must be explored
- Tiered rate structure and other opportunities to encourage conservation and the use/support of renewable energy

Economic:

- Funding mechanisms are needed for project implementation to reach all:
 - governments
 - individuals
 - businesses
 - non-profit and independent sectors

2.4 Targets

In 2009, the Towns of Mountain Village, Norwood, Ophir and Telluride, along with San Miguel County adopted Colorado's Climate Action Plan, setting CO_{2e} emissions reduction targets of 20% below 2005 levels by 2020.

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.

While Ouray County governments have been 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.), progress toward targets have remained un-quantified.

All jurisdictions are in different stages of acquiring baseline data and are working toward completing gathering of the data, in order to have a reliable baseline from which to track achievement of the target goals identified by this document.

The WSJCEB adopted the following general targets in development of the Goals and Action Plan in Section 3:

- Decrease per-capita energy consumption in San Miguel and Ouray Counties 20% by 2020 from 2005 levels
- Obtain 20% of the region's electricity from renewable energy by 2020.
- Reduce the overall amount of energy consumed per capita by ground and air travel.
- Decrease overall water consumption community-wide in private and public sectors by 10% below 2005 levels by 2020
- Divert 75% of overall waste from landfills by 2020

The above reduction targets are consistent with those set forth by the State of Colorado¹ Climate Action Plan and the recommendation of the Intergovernmental Panel on Climate Change, and similar to those set forth federally². Throughout the STRATEGY, these targets are referred to by the headings below:

- **2020 Target:** Reduce carbon dioxide equivalent (CO_{2e}) emissions 20% below 2005 levels by 2020.
- **Long-Term Target:** Meet other longer-term state, national and global energy goals for the future.

¹ The State of Colorado's targets, as stated in the 2007 Climate Action Plan, are to reduce CO_{2e} emissions 20% below 2005 levels by 2020 and 80% below 2005 levels by 2050.

² The United State's targets, as submitted to the United Nations Framework Convention on Climate Change Secretariat in December 2009 under the Copenhagen Accord, are to reduce CO_{2e} emissions 17% below 2005 levels by 2020.

The 2020 Target is adopted with the realistic understanding that it will be incredibly difficult to achieve. Realizing such significant reductions in CO_{2e} emissions and energy usage in less than a decade in spite of new construction and population growth will necessitate a significant dedication of time, resources and funding to these efforts.

The Western San Juan Community Energy Board and TNCC have chosen to reinforce the adopted 2020 Target despite the challenge it presents due to the facts that: a) this target is recommended by the International Panel on Climate Change (IPCC) in order to avoid damaging effects that would result from the level of emissions in the atmosphere without this level of reduction; and b) this is the target adopted by San Miguel County's municipalities, by the State of Colorado and by numerous other municipalities, counties, states and countries worldwide.

It is important to improve our region's ability to track energy usage in order to accurately track progress toward these targets and report it back to the public. See section 2.8 on Tracking for more on tracking progress.

See section 2.7 on Program Development for target achievement scenarios.

In addition, in May 2009, the Towns of Mountain Village and Telluride mayors put forth a challenge called Telluride Renewed. The communities are challenged to offset 100% of Telluride's and Mountain Village's electrical needs with new renewable energy sources by 2020. Telluride and Mountain Village have begun to develop a plan to guide the achievement of this challenge.

2.5 Guiding Principles

In developing the STRATEGY, a number of principles guided the WSJCEB and TNCC.

- **Voluntary:** To emphasize voluntary programs which inspire and motivate participation.
- **Education & Understanding:** To accompany or precede all energy actions with appropriate educational efforts.³
- **Fiscal Responsibility:** To develop energy actions that are fiscally responsible within the context of each government's budget, reflect the economic circumstances of the region and its citizens, and strive to employ local labor and resources in ways that improve local economies and local government revenues.
- **Commitment:** To commit resources, as available, in order to meet this plan's goals and targets.
- **Autonomy and Interdependence:** To recognize and respect the interdependence of the region as well as the autonomy of each community.

³ In keeping with this guiding principle, educational strategies and action items are positioned at the beginning of the plan, preceding all other recommendations. Educational components are also interspersed throughout the STRATEGY's recommendations.

- **Transparency:** To inform the communities regularly regarding the implementation of actions in this STRATEGY and regularly report on progress made toward achievement of goals. To regularly obtain input and feedback from the community.

2.6 Collaboration

The purpose of a collaborative STRATEGY is to bring together interdependent yet diverse communities for the purpose of identifying common goals and unique offerings and to more effectively leverage resources between appropriate governmental and non-governmental entities. Working together on energy planning will help our region to select optimal creative and shared solutions to effectively and efficiently implement energy-related programs, projects and policies. Below is a framework for this regional collaborative relationship. This should not be viewed as mandatory in any way; it is only suggested as an option to facilitate voluntary collaboration.

To facilitate this collaboration our region would create three levels of coordination between regional entities:

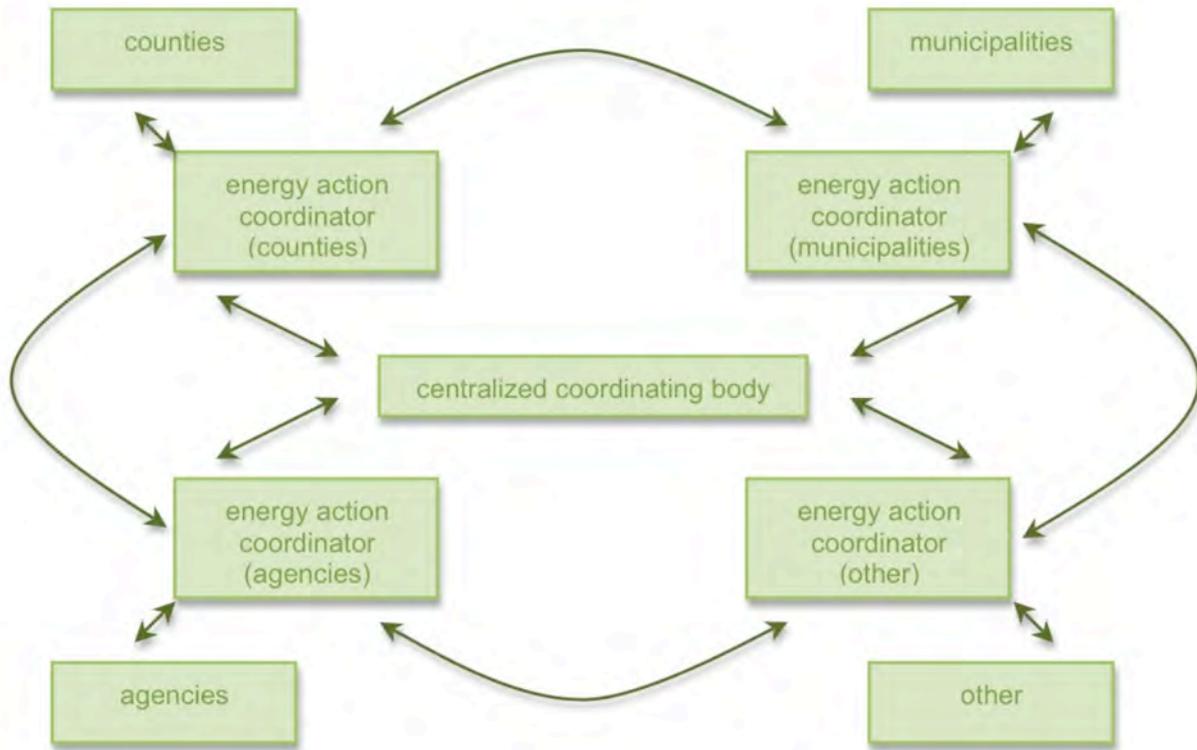
- **Centralized coordinating body.** The WSJCEB and TNCC will continue to serve as a central, community entity facilitating regional energy activities and the network of Energy Action Coordinators (EACs).
- **Network.** EACs, appointed by and representing individual regional entities, serve as liaisons between the central coordinating body and the entity they represent.

This is not a new position or a designation necessitating any significant dedication of time. An EAC should be an existing staff person with an interest in energy issues who can allocate adequate time annually to participate in the network and report back to his/her agency.

This network will facilitate frequent communication between EACs allowing agencies to stay current on jurisdictional and collaborative activities. The network will also give direction to the centralized coordinating body, offering feedback on programming and projects.

- **Reporting back.** EACs will update the board on recent activities and findings relative to the jurisdiction or organization they represent, update and monitor energy consumption data for government and private sectors, prioritize action items for their respective jurisdictions, etc.

Figure 1



Model of Energy Action Planning Coordination

Some benefits of participation in this network include:

- **Prevention of “reinventing the wheel”:** keeping entities up to date about past and current programs and efforts will allow them to share findings, materials and plans that will help to accelerate program development.
- **Partnership formation:** as entities learn about new projects or programs that neighboring entities are undertaking, they can inquire about joining forces, leveraging resources and forming other symbiotic relationships to strengthen their efforts.
- **A stronger front:** having a network in place and offshoot partnerships demonstrates to potential funders that our region is advanced in its energy planning efforts and works together to implement them, making our region more attractive to funders in jurisdictional and joint applications.
- **Experience:** the designated EACs will be able to gain knowledge and experience in the fast growing field of energy and sustainability planning and clean energy. The individual EAC and the organization will have the value of being able to benefit from and claim this experience.

- **Expanded organization:** local governments, colleges, companies and many organizations are creating and expanding Sustainability Departments or Sustainability Coordinator positions within their staffing structures. Designating an EAC is a chance for an organization to begin to join others in formally addressing these issues.
- **Potential for eventual compensation:** The WSJCEB will work with TNCC to identify strategies for continued funding for programs and projects in the region as the EECBG funds for the CEC position come to an end. A recommended plan of action will be adopted by end of 2011.
- And finally, the network needs **widespread participation** for success. It is important to have as many entities at the table as possible to build far-reaching, comprehensive and creative partnerships and involve as many sectors and entities possible.

A comprehensive regional network would span:

- **Local Governments:** County, municipal, elected officials, staff persons
- **Government Agencies:** Governor's Energy Office (GEO), Housing Authorities for Ouray and San Miguel Counties, United States Department of Agriculture (USDA), National Resource Conservation Service (NRCS), Bureau of Land Management (BLM), Forest Service (FS)
- **Educational institutions:** Colorado State University Extension Office (CSU), University Centers of the San Miguel, School Districts (Ouray, Ridgway, Telluride, Norwood), local private schools
- **Commercial Sector:** Mountain Village and Telluride Tourism Board (MTI), Rotary clubs, Telluride Ski & Golf (TSG), industry and banking representatives.
- **Utilities:** San Miguel Power Association (SMPA), SourceGas, Water and wastewater utilities such as municipalities, Tri-County Water
- **Owners Associations**
- **Building Industry:** Building Departments, Contractors, Engineers & Architects, Historic and Architectural Review Committee, Planning & Zoning Commissions, Realtor associations, TMV Design Review Board
- **Transit Groups:** Galloping Goose, local transit advisory committees
- **Waste Groups:** Waste Management (WM), Bruin Waste, Sunrise
- **Non-Profits and Other Groups:** TNCC, non-profit organizations, libraries, faith-based organizations, etc.
- **Citizens At Large / Local Business Owners**
- **Economic Development Organizations**

Several of the above sectors and groups are represented in the WSJCEB, a group that TNCC formed in early 2010. The Board, which has met every 3 weeks throughout the development of the STRATEGY, can support the consolidation of this regional network of EACs, providing a forum for idea-sharing and collaboration. The Board is also

responsible for assessing regional programs and maintaining progress of inter-community efforts, particularly funding opportunities.

The Board may develop issue-specific Working Committees as needed, such as:

- **Public Education & Outreach Committee.** To coordinate public education and outreach efforts, public school and college efforts and other education efforts where economy of scale or regional efforts are favorable.
- **Ad-Hoc Committees.** As collaborative projects, programs or funding opportunities occur, committees of EACs should be formed to facilitate their development.
- **Policy and Infrastructure Committee(s).** To facilitate the creation of Region-wide organizations, policies or other structures desirable or necessary to achieve energy efficiency/renewable energy objectives. Examples would be a Regional Renewable Committee.
- **Other Working Committees.** As needed.

As action items move into planning stages, planners should check in with their EACs to see which entities should be included or consulted.

2.7 Financing

To finance the implementation of the STRATEGY, the region should consider pooling financial and human resources to build capacity. Financial resources include monies, in-kind contributions and matching funds for grants. By leveraging and consolidating resources throughout the region, communities can achieve greater impact in capital intensive projects.

There are a few basic avenues of financing the implementation of the STRATEGY:

- **Governmental Budgeting.** During budgeting sessions, each government should evaluate whether to earmark a certain amount of funds, staff hours and/or other resources toward the implementation of energy action planning. The WSJCEB will advise government bodies each year during budget development of recommended funding allocations with significant input of the EACs for each jurisdiction and founded on a priority implementation plan, available grant and loan funding, or other available funding sources. Presentation will include annual report to participants and associated requested funding/assistance.

In addition, obtaining annual data from utilities may require some funding. The utilities and governments will discuss this need and establish an agreement and allocate funding for this data update as necessary.

- **Pooled Governmental Budgeting.** Inter-Governmental Agreements (IGA) can combine the resources of interested local governments to fund energy action plan implementation collaboratively when appropriate.
- **Private investment.** Energy programs and projects may be achieved through private financing structured to realize energy cost savings.

- **State and Federal Resources.** Federal and State agencies recognize that funding energy projects and programs achieves many co-benefits such as rural development and job creation. Applying for these funds as a region is more attractive than applying as a municipality or county.
- **Continuous Revenue Streams.** To consistently fund the ongoing implementation of the EAPs and the STRATEGY, the jurisdictions could work together to create long-term, dedicated revenue streams from within the region. Obtaining this type of steady funding will be instrumental in sustaining energy programs into the future.
- **Utilities.** Grants, rebates, and other funding opportunities may be available through the utility companies.

2.8 Program Development

Energy-related programs should strive to be in keeping with the regional mission and goals and be associated with direct or indirect reductions in energy use. Programs should be developed using the guiding principles expressed in this STRATEGY.

When a program is being developed, planners can consult with appropriate entities by informing the Energy Advisory Board, opening up the opportunity for collaborating with regional EACs. This process will prevent entities from overlapping efforts, ensuring that efforts build upon one another regionally. This will also promote collaboration, allowing entities to stay current on program development and approach planners in the early stages with ideas for collaboration or partnerships. The centralized coordinating body can assist in obtaining funding, identifying partners and acquiring informational and technical resources.

The STRATEGY also presents cost-effectiveness calculations (see table 2) for prevalent measures for decision-makers to refer to when considering recommendations. This method should be used, in conjunction with the STRATEGY's and the jurisdictional EAPs' guiding principles, as a decision-making tool to prioritize the development of programs and the addition of new programs.

The cost-effectiveness calculation combines the projected project cost, projected energy savings, and projected carbon reductions into a single measurement. "Effectiveness" is defined as the net program energy savings (\$) in the year 2020 divided by the tons of annual carbon emissions reduction in the year 2020. In other words, "effectiveness" reflects how much money a program saves as compared to how much carbon it reduces.

The higher the positive value of the "Effectiveness", the more effective a program is estimated to be. Positive effectiveness values represent the dollars saved per ton of CO_{2e} reduced. Negative effectiveness values represent the dollars spent per ton of CO_{2e} reduced.

These calculations are designed to serve as a decision-making tool and as a basis for comparing action items. Each recommendation requires further analysis to more accurately determine costs and benefits, based on current pricing.

The table was developed by representatives from the jurisdictional Energy Action Planning Committees in Gunnison/Hinsdale Counties to supplement software from ICLEI (Local Governments for Sustainability). The table does not discount future value or attempt to predict potential changes to the cost of energy and technology. The table also uses assumptions (i.e. a constant energy cost per unit) and generalizations to make calculations. However, it can still be used as a tool to gain a general understanding of the “bang for the buck” of these measures. The table below indicates the cost effectiveness of common energy efficiency and renewable energy measures.

The WSJCEB recognizes the following tables of data as valuable information applicable to our region, which is similar in many ways to Gunnison/Hinsdale. The WSJCEB and EACs will discuss the feasibility of utilizing these tables as templates for assembling similar tables specific to our region. We will complete these target numbers and units for our region at some time in the future when feasible. The point of the table is to demonstrate where the greatest savings may be achieved.

Table 3

Action Step No.	Action Step	Target Number of Units by 2020	Est. Cost of Action per Unit	Total Cost of Action 2010 to 2020	Est. Annual Tons CO _{2e} Reduction per Unit	Est. Annual Total Tons CO _{2e} Reduction 2020 On	Est. Annual Savings from Action per Unit	Est. Simple Payback Period per unit (Yrs)	Est. 10-Year Total (Cost)/Savings	Est. "Up-Front" Cost per Ton CO _{2e} Reduced	Effectiveness= net savings/tons CO _{2e}
WEATHERIZING HOMES											
	Reducing air transfer (caulking, weatherstrip)	300	\$400	\$120,000	3.6	1,087.1	\$430	0.9	\$3,900	\$110	\$1,076
	Insulating crawlspace, attic, + R-10	300	\$1,200	\$360,000	2.0	608.9	\$241	5.0	\$1,209	\$591	\$595
	Insulating walls	300	\$1,200	\$360,000	1.7	519.8	\$203	5.9	\$827	\$693	\$477
	Installing insulated windowshades	300	\$2,000	\$600,000	1.1	323.6	\$128	15.6	-\$720	\$1,854	-\$667
	Installing energy efficient windows	50	\$10,000	\$500,000	0.5	26.5	\$63	159	-\$9,372	\$18,884	-\$17,698
WEATHERIZING COMMERCIAL											
	Reducing air transfer (caulking, weatherstrip)	30	\$500	\$15,000	7.7	229.7	\$896	0.6	\$8,457	\$65	\$1,104
	Insulating crawlspace, attic, + R-10	25	\$4,800	\$120,000	18.1	452.8	\$1,059	4.5	\$5,793	\$265	\$320
	Insulating walls	10	\$2,400	\$24,000	1.7	17.3	\$203	11.8	-\$373	\$1,385	-\$215
	Installing insulated windowshades	15	\$1,440	\$21,600	0.6	9.2	\$72	20.0	-\$720	\$2,340	-\$1,170
	Installing energy efficient windows	5	\$12,384	\$61,920	0.6	3.1	\$35	350	-\$12,031	\$20,300	-\$19,721
ELECTRIC USE REDUCTION											
	Replace incandescents - >6 per unit	500	\$12	\$6,000	0.4	216.1	\$48	0.2	\$473	\$28	\$1,094
	Install motion-sensors, power strips, etc. - >4	300	\$70	\$21,000	0.7	204.9	\$77	0.9	\$696	\$102	\$1,019
	Install E-Star refrigerator in home	300	\$150	\$45,000	0.3	93.2	\$35	4.3	\$199	\$483	\$639
	Install E-Star washer/dryer in home	300	\$100	\$30,000	0.1	37.5	\$14	7.1	\$40	\$800	\$322
	aggregate	\$900	\$320	\$96,000	1.1		\$126	4.1	\$935	#DIV/0!	\$836
HOT WATER HEATING ENERGY											
	Install E-Star hot water heater	100	\$550	\$55,000	0.3	29.2	\$33	16.8	-\$222	\$1,881	-\$759
	Install solar hot water system	100	\$3,000	\$300,000	2.4	236.2	\$265	11.3	-\$350	\$1,270	-\$148

What does the 2020 Target look like? Another consideration in the development of energy programming should be the “larger picture” of how each planned project or program will play into achieving the 2020 Target.

In his draft paper, *Assessment of the Gunnison Community’s 2020 CO₂ Emissions Targets*, Western State College Professor Roger Hudson pondered several scenarios that would lead our region to success in reaching the 2020 Target. He played with energy intensity and carbon intensity variables, adjusting penetration levels in the building and transportation sectors, to make the Target. Below are three of these scenarios, which planners might find useful in developing long-term programming in their jurisdictions and in partnership for the region.

Table 4

Exhibit 9: Scenario A, Bottom Up Parameters and Projections, 2005 - 2020				
Scenario A			Building Energy and CO ₂ Projections	
	Initial Value	Change Rate	By 2020, 3288 of the initial buildings, or about 30% of the initial buildings, will have received upgrades that improve their efficiency by 30%. By 2020, these 'fixed' buildings are 26% more efficient than the average building in 2005 and are being fixed at a rate of 470 per year. By 2020, new buildings use 48% less energy than the average building in 2005 and the average building efficiency has improved by 26% in 15 years. Hydro power generates 15% of total electricity and wind electricity has increased from 1% to 16%. Electricity from coal has dropped from 63% to 49%. Geothermal is at 0%. Building related CO ₂ emissions have dropped from 196007 tons in 2005 to 164720 tons in 2020, a decrease of 31287 tons, or a 16% decline from 2005.	
Gunnison community population	14,403	0.5%		
Per Capita Gross Product (\$1000)	\$ 30.0	0.75%		
Building Assumptions			Transportation Energy and CO ₂ Projections	
Number of Building Renovated / Weatherized	75	14.0%	The average fleet efficiency has increased from 18 MPG in 2005 to 26 MPG in 2020 but the number of vehicles has risen by 32%. Total miles travelled has increased by 16%, from 341 million miles to 395 million miles. The average annual miles per vehicle has dropped from 16644 miles to 14314 miles. 2016 CAFÉ performance for new vehicles is at 34 MPG. Transportation related CO ₂ emissions have dropped from 179825 tons in 2005 to 135351 tons in 2020, a decrease of 44474 tons, or a 25% decline from 2005.	
Initial Energy Index of Buildings Renovated	130	-1.0%		
% BEI Improvement from Renovation	30%	0.0%		
New Building Construction	70	1.0%	The energy intensity rate of decline from 2005 to 2020 has reached -2.4% The carbon intensity rate of decline from 2005 to 2020 has reached -0.34% Total energy consumption has dropped from 3887 B Btu in 2005 to 3269 B Btu in 2020, a decrease of 619 B Btu, or a 16% decline from 2005. Total CO ₂ emissions have dropped from 375832 tons in 2005 to 300070 tons in 2020, a decrease of 75762 tons, or a 20% decline from 2005.	
BEI for New Buildings	60	-1.0%		
General Building Energy Efficiency Improvement		1.0%		
Percent Electricity from Wind	0.9%	21.0%	Gunnison Community Energy and CO ₂ Projections	
Taylor Dam Hydro Option		No		
Geothermal Option		No	The energy intensity rate of decline from 2005 to 2020 has reached -2.4% The carbon intensity rate of decline from 2005 to 2020 has reached -0.34% Total energy consumption has dropped from 3887 B Btu in 2005 to 3269 B Btu in 2020, a decrease of 619 B Btu, or a 16% decline from 2005. Total CO ₂ emissions have dropped from 375832 tons in 2005 to 300070 tons in 2020, a decrease of 75762 tons, or a 20% decline from 2005.	
Transportation Assumptions				
Rate New Vehicles Enter Fleet	923	4.5%	Gunnison Community Energy and CO ₂ Projections	
Rate Old Vehicles Leave Fleet	513	2.5%		
MPG of New Vehicles Enter the Fleet	28	2.0%	The energy intensity rate of decline from 2005 to 2020 has reached -2.4% The carbon intensity rate of decline from 2005 to 2020 has reached -0.34% Total energy consumption has dropped from 3887 B Btu in 2005 to 3269 B Btu in 2020, a decrease of 619 B Btu, or a 16% decline from 2005. Total CO ₂ emissions have dropped from 375832 tons in 2005 to 300070 tons in 2020, a decrease of 75762 tons, or a 20% decline from 2005.	
MPG of Old Vehicles Leaving the Fleet	12	2.0%		
Average Vehicle Miles Per Year	16,644	-1.0%	Gunnison Community Energy and CO ₂ Projections	

Table 5

Exhibit 10: Scenario B, Bottom Up Parameters and Projections, 2005 - 2020				
Scenario B			Building Energy and CO2 Projections	
	Initial Value	Change Rate		
Gunnison community population	14,403	1.5%	By 2020, 6389 of the initial buildings, or about 58% of the initial buildings, will have received upgrades that improve their efficiency by 40%. By 2020, these 'fixed' buildings are 42% more efficient than the average building in 2005 and are being fixed at a rate of 1214 per year. By 2020, new buildings use 57% less energy than the average building in 2005 and the average building efficiency has improved by 42% in 15 years. Hydro power generates 15% of total electricity and wind electricity has increased from 1% to 16%. Electricity from coal has dropped from 63% to 49%. Geothermal is at 0%. Building related CO2 emissions have dropped from 196007 tons in 2005 to 169278 tons in 2020, a decrease of 26730 tons, or a 14% decline from 2005.	
Per Capita Gross Product (\$1000)	\$ 30.0	1.50%		
Building Assumptions				
Number of Building Renovated / Weatherized	75	22.0%		
Initial Energy Index of Buildings Renovated	130	-1.0%		
% BEI Improvement from Renovation	40%	0.0%		
New Building Construction	70	2.0%		
BEI for New Buildings	50	-1.0%		
General Building Energy Efficiency Improvement		1.0%		
Percent Electricity from Wind	0.9%	21.0%		
Taylor Dam Hydro Option		No		
Geothermal Option		No		
Transportation Assumptions			Transportation Energy and CO2 Projections	
Rate New Vehicles Enter Fleet	1,128	5.5%	The average fleet efficiency has increased from 18 MGP in 2005 to 29 MGP in 2020 but the number of vehicles has risen by 41%. Total miles travelled has increased by 25%, from 341 million miles to 425 million miles. The average annual miles per vehicle has dropped from 16644 miles to 14314 miles. 2016 CAFE performance for new vehicles is at 36 MPG. Transportation related CO2 emissions have dropped from 179825 tons in 2005 to 131973 tons in 2020, a decrease of 47852 tons, or a 27% decline from 2005.	
Rate Old Vehicles Leave Fleet	615	3.0%		
MPG of New Vehicles Enter the Fleet	28	2.7%		
MPG of Old Vehicles Leaving the Fleet	12	2.0%		
Average Vehicle Miles Per Year	16,644	-1.0%		
			Gunnison Community Energy and CO2 Projections	
			The energy intensity rate of decline from 2005 to 2020 has reached	-4.1%
			The carbon intensity rate of decline from 2005 to 2020 has reached	-0.31%
			Total energy consumption has dropped from 3887 B Btu in 2005 to 3265 B Btu in 2020, a decrease of 622 B Btu, or a 16% decline from 2005.	
			Total CO2 emissions have dropped from 375832 tons in 2005 to 301250 tons in 2020, a decrease of 74582 tons, or a 20% decline from 2005.	

Table 6

Exhibit 11: Scenario C, Bottom Up Parameters and Projections, 2005 - 2020						
Scenario C			Building Energy and CO2 Projections			
	Initial Value	Change Rate				
Gunnison community population	14,403	2.0%	By 2020, 8951 of the initial buildings, or about 81% of the initial buildings, will have received upgrades that improve their efficiency by 40%. By 2020, these 'fixed' buildings are 48% more efficient than the average building in 2005 and are being fixed at a rate of 1907 per year. By 2020, new buildings use 57% less energy than the average building in 2005 and the average building efficiency has improved by 48% in 15 years. Hydro power generates 15% of total electricity and wind electricity has increased from 1% to 16%. Electricity from coal has dropped from 63% to 49%. Geothermal is at 0%. Building related CO2 emissions have dropped from 196007 tons in 2005 to 182692 tons in 2020, a decrease of 13315 tons, or a 7% decline from 2005.			
Per Capita Gross Product (\$1000)	\$ 30.0	2.25%				
Building Assumptions						
Number of Building Renovated / Weatherized	75	26.0%				
Initial Energy Index of Buildings Renovated	130	-2.0%				
% BEI Improvement from Renovation	40%	0.0%				
New Building Construction	70	3.0%				
BEI for New Buildings	50	-1.0%				
General Building Energy Efficiency Improvement		1.0%				
Percent Electricity from Wind	0.9%	21.0%				
Taylor Dam Hydro Option		No	Transportation Energy and CO2 Projections			
Geothermal Option		No	The average fleet efficiency has increased from 18 MPG in 2005 to 31 MPG in 2020 but the number of vehicles has risen by 32%. Total miles travelled has increased by 16%, from 341 million miles to 395 million miles. The average annual miles per vehicle has dropped from 16644 miles to 14314 miles. 2016 CAFE performance for new vehicles is at 36 MPG. Transportation related CO2 emissions have dropped from 179825 tons in 2005 to 115256 tons in 2020, a decrease of 64569 tons, or a 36% decline from 2005.			
Transportation Assumptions						
Rate New Vehicles Enter Fleet	1,230	6.0%				
Rate Old Vehicles Leave Fleet	820	4.0%				
MPG of New Vehicles Enter the Fleet	28	2.7%				
MPG of Old Vehicles Leaving the Fleet	12	2.0%				
Average Vehicle Miles Per Year	16,644	-1.0%				
					Gunnison Community Energy and CO2 Projections	
					The energy intensity rate of decline from 2005 to 2020 has reached	-5.4%
					The carbon intensity rate of decline from 2005 to 2020 has reached	-0.18%
			Total energy consumption has dropped from 3887 B Btu in 2005 to 3166 B Btu in 2020, a decrease of 722 B Btu, or a 19% decline from 2005. Total CO2 emissions have dropped from 375832 tons in 2005 to 297948 tons in 2020, a decrease of 77884 tons, or a 21% decline from 2005.			

It should be noted that Hudson demonstrates that developing the “Taylor Dam Hydro Option” and the “Geothermal Option” (or some other large-scale renewable energy generation), which are both checked “no” in all three scenarios, would obviate the need for the extensive programming depicted above in the building and transportation sectors.

2.9 Strategy for Tracking

The region should work toward consistent tracking and cataloguing of energy usage within all sectors and at all levels. This might be facilitated through the purchasing and distribution of a software program, through a contract with companies offering this type of service (e.g. Planet Footprint) or through incentives and/or disincentives for tracking. Working with utility companies (electricity, natural gas and propane) to track aggregate usage is an important first step to staying on top of our region’s emissions.

If this is not possible, energy usage and emissions should be re-inventoried every three to five years to monitor progress toward targets. Jurisdictions should pool human and financial resources to cooperate in data-finding in order to facilitate the process.

It will be important to closely monitor the success of the action items in the plan, with respect to reductions, savings and participation rates. If certain programs are not

working effectively, they should be modified or eliminated. If others are working quite well at reducing emissions, they should be expanded or replicated in other jurisdictions.

Other metrics for success include: money saved, energy used, use of renewable energy sources (small and large-scale), water conservation, waste reduction, local food production, levels of community participation, and continued, positive, regional collaboration.

Reporting of the baseline data and the results of actions taken back to the governments and the communities will be determined during the first meetings of the Energy Action Coordinators. It is likely that the EACs, with approval from jurisdictions, may provide updates annually at a public meeting (e.g. Council meeting, Intergovernmental meeting).

It is important to note that this action plan and goals are a starting point, used to identify and assess baseline measures, based on information and technology we have today generally following national standards for such guidelines. As such, the plan is a living document, designed to be re-evaluated and reconfigured through time based on current knowledge, findings, resources, technology, and other factors.

3. Objectives, Goals, and Action Plan

Below is an index of high-priority sustainability programs and projects identified by the WSJCEB with community member input. Most of the action items are sought after by all of the communities in the region and will require collaboration for success. Other items, marked by specific jurisdiction, will be the sole responsibility of that municipality.

I. Community Engagement (Policy, Research & Education)

OBJECTIVE 1: Ensure that policy decisions at all levels (government, business, and individual) advance the New Energy Economy so that our communities will have economic opportunities related to energy efficiency and renewable energy and will develop and thrive in a sustainable manner. Implement a highly visible, public overall measure of progress.

I.1. GOAL: Adopt and implement public policies to increase energy efficiency, use of renewable energy, decrease water consumption, and reduce dependence on fossil fuels.

Local Government Action Items

All
1.) Where appropriate, support mixed-use and affordable housing developments on commercial projects to reduce transportation energy, with context appropriate regulations to mitigate adverse impacts (eg: conflicts between residential and more intensive commercial and industrial uses).
2.) Promote a leadership position and advocate on renewable energy supply and efficiency issues.
3.) Support community efforts to move towards greater energy independence.
4.) Actively work with other communities and any statewide efforts to improve regional, statewide, and national policies and laws influencing energy use.
5.) Review Local codes to ensure they are in line and not in conflict with the community’s desire to become more sustainable.
6.) Assess feasibility of implementing a carbon (or energy) tax. (Use Boulder’s Carbon Tax as example.) Implement if determined feasible and beneficial.
7.) Assess feasibility and possible results of implementing a ‘Feed In Tariff’ program that establishes a fixed rate for renewable energy power generated. Engage with SMPA on this topic.
Mountain Village
1.) Implementation of newly adopted Wildfire and Forest Health regulations; research of biomass energy production with dead wood from forests
2.) Comprehensive Plan is developed around a Sustainability Framework; review and revise LUO/Design Guidelines to allow for better environmental protections and incentives for renewable energy projects; investigate limits for maximum home sizes and energy taxes and incentives for new buildings
Ridgway
1.) Revisit current rate structure for water consumption such that increasing water demands pay higher rates for increased water consumption (ie: tiered structure)
2.) Revisit landscaping and weed mitigation requirements to insure support of xeriscape low-water landscaping for all uses (residential, commercial, industrial)
3.) Re-evaluate annually the Town’s Renewable Energy Sales Tax refund policy and explore complementary opportunities and incentives

to encourage and facilitate the installation and use of renewable energy
4.) Establish formal policies for energy efficiency and conservation in all public buildings
Telluride
1.) Zero Waste Education-what will the net effect be if we become zero waste/Provide check list for businesses and restaurants
2.) Create Festival contract for SMC, TOT and TMV so that resource recovery is locked in at all levels of festivals

I.2. GOAL: Engage and advocate for collaborative, policy and legislative solutions at regional, state and federal levels.

Local Government Action Items

All
1.) Participate in and help develop effective regional, state, and federal solutions to reduce emissions.
2.) Engage utility companies and assist local agencies in achieving greenhouse gas reduction targets.
3.) Enable long-term solutions by investing in science and engineering education.
4.) Actively participate in WSJCEB.
Mountain Village
1.) Mountain Village presence at SMPA meetings, send letters, have an active role in SMPA renewable energy program
San Miguel County
1.) Continue to be a strong advocate for such policies and legislation providing they are practical and have viable chance of implementation.
Telluride
1.) Continue to work with SMPA Mayor’s Forum and bring speakers to town to enlighten public related to what other communities are doing

I.3. GOAL: Advocate for programs, policies and legislation to reduce global emissions.

Local Government Action Items

All
1.) Support USA participation in international greenhouse gas reduction efforts.
2.) Support other organizations that lobby for these goals, such as: <ul style="list-style-type: none"> • Alliance for Sustainable Colorado • CML • CCI • Club 20 • Colorado Counties, Inc. • National Association of Counties

<ul style="list-style-type: none"> Colorado County Managers Association
3.) Provide letters of support and communications for federal renewable energy policy programs
4.) Support local, state organizations that improve renewable energy policies.

I.4. GOAL: Continue to improve and increase partnerships with utility providers, local/state/federal governments, and private industry, to maximize resources and outreach efforts for Southwest Colorado that ultimately contribute to the realization of the region’s goals, inclusive of grant and loan opportunities to finance necessary and desired improvements.

Local Government Action Items

All
1.) Assist in promotion of energy efficiency and renewable technology rebate, tax credit, and loan programs offered by local utilities, the GEO, local and federal governments through the building permit process and other community interactions as allowable.
2.) Establish a communications network among the entities listed in the comprehensive regional network of Section 2.6.
Mountain Village
1.) Familiarize staff with rebate and incentive programs and share with community, provide information, assist with paperwork if possible
Ouray
1.) Support the completion of local renewable energy projects such as the Ridgway Dam power plant and the Sun Edison PV array.
Ridgway
1.) Incorporate and update links and resource information on Town website, including links to SMPA, TNCC, GEO Recharge, DSIRE and others, as appropriate
San Miguel County
1.) Continue to promote rebate, tax credit and loan programs through Social Services and Commissioner’s staff.
Telluride
1.) Arrange monthly reporting of energy consumption from SMPA and Source Gas at specific levels i.e. Government, Commercial, Residential
2.) Foster working relationships between regional and similar municipalities (i.e. Rico)

OBJECTIVE 2: Improve education of our regional population, both permanent and part-time, so that all are continually informed about actions they can personally take to reduce per-capita energy consumption, and understand the relationships between energy and water conservation, saving money, environmental preservation, and GHG reduction. Educational topics will include:

- Energy Efficiency – homeowners, renters, contractors, governments
- Renewable Energy
- Transportation

- Water Conservation
- Zero Waste
- Buying Local

I.5. GOAL: Education and Program Promotion

I.5.a. Market programs and conduct community outreach to increase participation in energy and water reduction efforts.

I.5.b. Provide education through a variety of venues.

I.5.c. Provide data needed by the community to understand the need for action to reduce global warming.

Community Action Items

All
<p>1.) Partner with community-based non-profit organizations, such as TNCC, and others, such as libraries and schools, to undertake public outreach and education efforts that broaden community involvement in reducing greenhouse gas emissions.</p> <p style="margin-left: 20px;">1. a) TNCC shall develop regular educational topics and host free community education, making topics easily understood and end results easily attainable through:</p> <ul style="list-style-type: none"> • TNCC website • Regular column in the regional newspapers • KOTO interviews • Green Business Roundtables • Field trips and workshops; hands-on activities to educate attendees • Public equivalent of the Green Business Roundtable (Sustainability Café) • Develop focus groups to assist in picking topics which will be accepted by and generate interest in the citizens <p style="margin-left: 20px;">1. b) Provide energy education for schools and establish a partnership program.</p>
<p>2.) Develop and publish quarterly updates to overall sustainability measures adopted by the CEB</p> <ul style="list-style-type: none"> • Make update graphic and interesting-have links from all governmental web pages • Make sure that the updates continue to point out why each has a different measure and the net positive effect that each measure will achieve.
<p>2.) Market and encourage participation in incentive programs (such as...) that improve energy efficiency, increase renewable energy, reduce water consumption, or increase other sustainability goals.</p>
<p>3.) Foster and build public-private partnerships that help achieve greater energy efficiency and reduce greenhouse gas emissions.</p>
<p style="margin-left: 20px;">3. a) Educate by showing specific action items (encourage walking vs. driving) Create an online calculator for high altitude driving that reflects the reduction effect</p>
<p style="margin-left: 20px;">3. b) Educate by having tools that simply point out what specific steps in lowering carbon can mean to individual and community</p>
<p style="margin-left: 20px;">3. c) Notification to public/private sector of specific programs that will work for them...not just a mass e-mail</p>
Mountain Village

1.) Develop a Mountain Village “green” newsletter, community news with environmental focus
1.a) Community newsletter Green pages, updates on web site; increased environmental education programs and activities, field trips in community, install interpretive signage at renewable energy project sites
2.) Develop a strategy for reaching the residential sector of our community.
3.) Generate a community contact list of local “do-ers” for volunteer resources.
4.) Identify a staff person as Town contact for local environmental issues
Ridgway
1.) Incorporate water usage and conservation in monthly billings through town utility
2.) Partner with Green Business Roundtable efforts in Ouray, Telluride and Durango to include businesses in Ridgway and Ouray County
3.) Gather, create and distribute educational materials that promote water and energy conservation and efficiency, and update annually
San Miguel County
1.) Continue to work on community outreach through the Building, Environmental Health, and Social Service departments specifically.
2.) Provide air quality, climate demographic and GIS data.
Telluride
1.) Educate the populace on the reasons why government takes action on sustainability issues. (e.g. Banning Plastic Bags)
2.) Make all goals, especially Telluride Renewed goals, easily understood by the populace, so that they can react and see results at their level
2.a) Promote Energy Efficiency by showing what the quantifiable results can be with participation in specific programs
3.) Have a cleaner focus on issues

I.6. GOAL: Increase participation of public in Carbon Offset programs

Community Action Items

All
1.) Educate public about verifiable, reliable and effective options to offset energy use, and reduce their carbon footprint.
1. a) Promote SMPA’s Green Blocks and Green Cents programs
1. b) Educate about and promote the Colorado Carbon Fund
1. c) Educate about and promote TNCC Green Fund – voluntary local option
Mountain Village
1.) Support and promote local offset funds: clearly define offsets, costs, where money goes, improve understanding and transparency of these programs.
2.) Strategize fundraising options for local TNCC Green Fund, including ads in community newsletter
Ridgway
1.) Create a local program fund to assist in implementation of Renewable Energy for the Town’s utilities (water, sewer) – eg: “round up”/

monthly contributions to utility billings; SMPA Green Blocks program

II. OVERALL ENERGY CONSUMPTION

OBJECTIVE: Decrease per-capita energy consumption in San Miguel and Ouray Counties 20% by 2020 from 2010 levels, defining "per-capita" as the total number of regional inhabitants, both full-time and part-time, and using Source Gas and SMPA utility data, through a broad-based, multi-sector, multi-disciplined approach that employs education and action focused on energy conservation, energy efficiency and renewable resources.

Gaps/Needs

- We need coordination of projects to maximize focus, avoid duplication of effort, and leverage our shared voices to higher authorities
- GHG Inventory for Ouray County needs to be completed and regularly updated, both governmental and community/regional.
- GHG Inventory for San Miguel County needs to be completed and regularly updated, both governmental and community/regional. (SMC government use is tracked annually.)
- SMPA data needed annually – electricity use per jurisdiction, by sector
- SourceGas data needed back to 2005, and annually – gas use per jurisdiction, by sector
- Funding mechanisms are needed for project implementation. Financing program for people to invest in RE & EE improvements. Statewide PACE program.
- Tiered rate structure – prototype program being tested by SMPA

EXISTING GOALS:

- San Miguel County – Cool Counties Initiative – seeks to reduce county geographical GHG emissions 80% below current levels (at time of adoption) by 2050
- San Miguel County and Towns of Telluride, Mountain Village, Ophir, Norwood – Colorado Climate Action Plan – Reduce GHG emissions 20% below 2005 levels by 2020.

II.1. GOAL: Reduce energy consumption directly attributable to all governmental facilities and operations by 20% or more by 2020 (or sooner) from baseline year levels between 2005-2010 (selected by each jurisdiction), through increasing energy efficiency in all buildings and operation.

Local Government Action Items

All
1.) Explore funding opportunities for assessing and implementing energy efficiency projects on government buildings.

2.) Energy audits will be performed on all municipal buildings to identify opportunities for decreasing energy use and saving money.
3.) The Town/County will invest in energy efficiency improvements on municipal facilities with a reasonable payback period. Other funding mechanisms will be explored for improvements with longer payback time periods.
4.) “Low hanging fruit” energy efficiency items such as lights, computers, and shop heaters will be implemented first.
5.) The Town/County commits to using best practices in energy efficiency and renewable energy in construction of all new buildings and operations.
6.) The Town/County will measure and track annual energy consumption in facilities and track annual progress toward lower emissions. Energy costs and trends will be transparent and reported annually during the annual budget cycle. Staff must see the energy bills associated with their department.
7.) Coordinate regular meetings with jurisdictional energy staff to review challenges, accomplishments and opportunities to collaborate on improvements to government energy efficiency. Explore joint grant opportunities.
8.) Explore feasibility of and potentially implement an energy efficiency / savings contest among or within each jurisdiction with rewards / incentives for achieving energy use reduction.
Mountain Village
1.) Collect and establish baseline information and data for each town department/facility; perform energy audits for each
2.) Review existing Greenhouse Gas reports, data and confirm accuracy of data records
Ouray County
1.) Establish the necessary baseline by documenting County usage and expenditures for electricity, natural gas, propane, gasoline and diesel during the years 2008 and 2009. Establish a routine methodology for continued data tracking.
Ouray
1.) Establish the necessary baseline by documenting City usage and expenditures for electricity, natural gas, propane, gasoline and diesel during the years 2008 and 2009. Establish a routine methodology for continued data tracking.
2.) Reduce the City’s electrical usage by at least 20% by the year 2015 by: <ul style="list-style-type: none"> a) Replacing incandescent and HID lamps in public lighting with CFL and LED lamps where feasible. b) Installing VFD units on all large pumps when the payback period is six years or less. c) Operating a 20 kW micro-hydro generating facility in the City Park using the Biota pipeline. d) Evaluating the feasibility and cost effectiveness of installing one or more micro-hydro generating facilities on the City’s incoming water line.
3.) Reduce the City’s natural gas usage by at least 20% by the year 2016 by: <ul style="list-style-type: none"> a) Installing a direct-exchange geothermal radiant heating system in the City Shop building using a small percent of the enhanced pool line flow. b) Evaluating the Community Center heat-loss sources and remediate where cost effective. c) Installing heat-exchanging ventilators in the Filter Building to replace the current and wasteful direct flow-through system.
4.) Reduce the City’s Propane usage by at least 20% by the year 2015 by: <ul style="list-style-type: none"> a) Modifying the heating system at Box Canyon such that it can be completely shut down during the winter season. b) Evaluating the cost-effectiveness of maintaining a heated and lighted rest room along the north Ouray Corridor Trail during

the winter season.
5.) Explore the feasibility of utilizing geothermal heating for a Central District Heating system.
Ridgway
1.) Establish baseline use levels for all government buildings, facilities, utilities, and transportation fuels (as possible) from 2005 to present. Establish a routine methodology for continued data tracking.
2.) Participate in GEO ESCO program or similar option for retrofit and rehabilitation of all local government buildings including but not limited to Town Hall, the Public Works “Hut” and “Shop”, the Post Office, and the Town’s Water Treatment Facility.
San Miguel County
1.) Share the annual audit data in a meaningful form to individual department heads on a quarterly basis and develop action items for needed EE improvements short, medium and longer term. Review these improvement goals during the budget process to make sure funding is in place or that grants are explored and applied for.
2.) Review all new county construction projects for maximum EE, RE utilization and use of recycled or green building materials, above and beyond the energy codes.

II.2. GOAL: Encourage and incentivize existing buildings (commercial & residential) to reduce energy consumption 20% below 2010 levels by 2020.

Local Government Action Items

All
1.) Implement a PACE (or similar) program, making funding available to residential and commercial property owners seeking to improve their properties to conserve energy and water, and to generate solar energy.
2.) Pursue State and Federal funding programs designed to reduce energy demand through conservation and efficiency.

Community Action Items

All
1.) TNCC – Engage community members, Residential & Small Commercial, in actively tracking and reducing their own energy use and carbon footprint through utilizing the Eco-Audit Software Program. Encourage homeowner & business owner investment into energy efficiency through promotion of cost savings and comfort.
2.) Engage the Lodging & Resort Community in actively reducing their energy use. Implement an Energy Efficiency contest with Aspen’s Resort Community, utilizing the EPA / ENERGY STAR guidelines for Hospitality.
3.) Explore and identify opportunities with the GEO, Housing Resources of Western Colorado, Delta Housing Authority, Rural Development, the Colorado Youth Corps, and other operational and/or financing organizations to market and grow existing weatherization and home rehabilitation programs throughout the region, and to expand these program concepts beyond the current income-restricted categories (<i>i.e.: weatherization opportunities for households earning greater than 200% of the Federal Poverty Guidelines, and home rehabilitation opportunities for households earning greater than 80% of the Area Median Income limits</i>).

Mountain Village
1.) Develop outreach and education plan for MV residents; encourage small renewable installations; develop tracking system for residential usage
2.) Engage resort hotels and lodging facilities, study FKL/ Fairmont model and Green Team
Ouray
1.) Update community resource information on rebates, incentives, programs, etc. on the Town website.
Ridgway
1.) Update community resource information on rebates, incentives, programs, etc. on the Town website, building permit packets, etc.
2.) Provide incentives for energy use reduction through building permit discounts or other fee reduction
Telluride
1.) Survey buildings in the commercial core and the government to see what specific additional steps can be taken to lower energy consumption.

II.3. GOAL: Reduce energy demand of new building construction, including all renovations and remodels that require a building permit.

Community Action Items

All
1.) Require all new construction (commercial & residential) to meet or exceed the energy efficiency of the 2006 (or beyond) International Energy Conservation Code by 2011.
2.) Adopt policies and ordinance changes to reduce energy use by promoting domestic water conservation and requiring water efficient landscape improvements associated with new construction.
3.) Reduce greenhouse gas emissions from buildings and energy use. Require or request discretionary development projects to assess greenhouse gas emissions due to energy use, and to incorporate energy and water conservation measures into projects along with other features or programs.
4.) Encourage reduction of vehicle fuel consumption pertaining to construction projects, through carpooling of contractors/trades, reducing trips of trucks and other vehicles to jobsite, and other creative methods.
5.) Encourage construction schedule to be planned in a manner that eliminates the need for “wrap and heat” of the construction site or heating of the ground during cold months.
Mountain Village
1.) Investigate energy taxing for large usages, credits, efficiencies, innovative policies of construction; investigate maximum home sizes
Ridgway
1.) Review and update Prescriptive Energy and Green Building Code to evaluate payback periods, upfront costs, new technologies
2.) Seek out rebate/ refund/ cost reduction opportunities to encourage building beyond existing code requirements
Telluride
1.) Enforce green building code and outdoor heating regulations

2.) Improve mass transportation via additional park and ride lots

II.4. GOAL: Work toward region becoming carbon neutral by 2035.

Community Action Items

All
1.) By 2012, find a community willing to set the goal of becoming carbon neutral by 2020, in order to have an example to work from for rest of region.
2.) Conduct feasibility studies for communities in region to become carbon neutral.
3.) Conduct feasibility studies and take actions toward communities going “off-grid”.
4.) Calculate current Carbon Footprint of each entity in region.
Mountain Village
1.) Research carbon-reducing technologies.

III. Renewable Energy from Electricity – all sizes of systems, private / public

OBJECTIVE: Obtain 20% of the region’s electricity from renewable energy by 2020. Sources will include a mixture of local small and large-scale renewable energy projects and purchase of RECs for renewable energy produced outside of the region.

Gaps/Needs

- Funding mechanisms are needed for project implementation. Financing program for people to invest in RE & EE improvements. Statewide PACE program.
- Need enabling regulations for utilities for development of renewable energy – i.e. increasing Policy 115 limit from 5% to 10% or greater.
- Need existing RE production within SMPA territory to establish baseline

EXISTING CHALLENGE: Telluride Renewed – Towns of Mountain Village and Telluride will use 100% new renewable energy to offset for electricity usage by 2020, through energy efficiency, local/regional renewable energy production, and purchase of renewable energy.

III.1. GOAL: Maximize the amount of Renewable Energy produced on governmental facilities/properties by 2020. Purchase remaining electricity through a Renewable Energy or Green Power production program.

1.) Local Government Action Items

All

1.) Facilitate the development of small or large-scale RE systems on government property. Micro-hydro, geothermal, solar, biomass, wind, etc.
2.) The maximum capacity of renewable energy that each jurisdiction can be produced will be determined by each EAC.
Mountain Village
1.) Produce 5% of government electricity by renewable sources by 2020; establish baselines, research ideas.
2.) Micro-Hydro – Currently engaged in feasibility study for placing turbines in PRV vaults on town water system. Research, apply for and obtain grant funds to implement in 2011.
Ouray
1.) Pursue funding for two 20 kW generators employing the City’s water supply system.
2.) Actively support the continuing operation of the historic Ouray Hydroelectric Plant.
Ridgway
1.) Pursue micro-hydro power generation option with the Town’s water supply and distribution utility.
2.) Explore opportunities to implement renewable technologies that offset existing and planned energy consumption (<i>eg: grid-tied solar system on Town Hall for new energy efficient pedestrian lighting in Town Park</i>).
3.) Explore opportunities and financing mechanisms to convert the Town’s Water Treatment facility and WWTP to solar powered utilities
San Miguel County
1.) SM County existing facilities and new construction commitment to utilize RE through offset purchase programs and through the use of geothermal, solar, and wind resource technology.
Telluride
1.) Develop a 100 kW solar farm at the Wastewater Treatment Plant
2.) Assess feasibility of and implement micro-hydro power projects at Pandora, Mill Creek, Keystone Hill, and Stillwell Tunnel. Also place mini-hydro turbines in existing pipelines where appropriate.

III.2. GOAL: Increase the amount of non-government owned locally-produced RE in the region to 15% by 2020.

Community Action Items

All
1.) Encourage / facilitate the development of large-scale systems (over 25 kW), up to a total of 5 MW in SMPA Territory (or higher as utility regulations change).
2.) Support SMPA’s efforts to build a community-funded solar farm with completion by 2013, following the currently proposed solar project with Sun Edison.
3.) Encourage development of small-scale residential & commercial systems – through local incentives such as: waived building permits & taxes, financing programs.
4.) Adopt policies and ordinances to remove regulatory impediments and economic disincentives associated with the generation and use of energy from renewable sources. Develop and market policies, incentives and information that encourage the purchase and utilization

of renewable energy technologies.
Mountain Village
1.) Encourage homeowners to install small home systems; provide incentives to residents
2.) Work with Telluride Ski & Golf Resort to improve energy efficiencies, investigate solar, wind, hydro options
3.) Greening the Gondola Campaign.
Ouray County
1.) Encourage the responsible mining of strategic metals used in renewable energy and battery technology.
2.) Ensure the County Land Use Code accommodates the installation of renewable energy systems and/or farms
Telluride
1.) Work with MV and SMC to create a renewable energy source within the region or county.

IV. Transportation: Ground and Air

OBJECTIVE: Reduce the overall amount of energy consumed per capita by ground and air travel.

Gap: We need a coordinated regional approach to transportation.

- Lack of coordinated regional transportation causes:
 - Higher overall energy consumption and greenhouse gas production
 - Higher individual cost
 - Even more wear and tear on our roads

Needs:

- Develop and publish quarterly updates for (estimated) regional transportation energy usage, including personal, private company, school and public works, public for-hire, contractor vehicles, and air travel for the region.
- Establish baseline fuel consumption per jurisdiction.
- Develop a baseline of "commuter miles traveled" and increase use of pooled transportation by 20% by 2020.
 - Put together a committee focused on accomplishing the district which would include members from all affected counties and municipalities
- Accurate numbers to compare air travel in/out of Montrose combined with driving, to air travel in/out of Telluride airport. Improved "shop local" goal achievement.

IV.1. GOAL: Reduce fuel use directly attributable to all governmental facilities and operations 20% by 2020 (or sooner) from baseline year levels between 2005-2010 (selected by each jurisdiction), through increasing vehicle efficiency and efficiency of vehicle operations.

Government Action Items

All

1.) Reduce overall fuel consumption for government vehicles, through fewer or more efficient trips, use of fuel efficient vehicles, carpooling to meetings and conferences, and increase pedestrian emphasis to local events and meetings.
2.) Assess feasibility of and build capacity for developing fueling stations for alternative fuel (e.g. biodiesel, compressed natural gas, hydrogen, etc.). Adopt policies and programs that help governments, businesses and organizations with fossil-fuel powered fleet vehicles switch to vehicles powered by clean, renewable energy sources.
3.) All new government vehicle purchases strive for most fuel-efficient models, using alternative fuel sources when feasible.
4.) The Town/County will make bus passes available to those employees who can commute by bus.
5.) Future Town/County facilities and operations will be sited based on access by transit, walking, biking, and evaluated for encouraging more compact land uses.
6.) Adopt policies and ordinances that encourage car-free tourism.
7.) Work with Region 10 to put a regional transportation district to the voters and facilitate other goals. (In 2008 Montrose County received a grant to perform a Transit Feasibility Study in conjunction with Delta, San Miguel and Ouray counties. This study was the basis for the Regional Transit Coordinating Council managed under Region 10 League for Economic Assistance. Subsequently, each county is charged with organizing a Transit Advisory Committee to examine this issue and come up with a work plan. San Miguel County organized its first meeting of this committee scheduled for September 27, 2010.)
8.) Create a Western San Juan Transportation District.
9.) Require that all new development projects have a net decrease in transportation related emissions compared to existing development conditions
10.) The Town/County will encourage employees to make in-town trips on bicycle or by foot when practical
Mountain Village
1.) Reduce fuel consumption 10% by 2020 (TMV already uses hybrid vehicles in fleet).
2.) Use less trucks and more 4-6 wheelers; use biodiesel or alternative fuels when possible; hire more locals
3.) Research and establish baseline data and tracking mechanisms for Town fuel usages, investigate options for more 4-6 wheelers and less full size trucks.
Ouray
1.) Reduce the City's fuel consumption by at least 20% from 2010 levels by the year 2020 by:
a) Installing a card-based fuel dispensing system.
b) Purchasing vehicles with mpg ratings that exceed the current fleet average by at least 20%.
c) Exploring opportunities to convert City vehicles to biodiesel, compressed natural gas, or other alternative fuel supplies.
Ridgway
1.) Explore feasibility of Town-owned bicycles, including electric powered bicycles) for town-wide transportation (policing, post office runs, posting properties, hardware store runs, etc.)
San Miguel County
1.) Goal to support and work with the newly formed Transit Advisory Committee & Regional Transit Coordinating Council through Region 10. As mentioned above, the County is working toward a regional public/private transit plan with Montrose, Ouray and Delta county. It's

also safe to say that SM County will continue to support public transit service through the existing Galloping Goose system to the west end of SM County.
4.) Examine options within County Land Use Code to encourage development of public trails and residential/commercial development near or on existing transit lines.

IV.2. GOAL: Reduce demand for fossil fuel by decreasing vehicle miles traveled, improving transit options, and improving the fuel efficiency of vehicles.

Community Action Items

All
1.) Evaluate parking standards in downtown areas to help reduce vehicle miles traveled.
2.) Adopt policies and ordinance changes to reduce vehicle miles traveled by supporting local hiring, food production, farmers markets, and community-based "buy local" campaigns.
3.) Reduce the volume of single occupancy traffic within the region, through educational outreach, promoting energy use reduction programs, and encouraging car-pooling and use of mass-transit.
4.) Improve mass transit transportation in the region. Improve convenience and maintain affordability, with lower emissions per passenger mile than the average private vehicle.
5.) Increase the use of highly fuel-efficient and low emissions-fuel engines and machinery in on-road and off-road vehicles.
6.) Increase the use of walking and bicycles, through expansion of town bike programs, improvement of bike/pedestrian trails, incentivizing bike travel by employers, etc.
7.) Identify, support, finance, and construct an integrated regional transportation and workforce housing program where efficient and affordable housing is built to house a high percentage of the local workforce, and which decreases the overall percentage of the commuting workforce by 2020 throughout the region. Actual percentage for this goal will be determined by the EAC's as implementation of this action is planned. <ul style="list-style-type: none"> a) Confirm commuting workforce figures for the region and identify targeted household income ranges for the commuting workforce and pursue options for housing development. b) Include affordable housing projects with mandatory energy efficient construction policy. c) Expand the range of targeted alternatives to single-passenger transportation systems (car pool, van pool, etc.) d) Expand and promote existing park and ride transportation (<i>eg: Ouray County Fairgrounds Parking Lot</i>)
8.) The Town/County will support efforts to create affordable in-town housing or on public transportation routes for employees, to reduce the need to commute.
Mountain Village
1.) Review and update Town vehicle efficiency study and examine historical data and reports on regional transportation issues
2.) Support development of additional levels of parking garage.
3.) Identify potential affordable housing development locations through Comprehensive Plan
4.) Work with Telluride to maintain free transportation on the Gondola.

Ouray
1.) Encourage the use of locally produced products and produce and shopping locally to minimize the transportation component of consumption.
Ouray County
1.) Encourage the use of locally produced products and produce and shopping locally to minimize the transportation component of consumption.
Ridgway
1.) Develop and construct a comprehensive pedestrian and bicycle transportation network focused on connectivity throughout the Town of Ridgway and incorporate the adjoining areas of Ouray County where feasible, including public parking facilities that encourage non-vehicular transport throughout the community. <ul style="list-style-type: none"> a) Continue pursuit of grant funding for completion of sidewalks connecting north, south, east, and west aspects of Town. b) Support the Uncompahgre Riverway Trail to connect pedestrian trails from Montrose to Ouray as well as other trail building efforts within and adjoining the Town. c) Plan and develop public parking lots for vehicles as well as incorporate bike-parking areas around Town to encourage non-vehicular transport throughout the Town.
2.) Pursue partnership, funding and opportunities to develop a comprehensive trail network between Ouray, SM and Montrose counties
3.) Make improvements to park and ride lot in Town
4.) Work with farmer's market to centralize the location closer to residential areas for pedestrians and bike
Telluride
1.) Explore opportunities to make switch over as funds become available to electric cars/trucks instead of fossil fuels
2.) Expand Townie program
3.) Work with Mountain Village to maintain free transportation on the Gondola.

IV.3. GOAL: Optimize utilization of air travel to decrease overall GHG emissions in region, using a systems-thinking approach toward environmental, economic and social sustainability of San Miguel County.

Community Action Items

All
1.) Participate in local airport discussions and debates, issues, boards.
2.) Work with TRAA and TMRAO to increase capacity of planes and lower # of flights.

V. Water

OBJECTIVE: Decrease overall water consumption community-wide in private and public sectors (residential, commercial, industrial, and governmental) by 10% below baseline year levels between 2005-2010 (selected by each jurisdiction), through education, conservation, incentives, facilities management, and regulatory structure.

NEED: Research and establish baseline data and tracking mechanisms for Town / County water usages with Water Departments

V.1. GOAL: Reduce water consumption directly attributable to all governmental facilities and operations by 5-10% by 2020 (percentage to be determined by EAC of each jurisdiction).

Government Action Items

All
1.) Establish a baseline for water use by each jurisdiction, starting in 2011 (or before if already measured). Install meters to measure use as needed. Focus on significant consumptive users of water if not feasible to measure all.
2.) Increase water efficiency in all buildings and government operations, utilizing reduced flow aerators, lawn-watering management improvement, water saver toilets, water heaters and any other new water efficient technology.
3.) Educate public works and parks personnel about water use reduction and conservation techniques. Identify training and workshop opportunities as appropriate. Distribute water savings information to Public Works and Parks crews throughout region.
4.) Assess the Town/County water supply, treatment, and distribution to identify water conservation opportunities, including assessment of evaporation and seepage through reservoir and open ditch systems. Installation of leak detection alarm systems that identify leakage early on and mitigate significant water losses may be an initial step to quantify this issue for all municipalities.
5.) Explore storm-water harvesting opportunities for irrigation of public spaces such as parks and open spaces.
6.) Reduce use of treated water for outdoor irrigation purposes around all Town/County facilities through ditch or piped raw water irrigation systems or other opportunities.

V.2. GOAL: Reduce residential, commercial, agricultural and other non-governmental water consumption per capita 10% by 2020 from 2011 levels. This measurement may be for the entire jurisdiction as a whole or categorized in more detail, depending upon each jurisdiction’s capability to obtain and measure the data.

Community Action Items

All
1.) Incorporate water usage figures and water conservation education in the government or water district’s water billing scheme that includes average use and range of use within the Town for household comparisons and to create an atmosphere of friendly competition between water users (i.e. incorporate graphs and user friendly data so households and businesses can see how much water they use month to month and seasonally and compared with other users in Town).
2.) Educate community about water use reduction techniques through distribution of information, seminars, workshops, newsletters, etc. In particular, information and incentives to use low-water irrigation techniques for farm and ranching applications, native and low-water landscaping techniques, etc. Opportunities may exist through the University Extension Offices, the Gunnison Basin Roundtable and other statewide Roundtables, CDPHE, CO Water Conservation District, etc.
3.) Assess the Town water supply, treatment, and distribution to identify water conservation opportunities.

4.) Incorporate water conservation requirements (mandatory water restrictions) into local building codes for new construction. Codify mandatory water restrictions (eg: time of day watering and watering day assignments)
5.) Insure all water distribution systems provide for measuring water consumption and usage for all applications
6.) Explore or re-evaluate rate structure to discourage expansive use of water during the summer watering/ irrigation season.
7.) Adopt landscape ordinances that promote drought resistant plants, and restrict lawns and other high water demand plants unless reclaimed or grey water systems are used.
8.) Develop and adopt energy saving and environmentally sound domestic water conservation plans.
9.) Insure water rights acquisition and/or financing are incorporated into land use developments and annexations.
10.) Develop policy for private use of non-potable water sources and/or plan for expansion of non-potable water systems for distribution such that residences and businesses do not irrigate with treated, potable water.
11.) Explore opportunities to remove other discretionary water uses from treated water systems to non-treated systems (eg: fire hydrants, etc.)

VI. Landfill: Waste Reduction & Recycling

OBJECTIVE: Divert 75% of overall waste from landfills by 2020 from 2010 levels, by reducing the amount of waste at the source, reusing materials, recycling, and composting.

NEED: Research and establish baseline data and tracking mechanisms for Town / County waste.

VI.1. GOAL: Divert 75% of overall Town/County Government waste from landfills directly attributable to all governmental facilities and operations by 2020, below baseline year levels between 2005-2010 (selected by each jurisdiction).

Government Action Items

All
1.) Decrease the amount of solid waste generated.
2.) Decrease consumption of paper 20% by 2012 from 2010 levels.
3.) Aggressively implement recycling and composting at Town & County -sponsored events.
4.) Distribute recycling options throughout Town to accompany existing trash bins.
5.) Transition to a paperless office at Town/County Buildings: <ul style="list-style-type: none"> 1.) Purchase refurbished laptops or tablets for use by elected and appointed officials during public meetings and discontinue distribution of paper packets for meetings; 2.) Encourage electronic submissions for Town issued permits when feasible (building, encroachment, sign, solid fuel stove, licensing, etc.)
Mountain Village
1.) Establish baseline data and tracking mechanisms for governmental facilities; strategize educational campaign for Zero Waste,

research local opportunities for composting, recycling construction waste, support local facilities and incentives for reuse and recycling.
2.) Consider a small local in-vessel composting unit for town use and education
Ouray
1.) Initiate a program of commercial cardboard recycling during 2011.
Ridgway
1.) Transition to paperless/ electronic document system
2.) Ramp up recycling efforts to reduce solid waste stream
Telluride
1.) Increase recycling efforts by all government departments, commissions, taskforces, and councils.
2.) Increase composting by all government departments, commissions, taskforces, and councils.

VI.2. GOAL: Divert 75% of overall waste from landfills from residential, commercial, and other non-government entities 75% by 2020.

Community Action Items

All
1.) Educate community about waste reduction techniques. Including: Waste reduction at point of purchase through recycling; Composting Education –use of worm bins, back-yard composting techniques
2.) Incentivize reduced volume of waste compared to recycling / composting collection. Encourage home composting of organic waste.
3.) Support the development of recycling centers in the region.
4.) Expand recycling services to commercial properties in region by 2012 (or as contracts are up for renewal).
5.) Support development of regional composting facility that can serve all sectors.
6.) Establish collection services in all communities for segregated food waste from commercial sources.
7.) Increase use of and opportunities for hazardous waste removal.
8.) Improve utilization of recycling & proper disposal of large items, including appliances, electronics, etc.
9.) Enact ordinances and create incentives to achieve organic (food and green) waste diversion of 75% by 2020.
10.) Create and support other programs, such as a Green Business Program, that help achieve the 75% overall waste diversion goal.
11.) Adopt environmentally preferable purchasing policies and explore joint- purchasing agreements with partner agencies, and local jurisdictions and businesses.
12.) Watch the “plastic bag elimination” initiative in Telluride and identify opportunities to implement similar or other programs throughout the region.
13.) Perform a feasibility study to investigate the opportunity to capture methane from waste products to utilize as an alternative fuel source. Coordinate with Montrose County to study landfill options.
Mountain Village
1.) Establish baseline data and tracking mechanisms for non-governmental waste production; education and outreach to community

residential and commercial facilities; require all commercial businesses to recycle and participate in Zero Waste; support local transfer stations and recycling centers.
Ridgway
1.) Identify supplemental funding to facilitate and implement a mandatory commercial recycling program
San Miguel County
1.) Continue to support hazardous waste disposal options throughout the county and increase options for disposal of toxic freon, lead and other materials present in many appliances and electronics.
2.) Improve options for household recycling throughout the county.
3.) Improve options for composting – west end of county has significant opportunity and the space and the right mix of resources for a composting center.
Telluride
1.) Implement and enforce a Waste Grease and Oil Ordinance that ensures proper disposal by commercial food service providers and, ideally, connects re-use services to the generators (i.e. biodiesel producers).
2.) Continue to provide for and/or support an annual Town / Regional Clean-up.
3.) Continue to provide for and/or support an annual or semi-annual Electronics Recycling Event.

VI.3. GOAL: Reduce construction waste by at least 75% by 2020.

Community Action Items

All
1.) Develop a regional recycling and reuse facility for construction materials.
2.) Enact ordinances and create incentives to achieve waste reduction of construction and demolition debris.
3.) Encourage & educate to increase use of reuse stores and facilities.
4.) Decrease amount of complete home demolition through incentivizing remodeling.
Mountain Village
1.) Consider requiring new construction to recycle construction items; support the identification of location for local construction recycling center, education and outreach campaign for contractors; % of building permit fees to construction recycling program.
Telluride
1.) Create and implement mandatory construction materials recycling specifications to include with all Town/Government Construction projects.
2.) Work collaboratively with the construction community to encourage adoption of these specifications on private projects.

VII. Agriculture & Forests

OBJECTIVE: to utilize our regional natural resources wisely, increasing local food production utilizing available biomass wisely, and preserving our natural environment for future generations.

VII.1. GOAL: To increase food security and elevate regional produced food quantity, quality and availability to residents, visitors, businesses and schools in region.

Community Action Items

All
1.) Adopt policies and ordinances that support local agriculture, food production, farmer’s markets and community gardens. The Town/County will strive to use locally grown food for Town/County sponsored functions when practical.
2.) Support efforts by local growers and restaurants to produce and use locally grown food, and remove associated regulatory hurdles as possible.
3.) Encourage responsible and sustainable agricultural and landscaping practices, minimizing toxic chemical use.
4.) Educate government staff and the community on the economic and energy impacts of the industrialized food supply chain and encourage the cultivation and purchase of locally produced foods.
5.) Educate public on local food shed – what it is and why important.
6.) Encourage Farm to School and Farm to Cafeteria programs.
7.) Perform Feasibility study for regional commercial kitchens, meat processing facilities, etc. to enhance the ability of local producers to process and market local food in the region. If appropriate pursue funding for items identified in study.
8.) Host fun food growing and harvesting events.
Mountain Village
1.) Create Mountain Village Farmer’s Market; investigate and propose Community Garden and demonstration garden in Meadows area, identify local volunteer team for project implementation.
2.) Encourage/educate Urban / Vertical Farming opportunities in village core, including businesses and lodging community.
San Miguel County
1.) County support for local food production through land use, and other permitting options.
2.) Create incentives for safe food production with Environmental Health Department.
3.) Encourage natural livestock option for ranchers through education by those succeeding with these options.

VII.2. GOAL: To utilize available energy resources wisely, protect our forests from harm, and preserve natural beauty.

Community Action Items

All
1.) Develop forest health and education curricula for regional schools.
2.) Assess the feasibility of and if appropriate, promote development of beneficial biomass projects in the region from forest dead wood.
3.) Support initiatives by Mountain Studies Institute (MSI) related to climate change resiliency & adaptation. Collaborate when appropriate.
Mountain Village

1.) Develop Forest Health and Wildfire Mitigation Policy educational efforts that lead to implementation.
2.) Assist landowners with grant possibilities for implementation of CWPP.
San Miguel County
1.) Work with public land agencies to find remedies and preventions for forest diseases, insects and fungal infestations affecting regional forest health.
2.) Develop either via government or non-profit support a Citizen Scientist program to engage citizens in forest stewardship.

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San Miguel County	Elaine Fischer, County Commissioner Nina Kothe, Facilities Coordinator, EAC
Town of Mountain Village	Bob Delves, Mayor Deanna Drew, Recreation Plazas & Environmental Services Coordinator, EAC Chris Hawkins, Director of Community Development
Town of Ouray	Bob Risch, Mayor, EAC
Town of Ridgway	Jen Coates, Town Manager John Clark, Mayor Pro-Tem Pat Willits, Mayor Bill Behan, Building Inspector, EAC
Town of Telluride	Stu Fraser, Mayor Karen Guglielmone, Public Works Project Manager, EAC
Town of Norwood	Sandra Esch, Town Trustee
San Miguel Power Association	Brad Zaporski, Renewable Energy Technician
SourceGas	Natalie Shelbourn, Senior Representative, Business Relations
Members-At-Large	Ken Haynes, Town of Norwood - Citizen Kurt Johnson, Telluride Energy
The New Community Coalition	Todd Brown – TNCC Board Member Kris Holstrom – Regional Sustainability Coordinator / TNCC Executive Director Kim Wheels – Community Energy Coordinator

Appendix: Important Terms and Acronyms

AFV	Alternative-Fueled Vehicle
Btu	British Thermal Units
CAPPA	Clean Air and Pollution Planning Assistant (ICLEI Software)
TELSKI	Telluride Ski & Golf
CCP	Cities for Climate Protection (ICLEI Program)
CEC	Community Energy Coordinator
CFL	Compact Fluorescent Light Bulbs
CH₄	Methane
CO₂	Carbon Dioxide
CO_{2e}	Carbon Dioxide Equivalent
DoE	Department of Energy (US)
DSM	Demand Side Management
EAC	Energy Action Coordinator
EAP	Energy Action Plan
EPA	Environmental Protection Agency
GEO	Governor's Energy Office (State of Colorado)
GHG	Greenhouse Gases
GWh	Gigawatt hour
HARC	Telluride Historic and Architectural Review Committee
HFCs	Hydroflourocarbons
ICLEI	International Council for Local Environmental Initiatives
IPCC	Intergovernmental Panel on Climate Change
KOTO	Telluride Community Radio Station
KURA	Ouray Community Radio Station
kWh	Kilowatt Hour
MPG	Miles Per Gallon
N₂O	Nitrous Oxide
PFCs	Peflourocarbons
PSAs	Public Service Announcements
PV	Photovoltaic
REMP	Renewable Energy Mitigation Program
SMA	Sheep Mountain Alliance
SMPA	San Miguel Power Association
SUV	Sport Utility Vehicle
TNCC	The New Community Coalition
UCSM	University Centers of the San Miguel
WSJCEB	Western San Juan Community Energy Board