

San Miguel County Energy Efficiency Progress Report 2017



Introduction

For over ten years the San Miguel County has tracked utility data on all county operated facilities and unleaded fuel use by county vehicles. The most detailed and consistent data collection began in 2009. Annual energy reports have the objective of tracking progress in our energy reduction strategy and prioritizing annual energy improvements for County facilities.

The County has 31 electric meters, 14 natural gas meters and 5 propane accounts serving the following facilities:

- Sheriffs Administration and Jail facility – Sheriffs Apartment – Last Dollar Communication Site
- Glockson Building - Norwood
- Miramonte Building, West Wing Annex & Courthouse - Telluride
- Road & Bridge Facilities – Norwood, Deep Creek, Basin & Egnar
- Wrights Mesa Garage – Search & Rescue, Weed Control and Transit Bus Barn
- All Fairgrounds & Parks Facilities –Norwood, Placerville and Down Valley

The County continues to participate with the Sneffels Energy Board coordinated by Kim Wheels of EcoAction Partners. Kim produces an updated comprehensive regional greenhouse gas inventory. The chart for the most recent data is attached to this report. (Attachment A)

Commitment to Energy Reduction

San Miguel County has made a strong commitment to energy conservation and this has taken on greater importance over the years as greenhouse gas emissions continue to increase and impact our planet. In January of 2009 San Miguel County signed on to the Cool Counties Initiative promoted by the National Association of Counties. Resolution 2009-3 approved by the Board of County Commissioners (Attachment B) outlined a four phase program with goals of reducing emissions within our organization and also promoting reductions on the local, state and national level at a rate of 80% below 2009 levels by 2050. The task of tracking energy and fuel use for the County and implementing reduction strategies was the first priority of this program.

As with other local governments, the County has experienced the greatest success with the energy reductions we have the most direct control over, at our County facilities and with fuel usage. Staff efforts to help regional businesses and residents will be outlined later in this memo.

Projects & Accomplishments

The 2014 annual energy report documented a reduction in overall electric usage for County facilities of 9% from 2013. 2015 exhibited a further 2.7% reduction and 2016 was down an additional 3.4% for the year. Reductions in electric use continue to be achieved predominantly through phased retrofits to LED lighting. The most recent LED installs were in the Sheriff's Administrative/Jail Facility in October of 2014, in the Glockson offices completed in January of 2016 and in the Fair Grounds Indoor Event Center in January 2017. We are continuing to perform a gradual lighting retrofit throughout the Courthouse.

Overall Electric Costs	
2013	\$104,109
2014	\$95,906
2015	\$91,013
2016	\$89,873

The County has utilized the Tri-State/SMPA rebate program for our projects and the Green Lights program for discounts on lighting purchases. Cost savings as a result of these endeavors have been gradual but significant over the years. An outline of other projects impacting County utility use is featured later in this report.

Natural gas and propane are the most weather influenced energy commodities. The County experienced increases in usage for both of these commodities in 2016. The fluctuating price per gallon of propane and the irregular delivery of this energy commodity make accurate tracking problematic.

Graphic depictions of overall utility data to help illustrate our progress are included in Attachment C. Unleaded fuel usage is depicted below. It remains fairly steady year-to-year. The fuel use numbers include the Sheriff's Department, Road and Bridge (other than diesel) and fleet vehicles.

Fuel Usage 2013-2016				
	2013	2014	2015	2016
Gallons	34,268	32,640	33,430	34,860

Outline of Projects

Over the years the County has implemented numerous improvements that have favorably impacted energy use. They include the following:

- Improved maintenance on our equipment and HVAC systems including changing out filters, sensors and controllers.
- Purchased fifteen Clean Energy Collective (Paradox) solar panels tied to the Courthouse SMPA account, offsetting electric use in that facility by 6,225 Kwh annually or about 6 percent. The Courthouse remains one of our higher utility use facilities and is one of the only remaining accounts that the County has on the demand tariff.
- Installed insulating cellular blinds in our offices and have installed new internal winter window inserts in all of the first floor Courthouse offices. These have had a dramatic impact on window drafts and consequently employee comfort.
- Utilized programmable setback thermostats whenever possible, which are seasonally checked and adjusted.
- Completed LED light retrofit projects throughout the Miramonte, Courthouse and Glockson Administrative buildings using all local vendors with a consistent 25-30% savings in electric usage. More recently the Sheriff's Facility in Ilium Valley completed an LED lighting retrofit as well as the Fairgrounds Indoor Event Center.
- The natural gas boilers were replaced in the Courthouse and the Glockson Building in 2012 and the old office baseboard radiators were replaced with new more traditional radiators with individual temperature controls. Night-time temperature setbacks have been placed on the boilers.
- Replaced two other heating units, a forced air system in the West Wing and a boiler in the Wrights Mesa Garage. These are Energy Star rated efficient units.

San Miguel County continues to collect the data and information it needs to make informed upgrades to facilities and budgetary recommendations, but once all of the obvious improvements have been made, the County may need to seek professional advice to identify projects in order to continue to achieve reduction goals.

Regional Carbon Reductions

Local government staff and elected officials have been deliberating on the best methods to address the highest energy users in the region, commercial and residential buildings as illustrated in Attachment A, the Regional GHG Graph. The adoption of up to date Uniform Building Codes is one important tool. The three local governments are examining adoption of the same code to be consistent across jurisdiction, and trying to decide which would be the best option. Telluride uses the 2003 UBC, San Miguel County uses 2009 and Mountain Village uses 2012. In addition San Miguel County has adopted the 2009 Prescriptive Energy Code & Green Building Standards. Our new County Building Official, Mitch Markiewicz will be engaging in this decision soon.

Beginning in 2015 the County has utilized \$100K collected as a renewable energy mitigation on a residential development to implement a pilot Green Projects Grant program. EcoAction Partners administers this program and the funds have helped several non-profits and private residents perform efficiency projects they would otherwise not be able to afford. Heather Knox with EAP can provide a list of recipients of this assistance.

The County recently partnered with San Miguel Power Association to donate land at the Norwood Transfer Station to construct a 200 kilowatt solar array. This project specifically targets income qualified households that could otherwise not afford to offset their energy use through renewable resources. Successful applicants also receive free weatherization upgrades for their home.

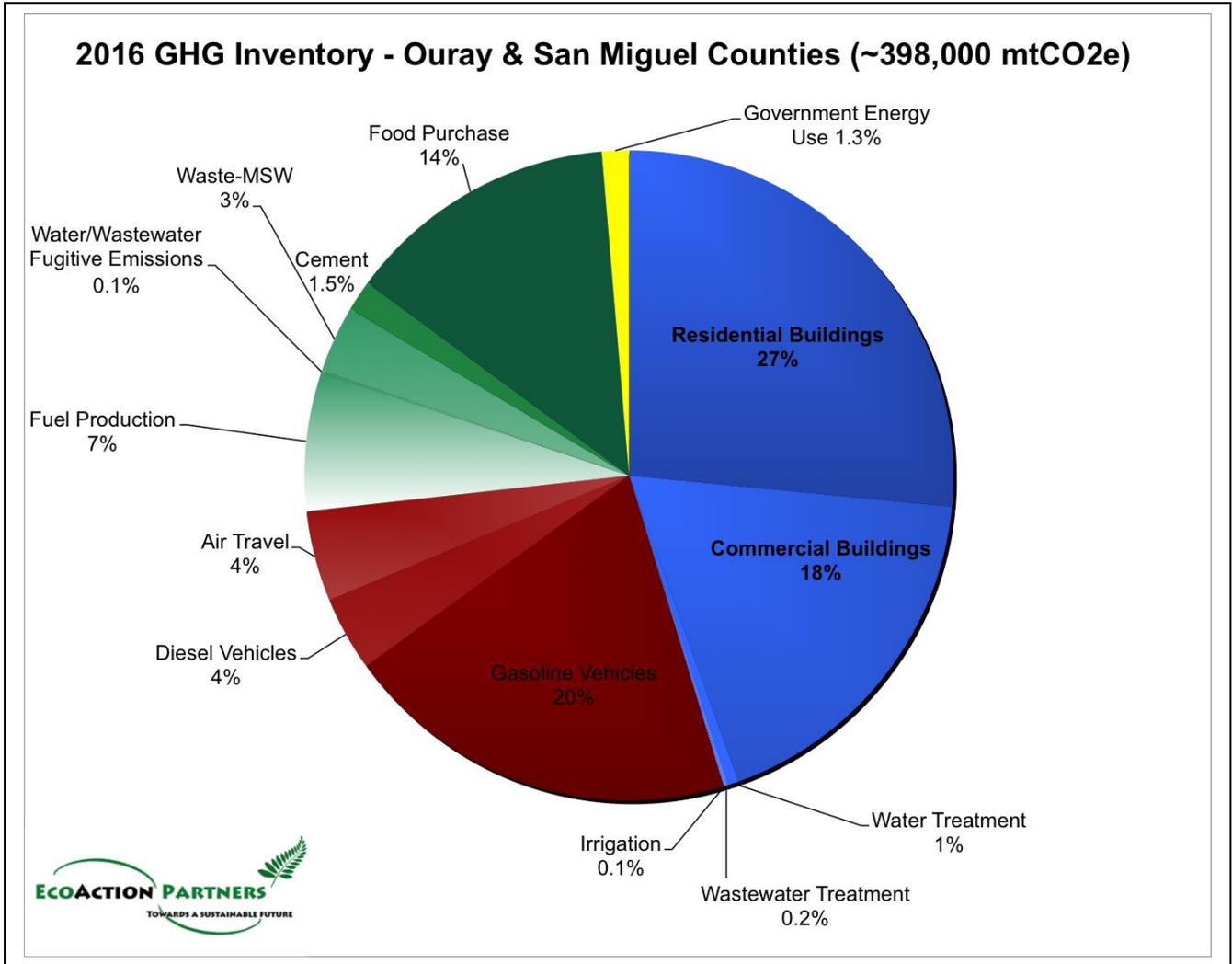
This year San Miguel County is adopting the Colorado Commercial Property Assessed Clean Energy program (C-Pace). This has the potential to bring affordable financing for certain energy efficient building upgrades in new commercial construction. Owners can finance up to 20% of the total construction cost through C-Pace. They offer a variety of support services as well.

Support for the newly formed San Miguel Authority of Regional Transportation has the potential to greatly reduce vehicle emissions and relieve congestion on our roads and in our towns. According to the American Public Transit Administration one person switching to public transit to commute to their job can reduce daily carbon emissions by 20 lbs. per day or more than 4,800 lbs. annually. Ridership on the Down Valley and Norwood bus routes amounted to about 22,787 passenger trips in 2016. SMART has the potential to increase routes and take even more cars off the highways in our region.

Conclusions

San Miguel County has the experience to help other commercial property owners and managers to make sound financial decisions on energy upgrades. We do this at every available opportunity. The County staff will continue to partner with the other local governments, the Pinhead Institute and the Sneffels Energy Board to further the effort of promoting energy efficiency and lowering carbon emissions.

Attachment A – 2017 Energy Report



**RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS
OF SAN MIGUEL COUNTY, COLORADO
APPROVING PARTICIPATION IN THE COOL COUNTIES PROGRAM**

Resolution #2009 - 3

WHEREAS, human emissions of greenhouse gases from activities such as the burning of fossil fuels are driving dangerous global climate change, with negative consequences for regions across the world;

WHEREAS, San Miguel County has joined with other local governments to create and fund The New Community Coalition committed to identifying, coordinating, and implementing sustainability projects in Telluride, Mountain Village, and San Miguel County

WHEREAS, The New Community Coalition is undertaking a number of initiatives to meet these goals, of which addressing a local response to climate change is included;

WHEREAS, in its role as a regional government, San Miguel County has demonstrated significant public leadership in ways that are supportive of climate change mitigation and adaptation by employing critical policy levers of 1) land use, 2) public transit provision, 3) environmental management, and 4) economic development directed towards stimulating climate-friendly fuel and technology markets; and

WHEREAS, King County, Washington, has taken the lead in developing a campaign of counties to reduce climate change emissions collectively, consistent with the understanding that local and regional governments across the world must act together to reduce global greenhouse gas emissions;

WHEREAS, King County has required its departments to implement an action plan to reduce greenhouse gas emissions and prepare for projected regional effects of climate change; and

NOW, THEREFORE, BE IT RESOLVED that San Miguel County joins King County and other counties across the nation in signing on to the Cool Counties Declaration, attached Exhibit "A", and further, through The New Community Coalition, agrees to work towards the implementation of a regional climate control plan in order to achieve a 2050 climate stabilization goal in this country and, further, states its intent to follow these specific Cool Counties commitments:

1. Prepare and regularly update an inventory of our county government (operational) greenhouse gas ("GHG") emissions and implement policies, programs and operations to achieve significant, measurable and sustainable reduction of those operational GHG emissions to help contribute to the regional reduction targets as identified in paragraph 2;

2. Work closely with local, state, and federal governments and private sector community leaders to reduce county geographical GHG emissions to 80 percent below current levels by 2050, by developing a GHG emissions inventory and regional plan that establishes short-, mid-, and long-term GHG reduction targets, with recommended goals to stop increasing emissions by 2010, and to achieve a 10 percent reduction every five years thereafter through to 2050;

3. Urge Congress and the new Obama Administration to enact a multi-sector national program of requirements, market-based limits, and incentives for reducing GHG emissions to 80 percent below current levels by 2050;

4. Urge Congress and the Obama Administration to strengthen standards by enacting legislation such as a Corporate Average Fuel Economy ("CAFE") standard that achieves at least 35 miles per gallon (mpg) within 10 years for cars and light trucks;

AND, FURTHERMORE, BE IT RESOLVED that San Miguel County will continue to take other steps, as identified by The New Community Coalition, to identify regional climate change impacts, and develop strategies to prepare for and build resilience to those impacts.

DONE AND APPROVED, by the Board of Commissioners of San Miguel County, Colorado, on the 21st day of January, 2009.

**SAN MIGUEL COUNTY, COLORADO
BOARD OF COUNTY COMMISSIONERS**

By: *ERCF*
Elaine R.C. Fischer, Chair

Vote: Elaine R.C. Fischer	<input checked="" type="radio"/> Aye	Nay	Abstain	Absent
Art Goodtimes	<input checked="" type="radio"/> Aye	Nay	Abstain	Absent
Joan May	<input checked="" type="radio"/> Aye	Nay	Abstain	Absent

ATTEST:
John Huebner
Chief Deputy Clerk to the Board

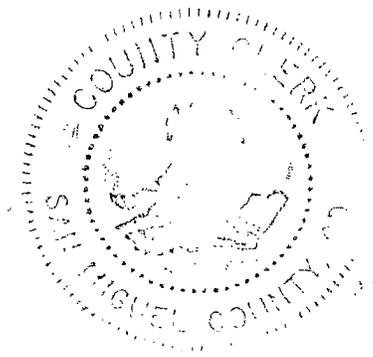


EXHIBIT A

U.S. Cool Counties Climate Stabilization Declaration (Updated as of March 2008)

WHEREAS, there is a consensus among the world's leading scientists that global warming caused by human emission of greenhouse gases is among the most significant problems facing the world today;

WHEREAS, documented impacts of global warming include but are not limited to increased occurrences of extreme weather events (i.e., droughts and floods), adverse impacts on plants and wildlife habitats, threats to global food and water supplies – all of which have an economic impact on communities and their local governments;

WHEREAS, leading scientists have projected that stabilization of climate change in time to minimize such impacts will require a reduction of global warming emissions to 80 percent below current levels by the year 2050;

WHEREAS, currently the United States is responsible for producing approximately 25 percent of the world's global warming pollutants;

WHEREAS, many leading U.S. companies that have adopted greenhouse gas reduction programs to demonstrate corporate and operational responsibility have also publicly expressed preference for the federal government to adopt precise and mandatory emissions targets and timetables as a means by which to provide a uniform and predictable regulatory environment to encourage and enable necessary and long-term business investments;

WHEREAS, Congress and the Administration have strengthened the U.S. Corporate Average Fuel Economy ("CAFE") standard for cars and light trucks;

WHEREAS, state, regional and local governments throughout the United States are adopting emissions reduction targets and programs and that this effort is bipartisan, coming from Republican and Democratic leadership;

WHEREAS, the U.S. Conference of Mayors has endorsed the U.S. Mayors Climate Protection Agreement, which commits cities to reduction of global warming emissions to 7 percent below 1990 levels by 2012, and calls for a federal limit on emissions;

WHEREAS, the State of California has mandated statewide reduction of greenhouse gas emissions to 80 percent below 1990 levels by 2050;

WHEREAS, more than 100 county leaders signed a letter written by Dane County, Wisconsin, that was sent to the President in March 2006 calling for increased energy investment and development of jobs focused on clean energy technologies;

WHEREAS, counties have a unique role to play in reducing greenhouse gas emissions and preparing for the impacts of climate change through their regional jurisdiction over policy areas such as air quality, land use planning, transportation, zoning, forest preservation, water conservation, and wastewater and solid waste management;

WHEREAS, the economic arguments for implementing climate solutions are compelling, from the near-term economic gains of energy efficiency to the long-term climate stabilization that can prevent irreparable harm from catastrophic climate change impacts;

WHEREAS, many counties throughout the nation, both large and small, are reducing global warming pollutants through programs that provide economic and quality of life benefits such as reducing energy bills, preserving green space, implementing better land use policies, improving air quality, promoting waste-to-energy programs, expanding transportation and work choices to reduce traffic congestion, and fostering more economic development and job creation through energy conservation and new technologies;

NOW, THEREFORE WE DECLARE,

We as Cool Counties will take immediate steps to help the federal, state, and our governments within our county to achieve the 2050 climate stabilization goal by making the following commitments:

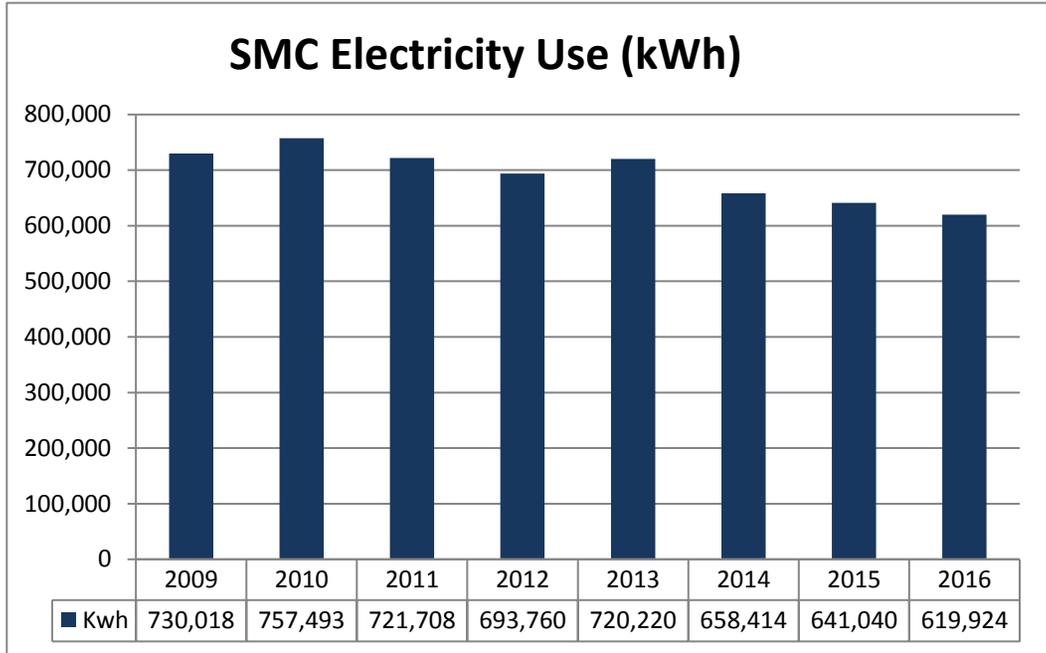
- i. Create an inventory of our county government (operational) greenhouse gas ("GHG") emissions and implement policies, programs and operations to achieve significant, measurable and sustainable reduction of those operational GHG emissions to help contribute to the regional reduction targets as identified in paragraph ii;
- ii. Work closely with local, state, and federal governments and other leaders to reduce county geographical GHG emissions to 80 percent below current levels by 2050, by developing a GHG emissions inventory and regional plan that establishes short-, mid-, and long-term GHG reduction targets, with recommended goals to stop increasing emissions by 2010, and to achieve a 10 percent reduction every five years thereafter through to 2050.
- iii. Urge Congress and the Administration to enact a multi-sector national program of requirements, market-based limits, and incentives for reducing GHG emissions to 80 percent below current levels by 2050.

We will take immediate steps to identify regional climate change impacts; we will draft and implement a county plan to prepare for and build resilience to those impacts.

SAN MIGUEL COUNTY OVERALL ENERGY USE

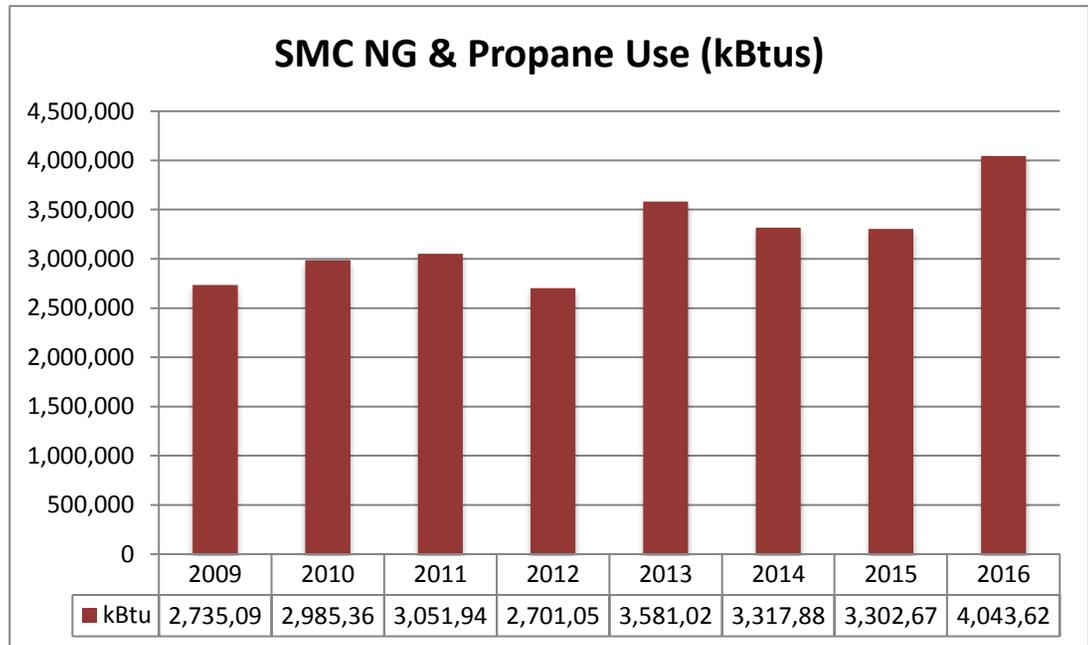
Electricity Usage kWh

2009	730,018
2010	757,493
2011	721,708
2012	693,760
2013	720,220
2014	658,414
2015	641,040
2016	619,924



Natural Gas Usage ccf kBtu

2009	20,090	2,067,261
2010	22,800	2,346,120
2011	24,702	2,541,836
2012	22,896	2,355,998
2013	31,828	3,275,101
2014	30,051	3,092,248
2015	29,302	3,015,176
2016	35,140	3,615,906



Propane Usage gal kBtu

2009	7,287	667,836
2010	6,975	639,242
2011	5,566	510,111
2012	3,765	345,053
2013	3,338	305,920
2014	2,462	225,636
2015	3,137	287,499
2016	4,667	427,719

Total NG & Propane Use kBtu

2009	2,735,097
2010	2,985,362
2011	3,051,946
2012	2,701,052
2013	3,581,021
2014	3,317,884
2015	3,302,674
2016	4,043,625