

**TOWN OF MOUNTAIN VILLAGE  
GREEN TEAM COMMITTEE MEETING  
TUESDAY, MARCH 6, 2018, 2:00 PM  
2nd FLOOR CONFERENCE ROOM, MOUNTAIN VILLAGE TOWN HALL  
455 MOUNTAIN VILLAGE BLVD, MOUNTAIN VILLAGE, COLORADO  
AGENDA**

<b>Item #</b>	<b>Time</b>	
1.	2:00	Call to Order
2.	2:05	Approval of the January 29, 2018 Minutes
3.	2:10	Discussion & Updates Regarding: <ul style="list-style-type: none"> <li>A. Discussion regarding a recommendation from the Green Team about adding an environmental position to be shared by the Town, TSG and TMVOA in 2019</li> <li>B. Composting Project <ul style="list-style-type: none"> <li>➤ Discussion of offering an incentive program for HOA composting</li> <li>➤ Composting Location</li> <li>➤ Legal Requirements Regarding Composting Location</li> </ul> </li> <li>C. Meadows Bathroom Solar Project</li> <li>D. Green House Gas Emissions <ul style="list-style-type: none"> <li>➤ Analyze Deanna Drew's Data &amp; What Can Be Added</li> </ul> </li> </ul>
4.	2:50	Next Steps
5.	2:55	Other Business <ul style="list-style-type: none"> <li>A. Discussion regarding broadening the Town employee clean-up day to a community wide clean-up day</li> </ul>
6.	3:00	Adjourn

**TOWN OF MOUNTAIN VILLAGE  
MINUTES OF THE JANUARY 29, 2018  
GREEN TEAM MEETING DRAFT**

The meeting of the Green Team Committee was called to order by Chair Jonathan Greenspan on Monday, January 29, 2018 at 2:00 p.m. in Mountain Village Town Hall, 455 Mountain Village Boulevard, Mountain Village, Colorado.

**Attendance:**

**The following Green Team Committee members were present:**

Jonathan Greenspan, Chair and Mountain Village Resident  
Patrick Berry, Mountain Village Town Council  
Bruce MacIntire, Mountain Village Town Council  
Marti Prohaska, Mountain Village Resident  
Jeff Proteau, Telluride Ski and Golf Company  
Savanna Wagner, At Large Member

**The following Green Team Committee were absent:**

Garrett Brafford, Telluride Mountain Village Owner's Association

**The following were also in attendance:**

Kim Montgomery, Town Manager (Staff)  
Michelle Haynes, Director of Planning and Development Services (Staff)  
Christina Lambert, Administrative Services Coordinator (Staff)  
Heather Knox, Executive Director- Eco Action Partners

**Consideration of Approval of Minutes:**

November 2, 2017 Green Team Committee Meeting Minutes

On a **MOTION** by Marti Prohaska and seconded by Savanna Wagner, the Green Team Committee voted unanimously to approve the November 2, 2017 meeting minutes as presented. Jonathan Greenspan did note that Aspen's landfill has only 6 years of life left so the November 2, 2017 minutes have been updated to reflect this new information.

**Discussion took place on the following topics:**

- ❖ Brief recap of the most recent Town Council Meeting
  - Town Council gave direction to continue to reword the current mission statement and to have an achievable goal
  - We will revisit this around budget time
  - The Green Team Committee was created after Deanna Drew left the TMV
  - Many of the programs that Deanna started are still in place and being run by the Town

- Deanna is still available as a resource
  - TMV is still tracking data but we want to make sure this continues
  - We need to look deeper into greenhouse gas emissions and have a clear understand of what Deanna was doing and what is still being done
  - Deanna was specifically looking at Town of Mountain Village Government data
  - We need to determine where we are currently at
  - We don't know who is specifically going to do the future work
  - TMV has been collecting data since 2010
  - The measurables are very important
  - JD Wise is continuing to monitor the Town of Mountain Village Government data
  - The data is then sent to Eco Action Partners
- ❖ Composting Project
- Utilize existing waste data. This can be found within the following documents:
    - [https://www.colorado.gov/pacific/sites/default/files/DEHS\\_RREO\\_FY16Report\\_EcoActionPartners.pdf](https://www.colorado.gov/pacific/sites/default/files/DEHS_RREO_FY16Report_EcoActionPartners.pdf)
    - <https://townofmountainvillage.com/media/Zero-Waste-Action-Plan.pdf>
  - Start small with a pilot program at VCA or the Meadows
  - First steps- we must determine the location and who is staffing it
  - Figure out if VCA residents are interested in composting
  - Education has to happen so people are informed and know how it works
  - Consider what we are trying to get out of composting and the quality of the product
  - Select an appropriate machine for what we are trying to achieve
  - Earth tub has a manual mixer
  - Explore options for personal gardens and landscaping
  - Direction for Michelle Haynes to talk with Cecilia Curry (Property Manager at VCA) about polling the residents about a composting facility and then identifying the size and location of a facility.
- ❖ Composting Conference
- Jonathan Greenspan attended the conference
  - Jonathan will provide the committee with a report from attending the conference
  - Common agreement between around 1,200 people attending the conference- large scale composting systems are not functioning as well as people had hoped
  - Number 1 problem with composting facilities is fire
  - 35 miles is now the limit for shipping these materials off site
  - Jonathan completed step one of getting certified by attending the conference
  - Recycling is failing but zero waste is on the rise
- ❖ Meadows Bathroom Solar Project
- Michelle Haynes has been working with Finn Kjome and Jim Loebe

- This project is part of the Meadows Improvement Plan
- Plan on having 2 unisex bathrooms with doors that lock
- Plan on having a small storage closet
- Plan on creating a safe walking trail
- This bathroom will replace the current porta potty
- Solar panels to help with lights, hot water is being evaluated, offsetting lights in the post office also being looked at.
- Bathroom will be located near the Meadows post office
- Sky lights are a great idea as they will bring in natural light
- Making good progress
- Will have motion activated devices and no hand towels
- Bathroom will close and lock at a reasonable hour
- Will be a nice amenity for skiers and summer park users
- Plan on having this project completed in 2018

**Committee Follow Up/Next Steps:**

After much discussion, the following was decided:

1. Research needs to be done regarding a future VCA composting location site
2. No residential or business waste audit at this time, we will utilize existing waste data
3. Patrick Berry and Eco Action Partners will present what Deanna Drew has already analyzed and what can be added
4. Staff will speak to the Town of Mountain Village Attorney to investigate what specific requirements needs to be looked at when moving forward with composting at VCA

**Other Business:**

Heather Knox, from Eco Action Partners, added an item for other business and discussion ensued about helping drive ski gear behind the bus on Ski PE days. This is to help cut down on unnecessary traffic and driving.

There being no further business, on a **MOTION** by Marti Prohaska and seconded by Patrick Berry, the Green Team Committee voted unanimously to adjourn the meeting at 4:56 p.m.

Respectfully submitted,

Christina Lambert  
Administrative Services Coordinator

**Christina Lambert**

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**From:** Kim Montgomery  
**Sent:** Wednesday, February 21, 2018 6:01 PM  
**To:** Bruce MacIntire  
**Cc:** Heather Knox; Michelle Haynes; Christina Lambert; garrett@tmvoa.org; jproteau@tellurideskiresort.com; jg@sunrisetelluride.com; martiniquedavis@gmail.com; Patrick Berry; savvylwagner@yahoo.com; Kim Wheels; Laila Benitez  
**Subject:** Re: Ophir Composting Project

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

Look forward to discussing these ideas at our next green team meetings. I think an incentive program with money to move this forward may be right up our alley.

Thanks,

Kim Montgomery  
Town Manager  
970-729-3403  
[kmontgomery@mtnvillage.org](mailto:kmontgomery@mtnvillage.org)

On Feb 21, 2018, at 5:56 PM, Bruce MacIntire <[BMacIntire@mtnvillage.org](mailto:BMacIntire@mtnvillage.org)> wrote:

I love the community pride aspect baked into this program. Seems like it should fit Ophir pretty well. The user community commitment is so important.

I would like to see a similar Earth Cube program implemented in the Mtn Village where a community of year round residents can make the same type of commitment. We don't have many year round residents. VCA and the Meadows are obvious places, and we already have them clearly in mind. The Peaks, the Madeline, and the Mountain Lodge each have large restaurant operations that might be comparable in scale to Ophir. Having several Earth Cubes in simultaneous operation would allow us to see what works and what doesn't work without jumping to a conclusion based on the results of a single user group. If Ophir is a smashing success and VCA doesn't make good soup, what can we learned from Ophir to help VCA become better cooks?

Bruce MacIntire  
LuxWest Properties  
(970)729-0979

On Feb 20, 2018, at 8:36 AM, Heather Knox <[heather@ecoactionpartners.org](mailto:heather@ecoactionpartners.org)> wrote:

Hello Mountain Village Green Team!

In prep for your next meeting, Jonathan asked me to provide some information related to the Ophir composting grant, specifically about the amount of material that will be diverted related to the population served (attached). Also attached is the draft of the

Composting Pledge for Ophir. All residents who choose to participate will be required to sign this pledge.

EcoAction will be working on informational materials for residents and the town government to educate participants. We are happy to share these informational/educational materials once finalized.

The Earth Cubes have been ordered; anticipated delivery is mid-March. Once installed, we will host a "tour" for anyone interested. ☺

Please let me know if you have any questions.

Thank you for the opportunity to share this.

*Heather Knox*

EcoAction Partners

[heather@ecoactionpartners.org](mailto:heather@ecoactionpartners.org)

[www.ecoactionpartners.org](http://www.ecoactionpartners.org)

Cell: 970.729.3362

<Ophir Composting Project Summary for Mountain Village Green Team.docx>

<Ophir Composting Program Pledge - DRAFT.docx>

## Ophir Composting Project Summary for Mountain Village Green Team

The purpose of the Ophir Composting project is to implement a community-wide composting program in Ophir, CO. Grant funds will be used to purchase and install Two Earth Cubes (Green Mountain Technologies). These units have been chosen based on projected usage and on the space requirement to fit within the town's existing secure trash enclosure. Additionally, funds will be used to purchase equipment required to mix the compost (cordless drill), and educational materials to educate the community on the "how-to" of composting, and the requirements for tracking data and keeping the system functional.

Implementing composting in Ophir will support the community's goal of becoming more self-reliant - a pertinent community goal, considering Ophir has one road in/out. And with the extreme climate that comes with being located at nearly 10,000' in elevation, there is a very real potential of being cut-off from services due to road closures from mud slides and/or avalanches. Composting food waste would eliminate the need for trash pick-up of organic material, which is estimated to be 16.5 tons annually. Furthermore, it would put that material to beneficial use as compost for the community greenhouse and the potential to expand food cultivation.

Background: There are no landfills or commercial composting centers in Ouray or San Miguel counties, an area of over 1,800 square miles with a population over 12,000. All waste is hauled to one of two landfills in Montrose County, each approximately 70 miles from the major producers. A waste audit completed in 2016 as a part of EcoAction Partners CDPHE 'Sneffels Waste Diversion Planning Project' grant found that 35-45% of the approximately 13,000 tons of trash generated in the two counties is compostable waste. The nearest composting facility is located 100 miles from Telluride, outside of Austin, CO.

The Town of Ophir is a small residential mountain community in San Miguel County in southwestern Colorado. The Town of Ophir sits at approximately 9,700 feet surrounded by 13,000 foot peaks. The Town has 76 homes with 191 residents, which include many children.

Each Earth Cube can process up to 50 pounds of food and yard waste per day. The two units will divert 100 pounds per day, which equates to 16.5 metric tons of organic waste diverted annually from the landfill. This amount of diverted material will create approximately of 3.3 tons of compost for use in the community garden.

## Ophir Composting Program Pledge

Welcome to the Ophir Community Composting Program! This program is provided through local community volunteers, and a generous grant obtained by EcoAction Partners for composting equipment (2 EarthCubes) to be located in the Ophir Waste Building. This program is the first of its kind in our region, and will be used as an example for successful community composting by our neighbors. To be a participant of this pilot program is an exciting privilege and this pledge is a serious commitment!

In order for your household to participate, please read through the following commitments carefully & sign each item and at the bottom of the page.

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\_\_\_ I will be a proud & committed member of the Ophir Composting Program. I understand that the composting system is a delicate balance of allowable organic matter and that in order for the program to succeed, contamination of non-approved materials are not acceptable.

\_\_\_ Every time I deposit compostable material into the composter, I will add the appropriate amount of bulking material (wood chips) each time (1:1 ratio, per the sign posted at the equipment, and if in doubt, will add more bulking).

\_\_\_ I will weigh my compostable material and record it's weight each time I empty my bucket into the composter & any other data needed...

\_\_\_ I will keep the composting area clean of compost materials and bulking agents.

\_\_\_ I will display the composting rules I'm given in a visible, usable location in my household and will educate my family, housemates, and other participants in my household on what is acceptable (and not) composting material.

### YES – EVERYTHING CHOPPED TO 2" OR LESS

- bread
- cooked & raw vegetables & fruits
- coffee grounds
- egg shells
- meat/dairy
- houseplant trimmings
- small pieces of food
- toothpicks & similar (under 6 inches)

NO – BIG ITEMS

- citrus
- no meat bones
- dog poop
- stickers
- paper
- paper towels, paper plates, etc.
- compostable plastics

YARD WASTE – TO BE COLLECTED ON THE SIDE & INCORPORATED AS PART OF BULKING AGENT

- NO sticks
- YES – leaves, plant material, grass, etc.

Compost Committee Volunteer Team Bonus:

\_\_\_ I'd like to volunteer to be part of the volunteer Compost Committee to do the following:

compost “dumping” crew, on an as-needed basis (several times a year). This means I will enjoy using my muscles to shovel out the composted material and have bragging rights with my neighbors for contributing to this special program!

I will sign up to aerate the composter on the calendar schedule... (needs 1x per week)

Other...

**TO: MOUNTAIN VILLAGE MAYOR AND TOWN COUNCIL**  
**FROM: DEANNA DREW, ENVIRONMENTAL SERVICES**  
**SUBJECT: 2016 ENERGY USE AND GREENHOUSE GAS REPORT**  
**DATE: MARCH 16, 2017**

## BACKGROUND

In 2009 the Town of Mountain Village along with Telluride and San Miguel County adopted a resolution to achieve a 20% reduction in greenhouse gas emissions by the year 2020.

The town is currently using 2010 as the baseline year for achieving this goal. All three local governments are calculating GHG emissions by converting total electricity, natural gas, and fuel consumed by government operations to pounds of Carbon Dioxide, a primary greenhouse gas, using a standardized EPA conversion. Note: this is a simplified greenhouse gas calculation and analysis.

## 2016 TMV GOVERNMENT ENERGY USE and GHG EMISSIONS SUMMARY

- Overall, 2016 total government CO<sub>2</sub> emissions were slightly less (<1%) than 2015 levels; down 6% from our 7-year average; **and down 16% from 2010 baseline** emission levels.
- CO<sub>2</sub> emissions from **natural gas were down 10%** from 2010 baseline levels; CO<sub>2</sub> emissions from **electricity were down 16%** from 2010 baseline levels; and CO<sub>2</sub> emissions from **fuel were down 25%** from 2010 baseline levels.
- **Natural gas** use was 12% lower in 2016 than 2015, and was 10% lower than the 2010 baseline. Most of the 2016 decrease came from plaza snowmelt systems (-22,736 therms/-270,104 lbs. CO<sub>2</sub>) where the facility maintenance staff has been working to improve efficiencies with controls during the past few years. However, there was a small increase in gas used for town buildings (+2,233 therms/+26,528 lbs. CO<sub>2</sub>).

Note: The rise and fall of natural gas use closely correlates with weather temperatures and snowfall amounts in our region.

- **Electricity use** in government facilities went up 3% in 2016 (+127,973 kwh/+254,666 lbs. CO2) from 2015 levels. Overall, 2016 total electricity remained 7% below 2010 baseline levels. All town systems experienced a slight increase in electricity use from 2015 levels except gondola, water, and town hall facilities.
- **Village Court Apartments (VCA)** electricity use in 2016 was up 2% from 2015 levels, and was approximately 5% below 2010 baseline levels. Occupancy at VCA remained approximately the same in 2015 and 2016. VCA staff is conducting an inventory of their appliances to begin to develop a phased plan for efficiency upgrades throughout the housing complex.

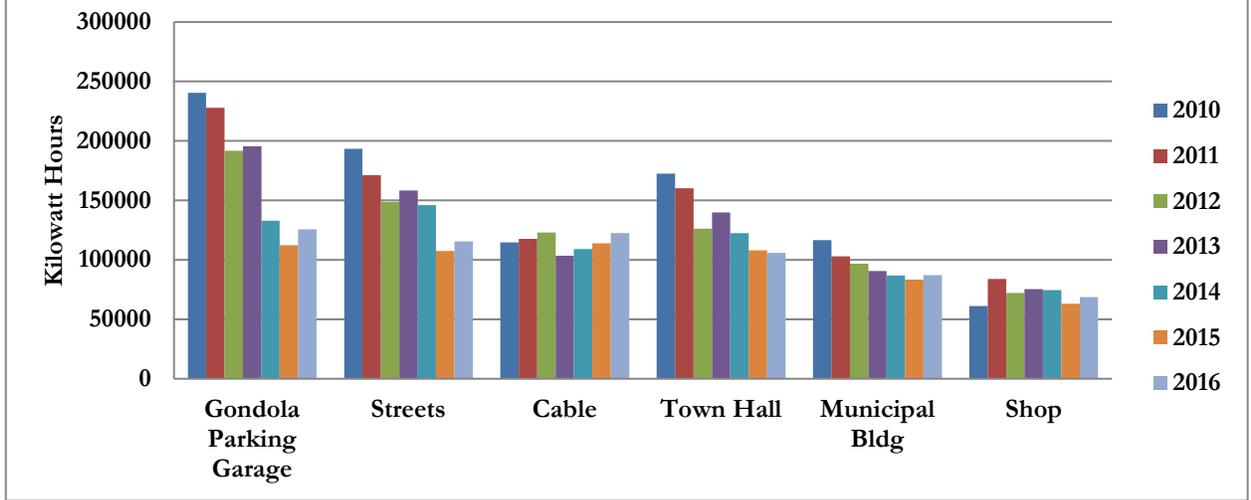
**Note: VCA is not included in overall government emissions totals.**

- **Fuel use** was overall lower in 2016 (55,368 total gallons used) than 2015 with a decrease in both unleaded fuel (-2,564 gal) and diesel fuel (-1,493 gal). This resulted in a 25% decrease in total annual fuel used compared to 2010 baseline levels.
- The **gondola** electricity use decreased about 2% (28,495 kwh) from 2015 to 2016, and this could be attributed to the additional solar panels installed in fall 2015. However, the additional morning run time of the gondola could cause this number to rise again in 2017. The gondola electricity use remains 13% below 2010 baseline levels.

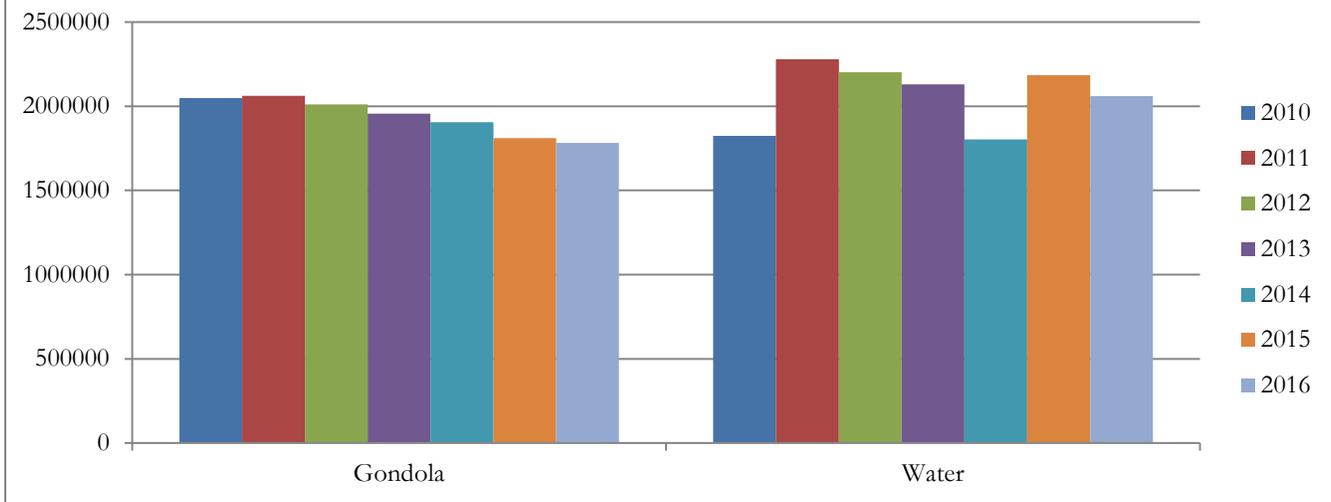
And, TMVOA continues to offset 100% of its traditional electricity use through the purchase of **Green Blocks**, renewable energy credits from SMPA.

- The **water department** experienced a 6% decrease in electricity (-124,629 kwh/-248,011 lbs. CO2) compared to 2015 usage. However, 2016 water department electricity remains up 12% from 2010 baseline levels.
- The **emissions factor** of our electricity from SMPA remained the same in 2016 as 2015. The emissions factor for 2016 was 1.99 lbs. CO2 per kilowatt hour of electricity used; down from the emissions factor of 2.2 lbs. CO2/kwh for the baseline year of 2010. According to the EPA, the national average is about 1.22 lbs. CO2 per kwh.

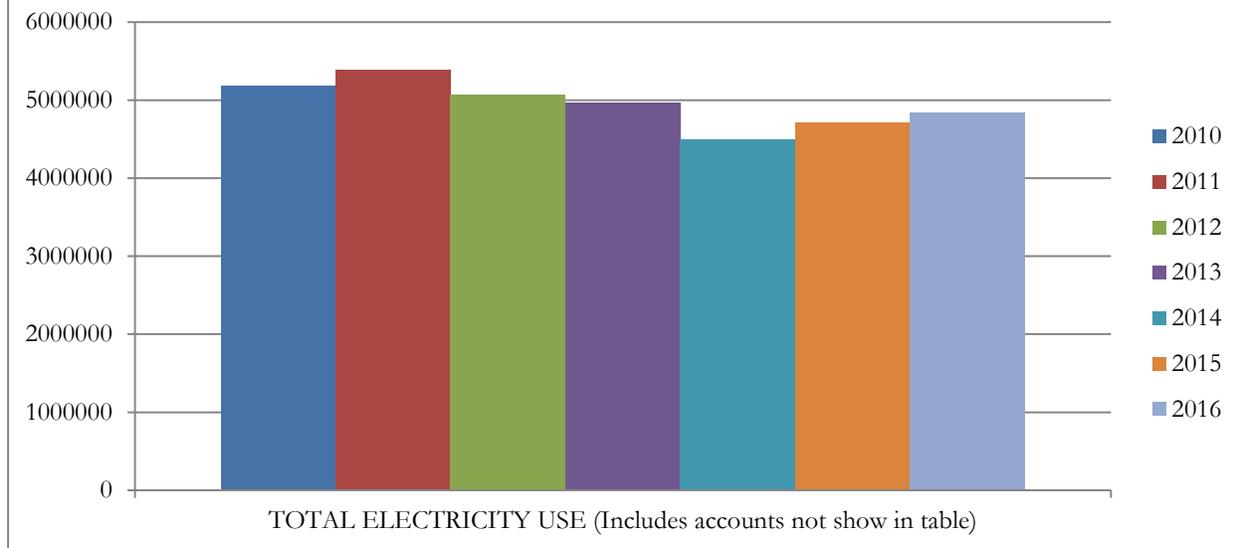
### TMV Electricity Use 2010-2016



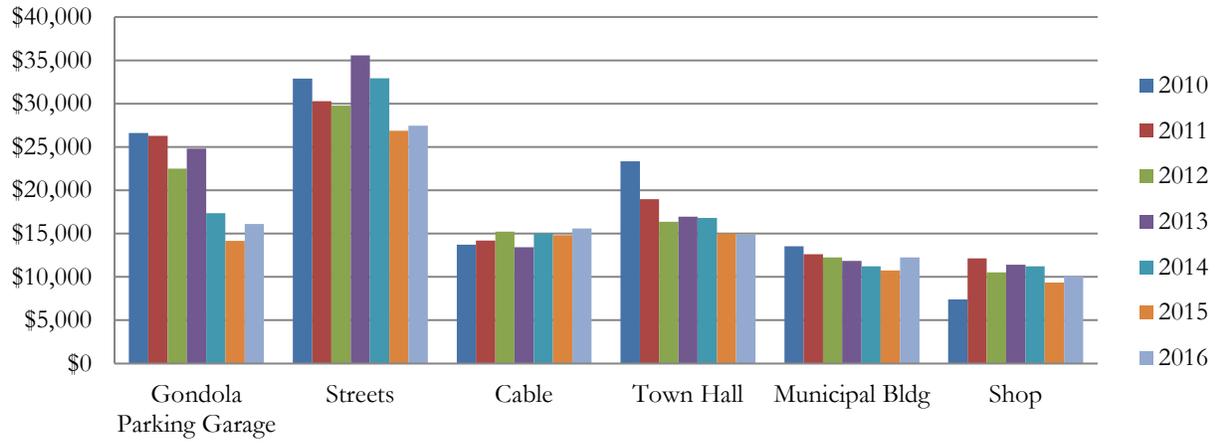
### TMV Electricity Use 2010-2016



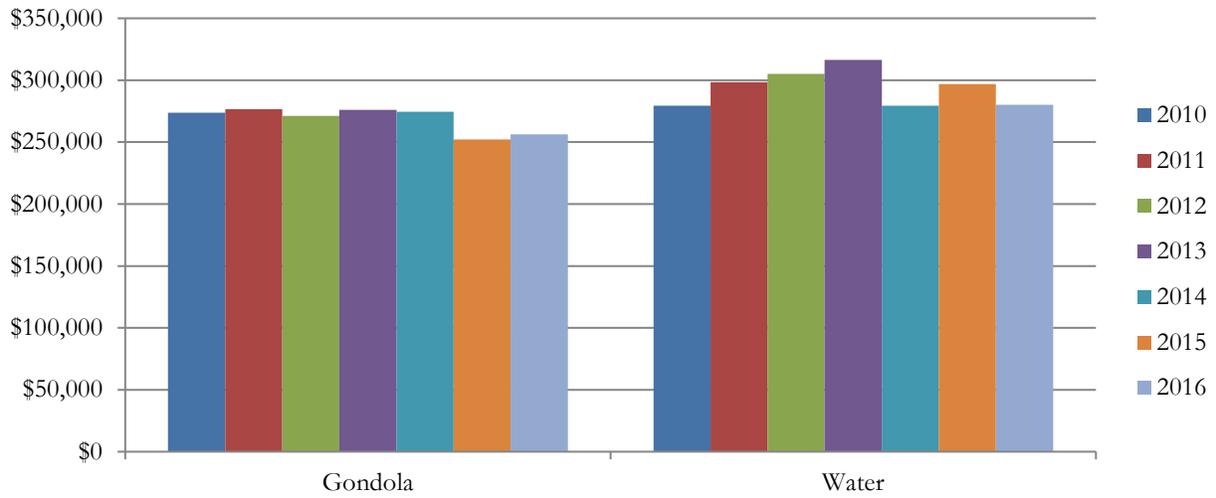
### Total TMV Electricity Use 2010-2016



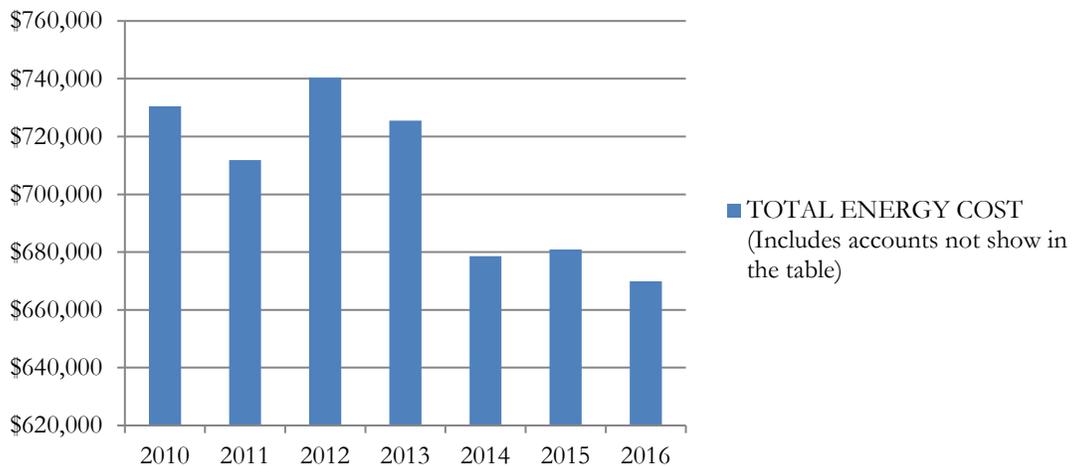
### TMV Electricity Cost 2010-2016



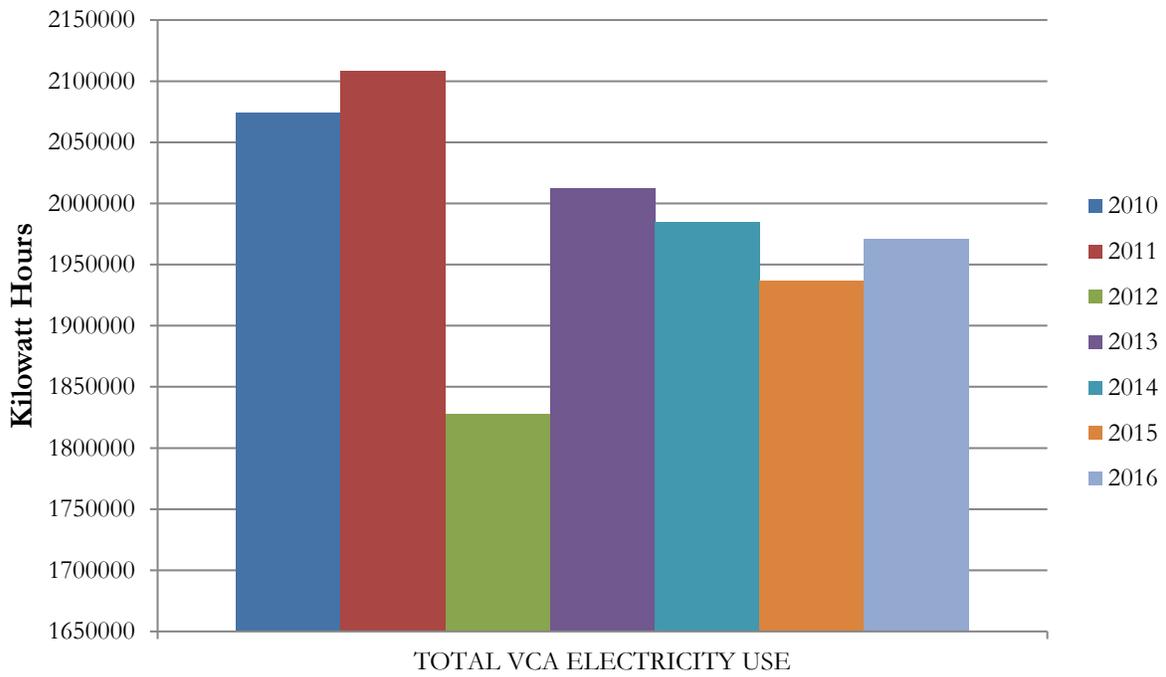
### TMV Electricity Cost 2010-2016



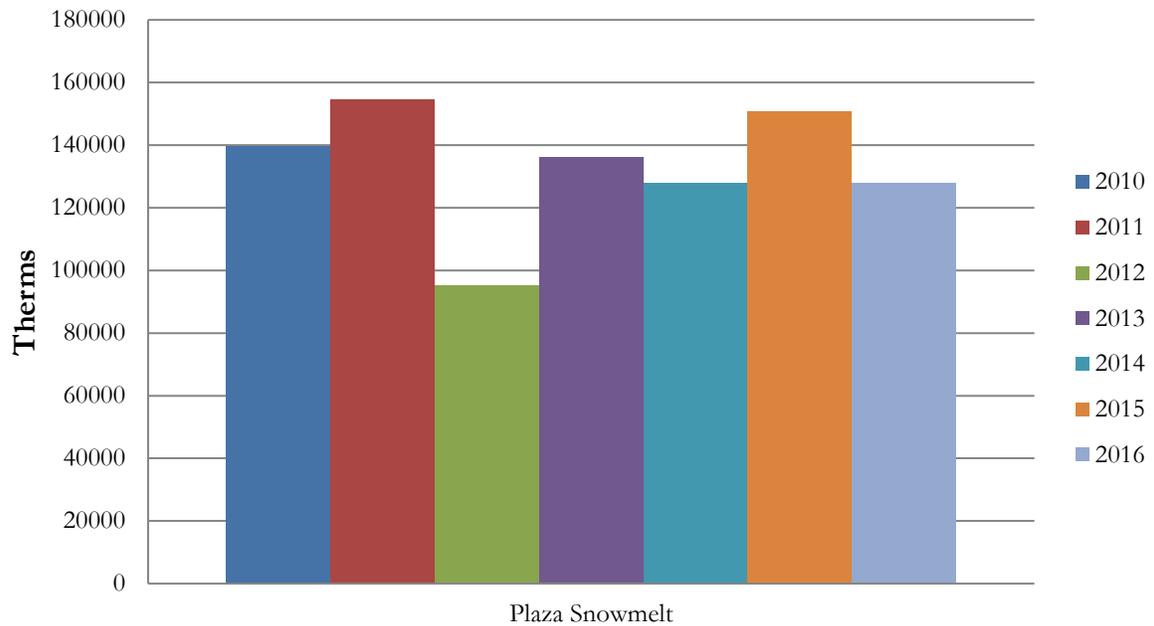
### TOTAL TMV ELECTRICTY COST 2010-2016



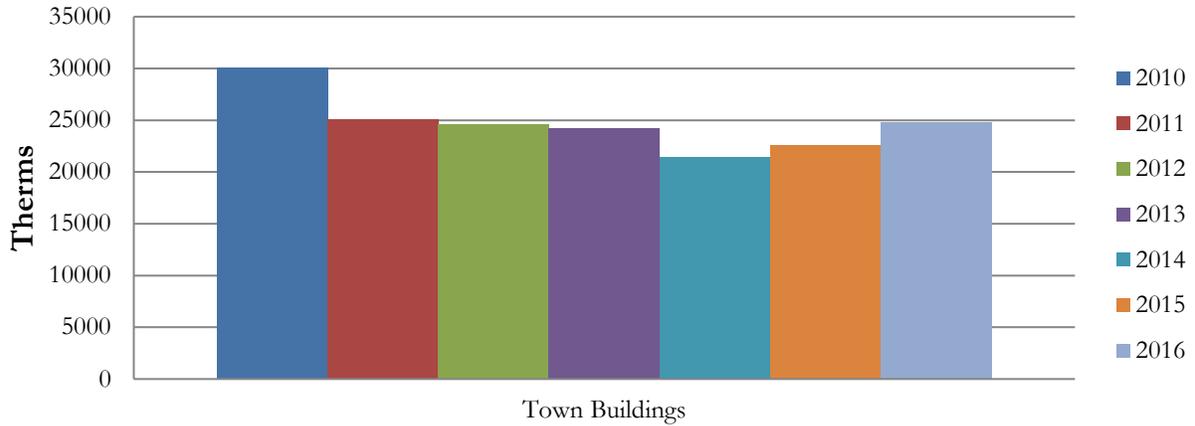
### VCA Electricity Use 2010-2016



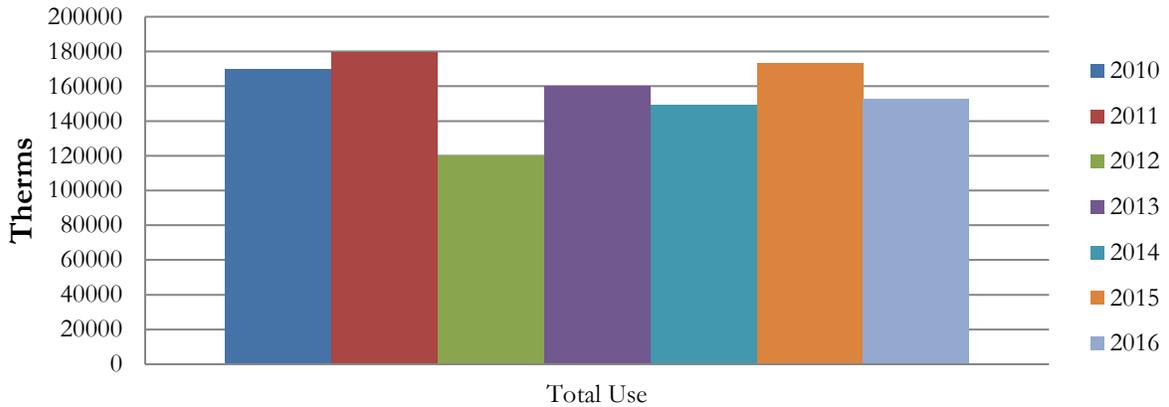
### Plaza Snowmelt Natural Gas Use 2010-2016



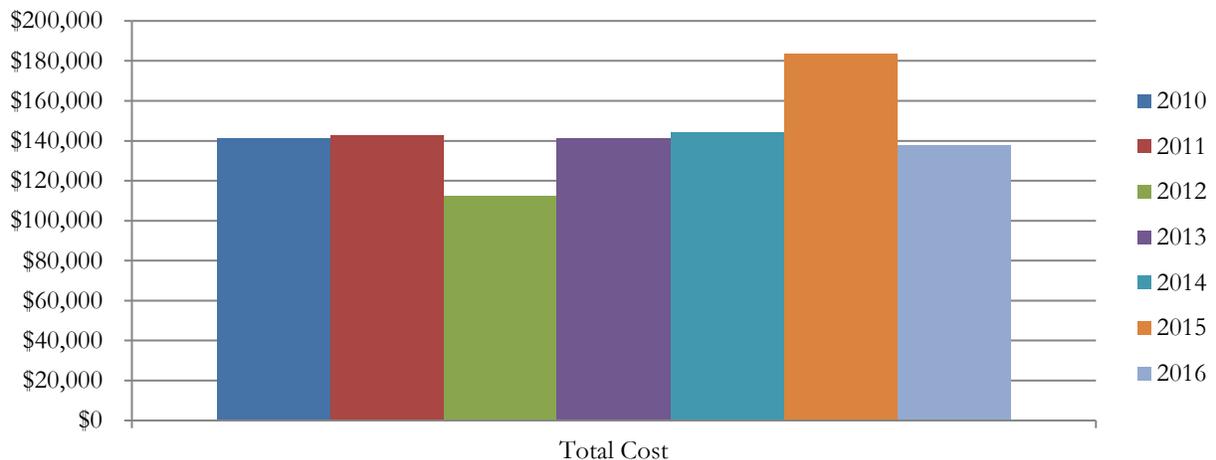
## TMV Government Buildings Natural Gas Use 2010-2016



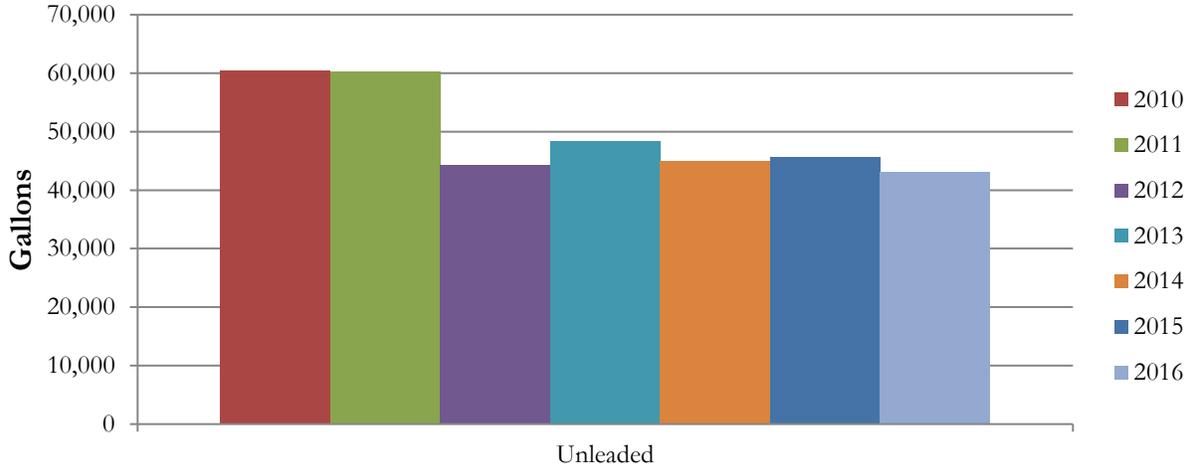
## TMV Government Natural Gas Use 2010-2016



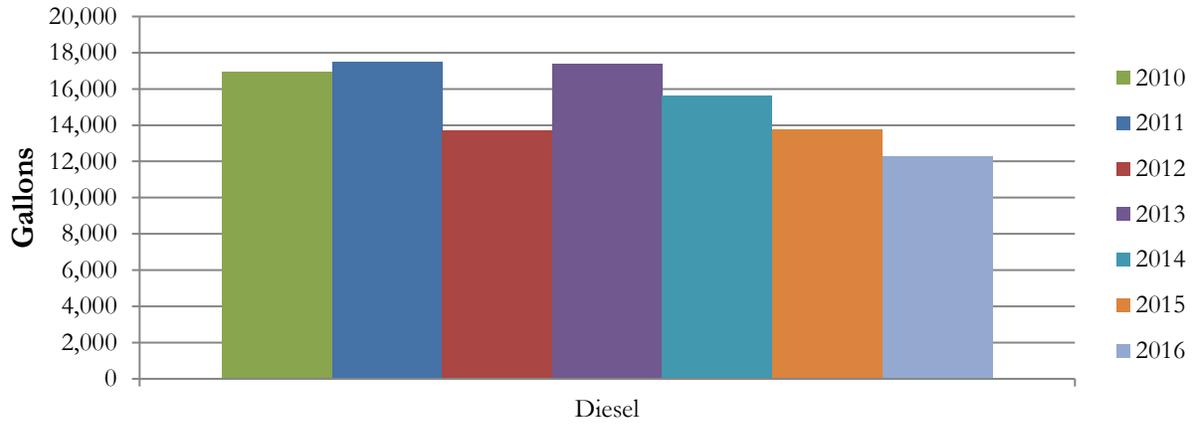
## TMV Government Natural Gas Cost 2010-2016



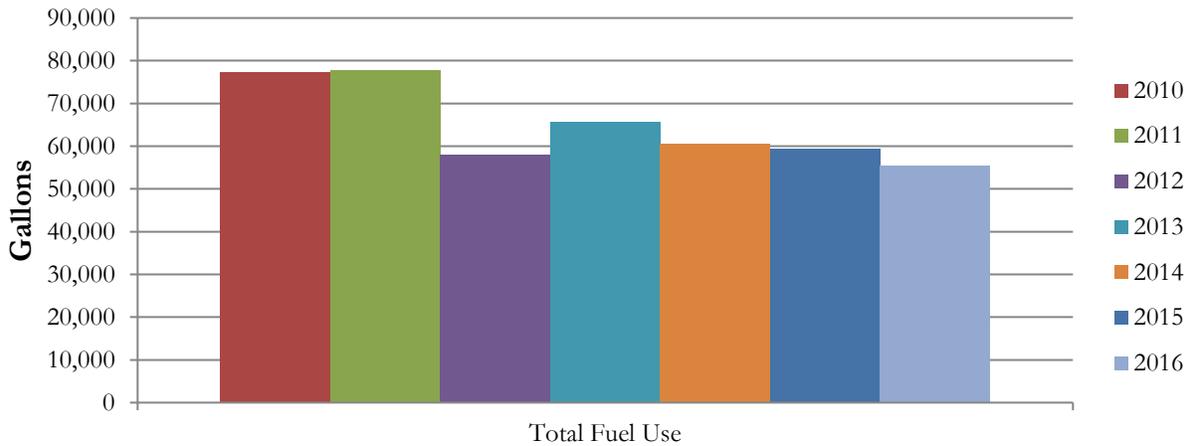
### TMV Gasoline Use 2010-2016



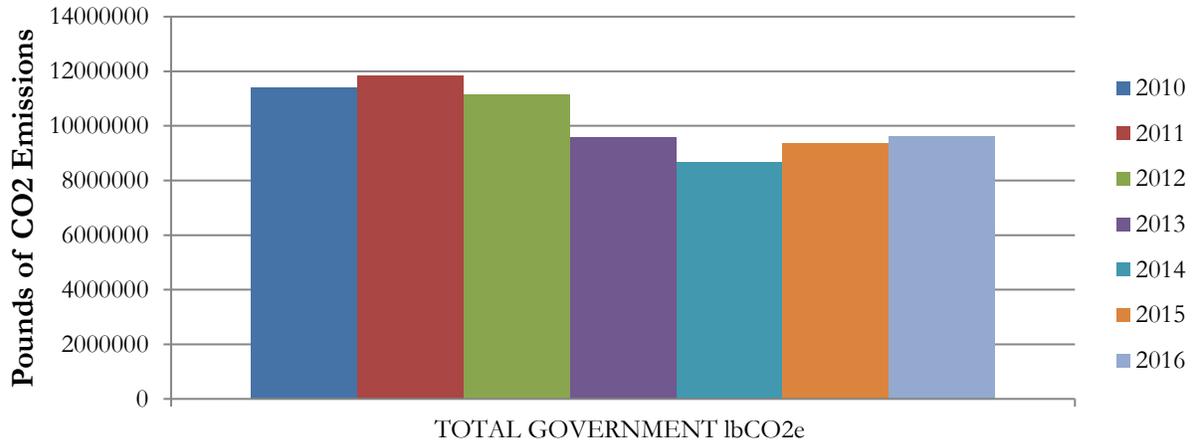
### TMV Diesel Use 2010-2016



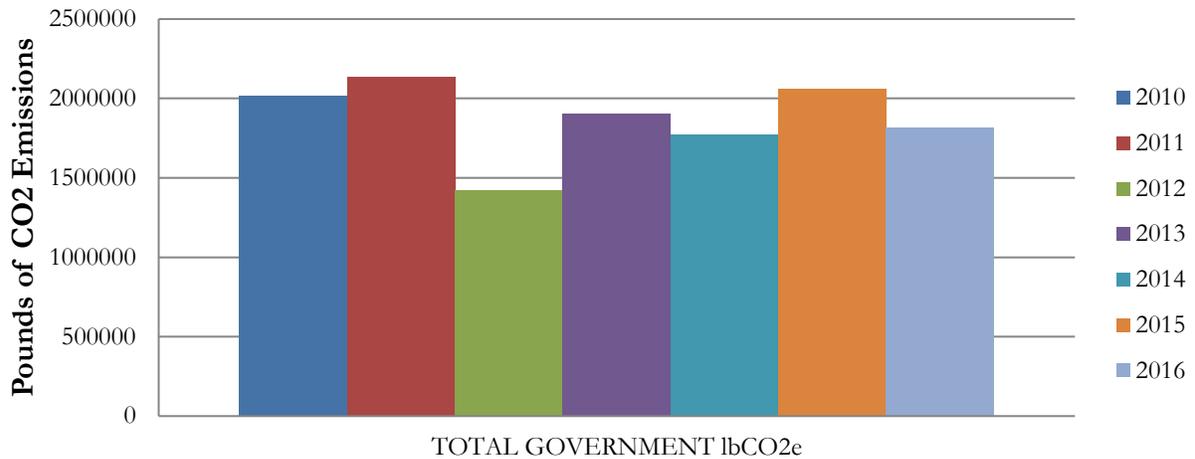
### TMV TOTAL FUEL USE 2010-2016



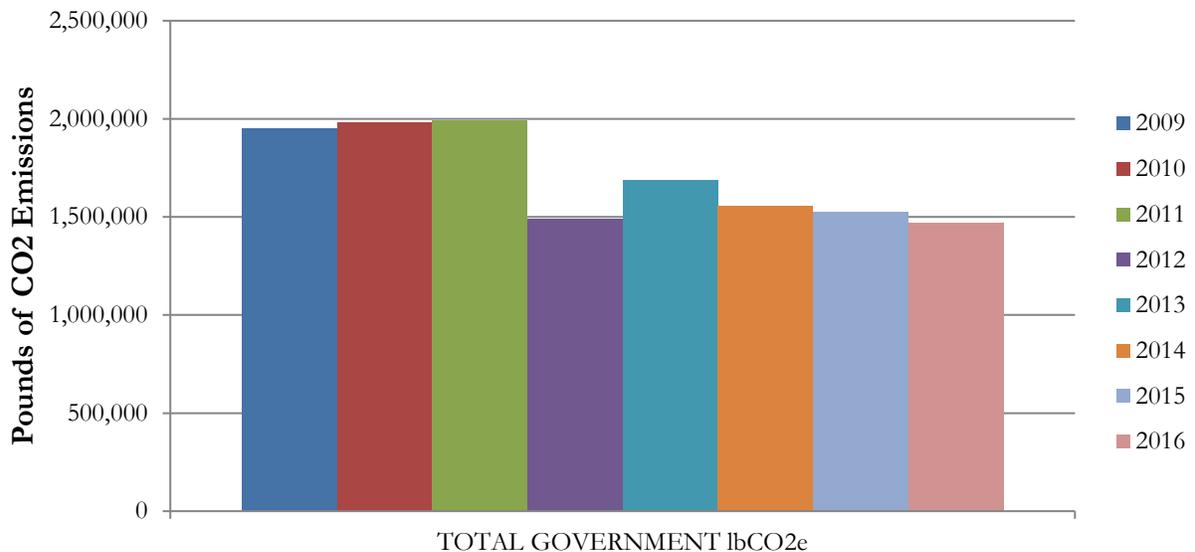
## Government Electricity CO2 Emissions 2010-2016



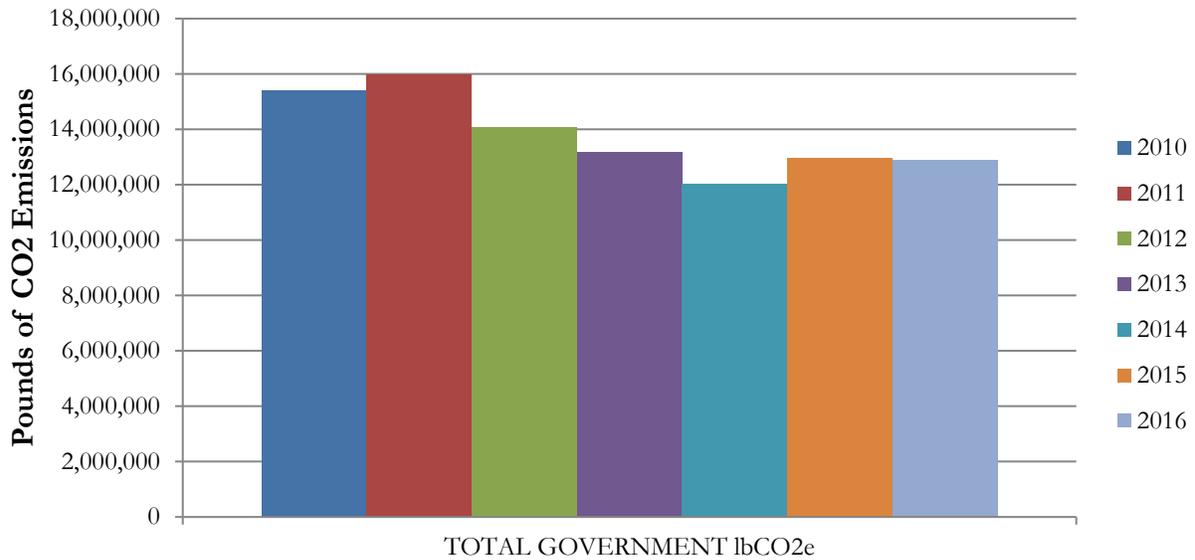
## Government Natural Gas CO2 Emissions 2010-2016



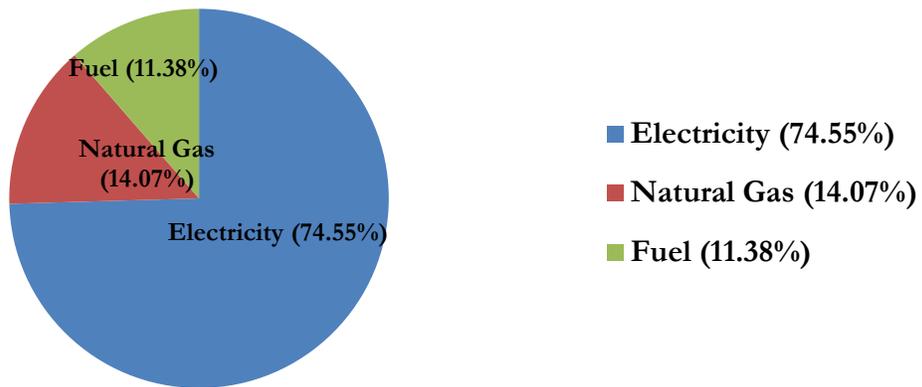
## Government Fuel CO2 Emissions 2009-2016



## TOTAL Government CO2 Emissions 2010-2016



## Total Town CO2 Emissions 2016



### Conversion Factors Used:

**TriState (SMPA):** 2.2 lb CO<sub>2</sub>e/kWh (through 2012)    1.93 lbCO<sub>2</sub>e/kWh (2013-2014)    1.99 lbCO<sub>2</sub>e/kWh (2015-2016)

**Black Hills Energy:** 11.88 lbCO<sub>2</sub>e/therm

**Gasoline:** 25.08 lbCO<sub>2</sub>e/gallon (includes both tail-pipe and well-to-pump emissions)

**Diesel:** 27.5 lb CO<sub>2</sub>e/gallon (includes both tail-pipe and well-to-pump emissions)

**TO: MAYOR JANSEN AND TOWN COUNCIL**  
**FROM: DEANNA DREW, ENVIRONMENTAL SERVICES**  
**SUBJECT: 2015 ENERGY USE AND GREENHOUSE GAS REPORT**  
**DATE: APRIL 21, 2016**

## **BACKGROUND**

In 2009 the Town of Mountain Village along with Telluride and San Miguel County adopted a resolution to mirror the state's Climate Action Goal of a 20% reduction in greenhouse gas emissions by the year 2020.

The town is currently using 2010 as the baseline year for achieving this goal. All three governments are calculating GHG emissions by converting total electricity, natural gas, and fuel consumed by government operations to Carbon Dioxide, a primary greenhouse gas. Note: this is a very simplified greenhouse gas calculation and analysis.

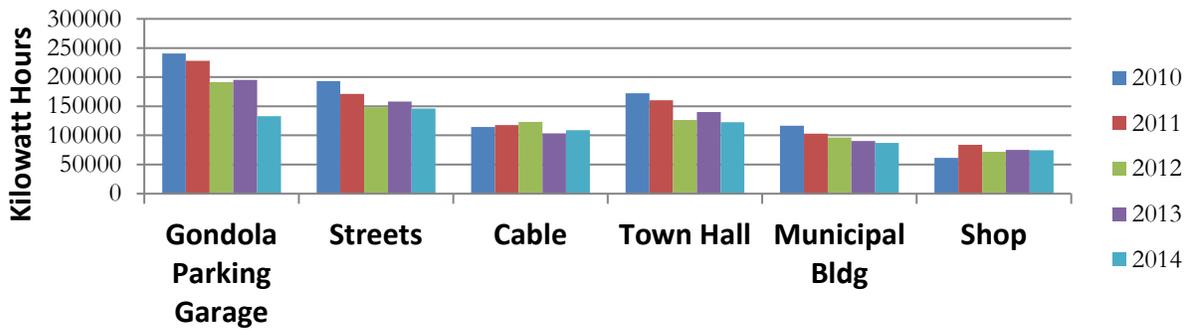
Because 2014 was the first year that significant capital investments were made for energy efficiency projects, and some of these projects were not complete until the end of the year, staff intends to continue to monitor energy consumption throughout 2015 to get a more thorough understanding of the effects of our efforts. When efficiency projects are complete we will next consider implementing more renewable energy projects to further reduce our emissions.

## **2014 HIGHLIGHTS**

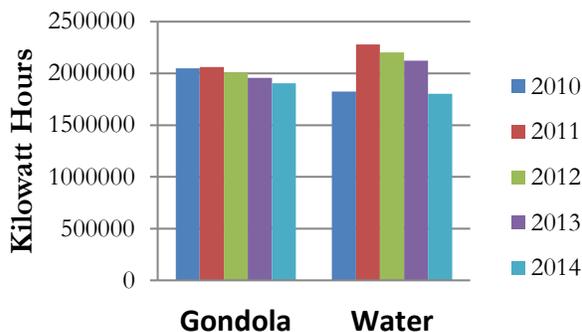
- Overall, we are experiencing a downward trend in electricity, natural gas and fuel consumption through most Mountain Village departments. We can attribute this to employee awareness and capital investment and focus on energy efficiency projects during 2014.
- 2014 CO2 emissions are down 8% from 2013 levels; 13% from 6-year average; and down 22% from 2010 baseline emission levels.
- The gondola parking garage LED project is showing the greatest energy savings of all facilities, with a 45% reduction from 2013 totals and 33% reduction over a five year average.
- All lights in all gondola terminals will be replaced with LEDs this spring thanks in part to a San Miguel County grant that will reimburse nearly 50% of the cost of the project.

- Solar panels purchased with Green Gondola program donations and installed on the gondola terminals are offsetting approximately 2% of the gondola's total electricity use. More solar panels will be installed on the gondola terminals this year.
- \$300,000 was budgeted in 2014 for energy efficiency projects on town facilities based on energy audits and recommendations provided by energy consultants. \$200,000 of this amount was rolled over into 2015, primarily to complete the efficiency projects at Village Court Apartments (see next bullet), Telluride Conference Center (now complete), and Heritage Parking Garage (waiting for Madeline to approve project).
- VCA staff has engaged an energy consultant to provide analysis to prove if conversion of the apartment complex to natural gas is economically feasible. If not, further analysis will include recommendations for efficiency measures that may be taken to reduce electricity consumption in the units, such as programmable thermostats with thresholds for electricity use.
- Facility maintenance staff is working with an energy consultant to analyze potential efficiencies in plaza snowmelt systems and make recommendations for improvements in 2015.
- The next renewable energy project to be considered is installing solar panels on the town maintenance shop, which is estimated to offset 100% of our energy use in that facility. Staff will bring that proposal to council later this year.
- Three energy incentive programs were available to the community in 2014: LED lighting, community solar, and rooftop solar. The LED program funds (\$20,000) were exhausted, while remaining funds for SMPA community solar array (\$14,098) and rooftop solar (\$16,413) incentives were rolled over into 2015. These three programs are available to the community again in 2015.
- Total Mountain Village community electricity use was down 5% in 2014 from 2010 totals and down 4% from five-year average. Community natural gas use data was not available at this time.
- The Mountain Village community is currently generating approximately 77,647 kWh of rooftop solar energy (about 216 panels); has purchased 193,058 kWh (505 panels) of renewable energy at the community solar array; and purchased 22,316 Green Blocks (100 kwh per block) of renewable energy from SMPA in 2014.

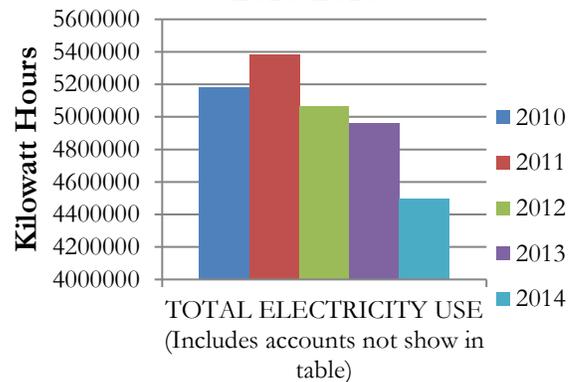
## TMV Government Facility Electricity Use 2010-2014



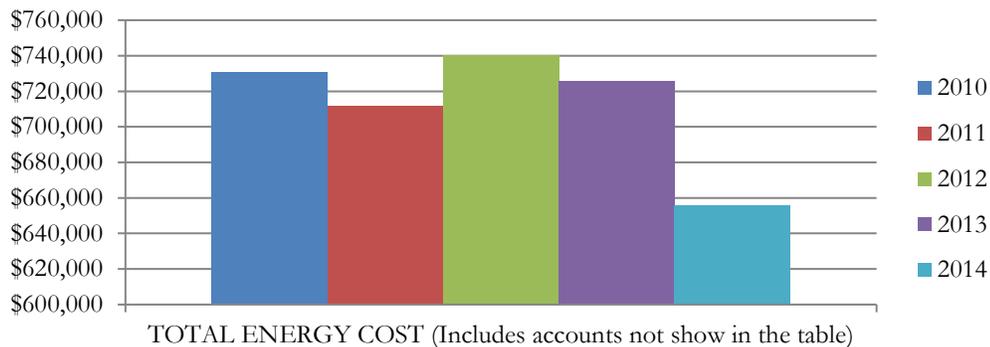
### TMV Government Facility Electricity Use 2010-2014



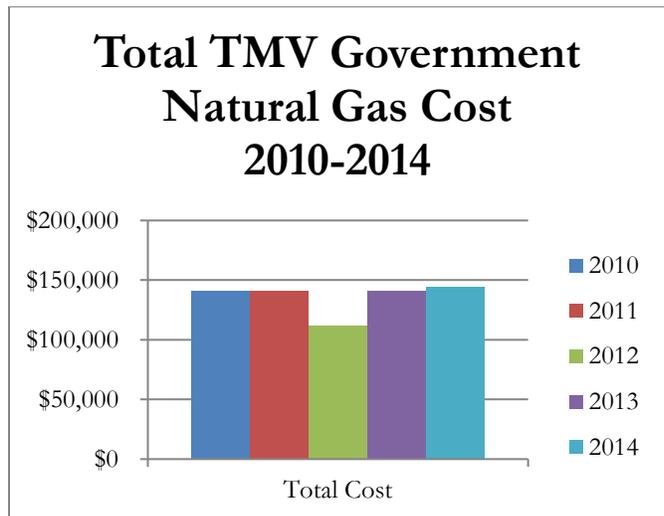
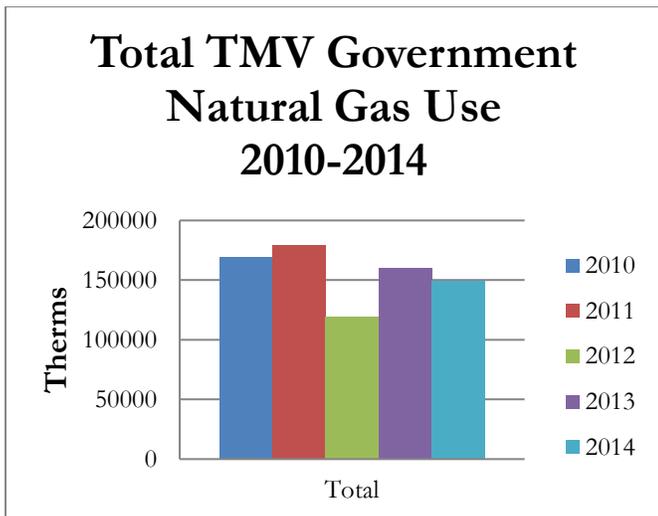
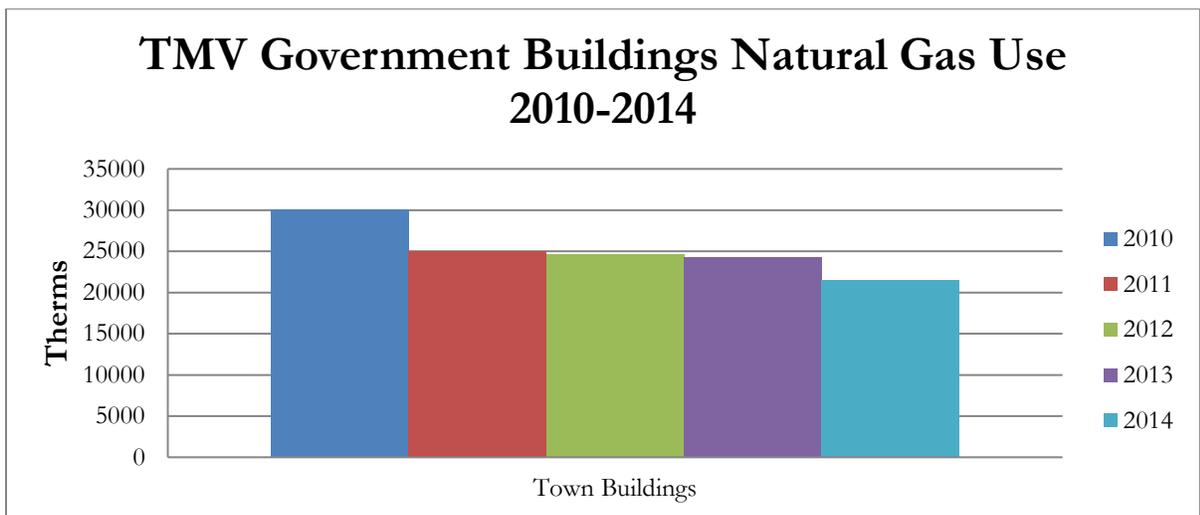
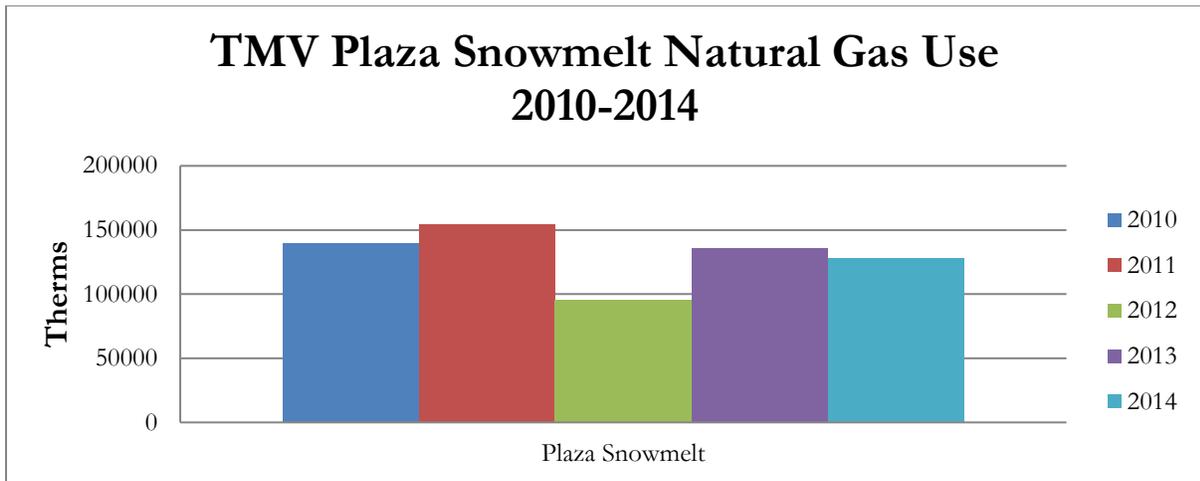
### TOTAL TMV GOV. ELECTRICITY USE 2010-2014



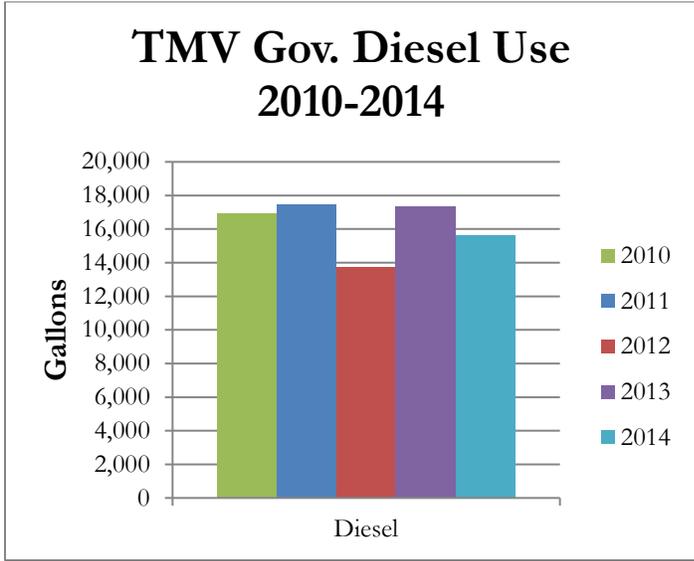
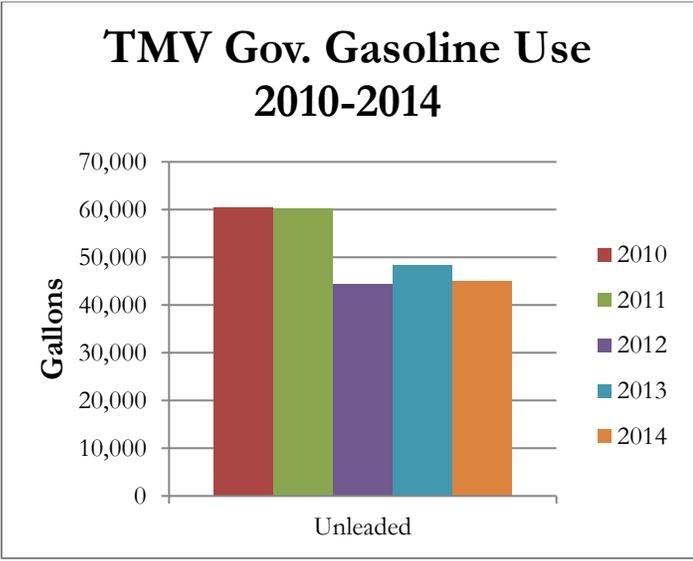
### TOTAL TMV GOV. ELECTRICITY COST 2010-2014



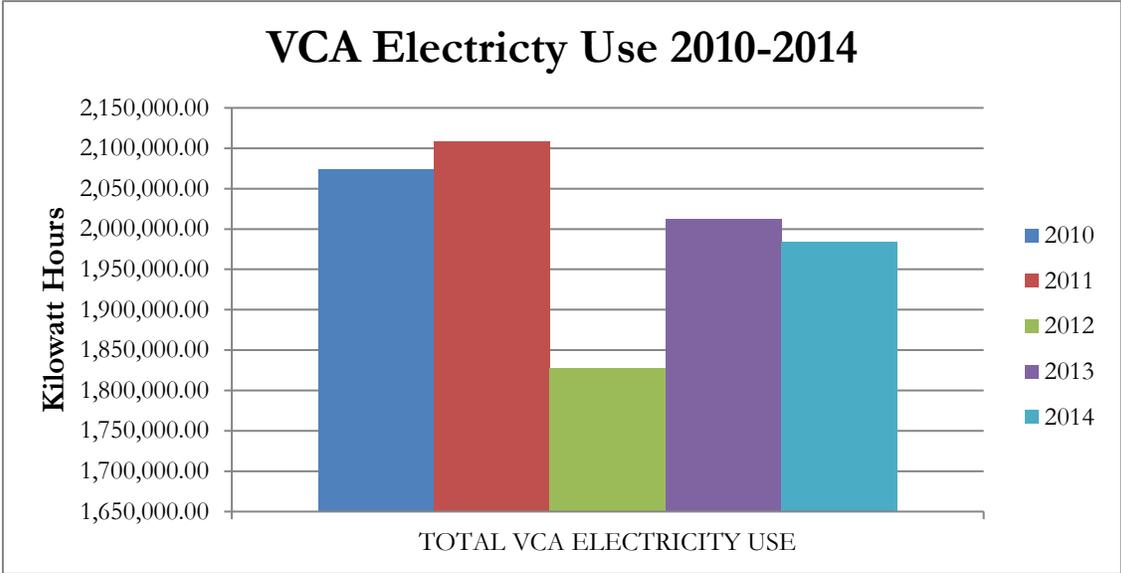
- 2014 electricity use is down 10% from 2013; 10% from 5-year average, and 14% from 2010 baseline.
- 2014 electricity costs are down \$69,585 from 2013; \$56,894 from 5-year average; and \$74,489 from 2010, despite the rising costs of energy and associated fees.



- 2014 natural gas use is down 7% from 2013; down 5% from 5-year average; and down 13% from 2010 baseline. Natural gas use appears to follow trends in the weather.
- 2014 natural gas cost is up \$3,017 from 2013; up \$7,964 from 5-year average; and up \$3,030 from 2010.
- Note: Some snowmelt systems were shut down for certain periods during 2012 for repair and maintenance.
- Note: Facility maintenance staff is exploring options for increasing the efficiency of our snowmelt systems through the advanced use of controllers.

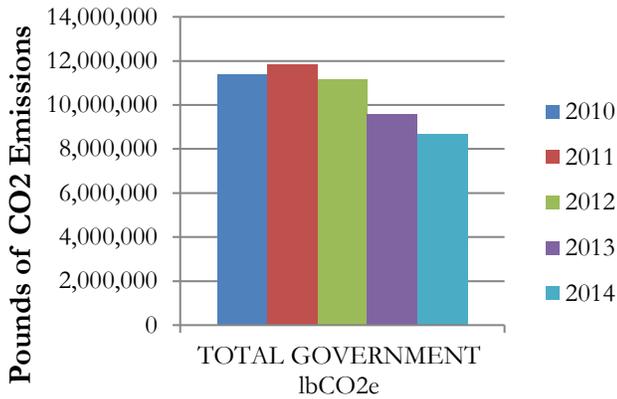


- 2014 gasoline use is down 7% from 2013; down 15% from 5-year average; and down 25% from 2010 baseline.
- Emissions saved from using alternative fuel vehicles for staff and carpool shuttles versus single passenger vehicles for employees has not been included in this analysis.
- 2014 diesel use is down 10% from 2013; down 2% from 5-year average; and down 8% from 2010 baseline. Diesel use appears to fluctuate with the weather for snow removal equipment.

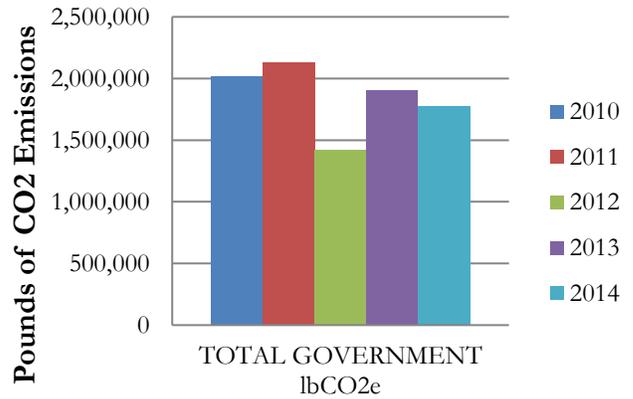


- VCA electricity use is down 2% from 2013; 1% from 5-year average; and 5% from 2010 baseline.
- VCA tenant electricity use is not included in governmental GHG calculations.
- VCA staff is preparing a report that will show if converting the apartment complex to natural gas is economically feasible, and will research projects that could decrease the use of electricity throughout the facility.

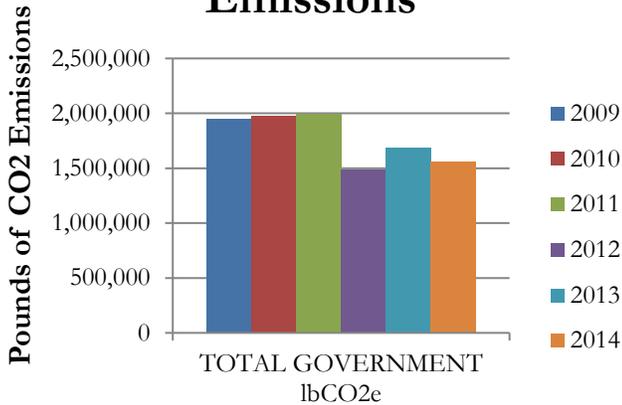
### Government Electricity CO2 Emissions



### Government Natural Gas CO2 Emissions

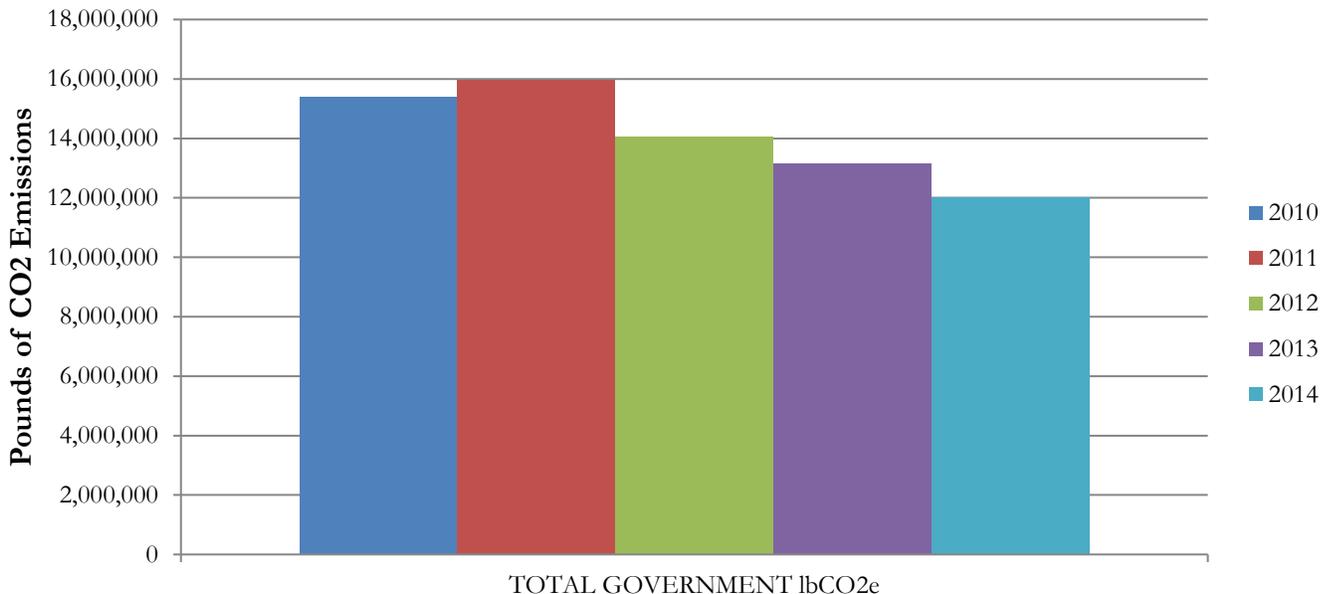


### Government Fuel CO2 Emissions



- Note the higher rate of emissions for electricity compared to natural gas and fuel.
- 2014 CO2 is down 8% from 2013; 13% from 6-year average; and down 22% from 2010 baseline.

### TOTAL TMV Government CO2 Emissions 2010-2014



**TO: MAYOR JANSEN AND TOWN COUNCIL**  
**FROM: DEANNA DREW, DIRECTOR PLAZA AND ENVIRONMENTAL SERVICES**  
**SUBJECT: 2016 BI-ANNUAL REPORT**  
**DATE: MARCH 16, 2016**

**Plaza Services** is responsible for:

- the maintenance and upkeep of the Town's plazas (268,000 sf), lawns (8 acres), irrigation systems, flower beds (140), hanging flower baskets (40) and flower pots (76);
- snow and ice removal in public plazas;
- permitting plaza vehicle access and providing plaza assistance;
- performing public trash/recycling removal in the common areas;
- monitoring and enforcing plaza rules and regulations;
- permitting and management of all special events using public property;
- production and management of Market on the Plaza;
- management of Plaza License Agreements for all Plaza Uses;
- all while providing high quality Guest Services at all times.

**Environmental Services** is responsible for:

- planning and implementing energy, waste, and watershed health conservation projects and programs within the town government as well as throughout the community;
- tracking and reporting government energy use including electricity, natural gas, fuel;
- assisting town departments, residents and businesses to operate in an environmentally-sensitive manner;
- supporting and participating in regional environmental organizations, partnerships and projects.

## **DEPARTMENTAL GOALS and 2016 bi-annual progress report**

1. **Maintain the town's public plazas, lawns and gardens to a high standard of care, safety and guest service in a manner least destructive to the environment.**
  - Logged approximately 1,550 labor hours installing and removing **Town holiday decorations**. Staff is considering a large artificial tree for 2016 holiday season.
  - We are working with Plaza Use Committee to research potential for new **public art installations** and other improvements in public plazas.
  - Logged approximately 877 labor hours performing **manual snow and ice removal** in Sunset Plaza due to current legal restrictions on de-icers and equipment.
  - Performed 509 hours of general landscaping and grounds maintenance labor at the **TSG See Forever** development during 2015.
  - Performed 7,630 sf. of **plaza paver repair** projects in fall 2015.
  - Spent 255 hours of labor managing and **treating noxious weeds** on all town-owned open space parcels including bike park, recreation trails, entrance.
  - Planning to install 2-4 **smart irrigation controllers** on town property to evaluate their effectiveness for water conservation and consideration in a community water conservation incentive program.

2. **Manage third party public plaza uses including Plaza Vehicle Access Permits, Plaza Motorized Cart Permits, Plaza Special Events, Plaza License Agreements, Market on the Plaza and various Plaza HOA and merchant activities with great attention to detail and a high level of customer service.**
- Permitted and managed 13 **special events** in the plazas this winter season.
  - Currently accepting applications for **2016 Market on the Plaza**, where ten outdoor markets will be held from June- August on Wednesday afternoons from 11-4 in Heritage Plaza.
  - Actively managing 20 **Plaza License Agreements** for third party use of public property in the plazas including vending carts, food and beverage patios, ski valets. La Piazza is the only license agreement that is currently not in compliance.
  - Provided approx. **418 complimentary labor hours** of special event assistance in 2015 including the Market on the Plaza events.
  - Issued **148 plaza vehicle access permits** in 2015.
  - Provided 0 hours of for-fee **Plaza Assistance** in the Village Center this winter season.
  - Currently have 4 active **motorized cart permits** for the Village Center: Shamrock Foods, Sysco Foods, Colorado High County Beverage, and TSG Children Ski School.
3. **Educate and assist the staff and community regarding responsible and sustainable use of energy, waste, and natural resources.**
- Installed **80 additional solar panels** (approx. 20KW) on the gondola terminals using Green Gondola Project donations and green building fees. Approximately 3% of the gondola's electricity is currently coming from solar energy on terminals.
  - Terminated the collection of public donations for the **Green Gondola Project** in fall 2015.
  - Re-launching **Relight Mountain Village LED discount program** June 1- July 31 with \$20,000 in pool for residents from town and \$40,000 in pool from SMPA/TriState. This is the third (and final?) year of the program. Bulbs will be delivered to community in late August.
  - Continuing \$.40/watt incentive program for installation of **rooftop solar energy systems** in community with \$12,500 in funds remaining. SMPA offers \$.75/watt rebate for solar systems.
  - Colorado Dept. of Agriculture \$7,500 grant pending for implementation of year 2 **noxious weed control incentive program**, offering 25% of cost of professional weed control services up to \$250 per property.
  - Working with local wildfire professionals to implement **defensible space wildfire mitigation** program in residential community. Incentive is 50% of treatment cost up to \$5,000 per property, with \$100,000 in pool from TMVOA and TMV. Program kicks off with June 10 educational forum at Town Hall.
  - Ongoing **trash and recycling red-tag education** program in community. Since September, we have issued 31 red (formal) or green (friendly) tag notices.
  - The **service contract for residential trash/recycling services** will be re-bid this fall.

#### 4. Seek financial support for departmental programs and projects.

- In 2016 another round of the Relight Mountain Village LED discount program is coming this year with the potential for another **\$40,000 in rebates from SMPA**.
- So far in 2016 town has obtained **\$14,412 in electricity rebates** from San Miguel Power Association/TriState to be re-spent on energy projects in town facilities.
- The building department collected **\$25,130 in energy mitigation fees** so far in 2016. These funds are currently earmarked for renewable energy projects on town facilities.
- We are promised **\$50,000 from TMVOA** to be delivered as financial incentives to residents for implementing defensible space wildfire mitigation treatments on their properties.
- **\$7,500** grant pending from Co. Dept. of Agriculture for 2016 (year 2) community noxious weed incentive program.
- 2016 grant funds are available from Colorado Energy Office for **electric vehicle charging stations**. Our current charging station is a slow charge (240 volt); we may consider a grant application for adding a fast charging station (450 volt +) for our guests.

#### 5. Operate department within adopted budget.

- We ended the 2015 year approximately **10 percent** under budget while absorbing additional roles and responsibilities into the department.

As always, input is welcome and appreciated.

Thank you.

**TO:** MAYOR JANSEN AND TOWN COUNCIL  
**FROM:** DEANNA DREW, DIRECTOR OF ENVIRONMENTAL SERVICES  
**SUBJECT:** 2016 DEFENSIBLE SPACE WILDFIRE MITIGATION PROGRAM FOR RESIDENTS  
**DATE:** MARCH 16, 2016  
**CC:** DAVE BANGERT, TOWN FORESTER

---

## **BACKGROUND**

The Town of Mountain Village considers the outdoor environment our community's primary asset and has recently implemented a variety of programs that encourage property owners to protect and preserve our natural resources and quality of life.

These incentive programs have successfully educated and engaged our constituents regarding various ecological topics including energy efficiency and conservation, renewable energy, and noxious weeds control. To date, over 200 Mountain Village residents and/or business owners have voluntarily participated in our community incentive programs.

Now, it is time to address one of the greatest threats to our environment and livelihood: wildfire.

Wildfire is a real and present danger that threatens not only our forests, wildlife, air quality, rivers and streams but also human life and safety. Wildfire threatens our homes and properties and has significant financial implications related to insurance policies and property values.

Wildfires have been breaking records in the US: in 2015, 46,347 wildfires burned over 10,125,149 acres of forested lands throughout the nation. The cost for fighting these fires exceeded \$1.7 billion dollars. Please take 12 minutes of your time to view this excellent video that explains the altered patterns of Colorado wildfires due to climate change and the increased risks wildfires pose to our communities: <https://vimeo.com/117534959>

## **WHAT IS DEFENSIBLE SPACE?**

Forest and fire management agencies encourage individuals and groups to be proactive in their efforts to create *defensible space* and reduce hazards from wildfire and falling trees around homes, businesses, utilities, infrastructure, and other high-value properties. Defensible space is an area in which fuels and vegetation are treated, cleared or reduced to slow the spread of wildfire toward a structure. Defensible space also can reduce the chance of a structure fire spreading to the surrounding forest and provides a safer area for firefighters to do their jobs. A home is more likely to survive a wildfire if grasses, brush, trees and other forest fuels are managed to reduce a fire's intensity, and there *may* also be benefits from insurance companies for homes that have implemented defensible space recommendations on their properties.

In 2016, Town and TMVOA are together providing a Defensible Space Incentive Program to the community. This program supports the Defensible Space Guidelines outlined in the Mountain Village Wildfire Mitigation Regulations adopted in 2010 and supported by state and federal forest managers.

## INCENTIVE PROGRAM DETAILS

Funding: Mountain Village and TMVOA partners have committed \$50,000 each (\$100,000 total) in their respective 2016 budgets for distribution to residents as financial incentives for this program. Costs to implement defensible space for a Mountain Village home may be costly due to the steep and forested nature of our community.

The incentive funds will be distributed as 50% of the treatment cost up to \$5,000 per property.

Funds are distributed on a first-come, first-served, reimbursement basis. In 2016 this program will be offered to residential properties only, however, if successful could be expanded to include larger open space parcels in the future. In addition, because both federal and state governmental agencies recognize the severe threat that wildfire poses to our community, this program could qualify for grants from the West Region Wildfire Council and the Colorado State Forest Service in subsequent years if successful.

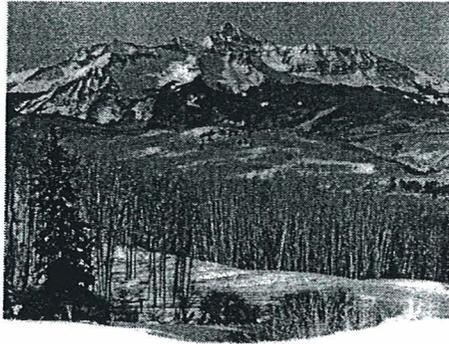
Program Administration: Implementation and administration of the defensible space incentive program would be performed by town staff including Town Forester, Environmental Services Director, and Director of Marketing. Program finances will be managed by the town Finance department. Labor costs to implement and administer the program will be absorbed using existing departmental budgets and will not come from incentive funds.

Program Partners: Partners for this important project include TMVOA, West Region Wildfire Council (WRWC) Telluride/Mountain Village Fire Protection District, Colorado State Forest Service, San Miguel County Sheriff's Office, United States Forest Service, Bureau of Land Management, and more.

### General Steps for Program Implementation:

- In May, over 700 residential properties in the community will be mailed a postcard alerting them to their individual vulnerability to wildfire and inviting them to a public educational forum (June 10) regarding the dangers of wildfire, the town's wildfire mitigation regulations, and defensible space incentives.
- After the forum, interested property owners will schedule a FREE site visit and consultation with the Town Forester and WRWC Wildfire Mitigation Specialists. Homeowners will be educated about "Home Ignition Zone" vulnerabilities and mitigation actions that can increase a home's wildfire resiliency. The town forester will evaluate the site, explain the town's Wildfire Mitigation Plan and vegetation removal procedures, prepare the scope of work and estimate costs to implement defensible space guidelines on property.
- Prescriptions for disposal of cut wood and slash will vary depending on property and property owner's wish. Cut wood may be disposed of at the roadside of the affected property or in a central location on town property. Town will announce available wood to the region for firewood gathering.
- Property owners will solicit bids, acquire town permits, and engage a qualified mitigation contractor to implement the defensible space project on their property per approved specs, with oversight from Town forester and partner agencies.
- Once the project is signed off by the Town Forester, the property owner pays the contractor and submits evidence of completed treatment to town staff to obtain rebate. The Defensible Space Incentive Program will provide funding for 50% of the cost- up to \$5,000 per project. The West Region Wildfire Council is contributing \$500 to the incentive program for each completed defensible space project (up to \$10,000) in 2016.

**To learn more about wildfire, defensible space, and the new 2016 Mountain Village incentive program, and to schedule a free professional site visit on your property, please plan to attend (or watch on the web) the Friday June 10 launch of the program at Town Hall from 10 am – 12 pm.**

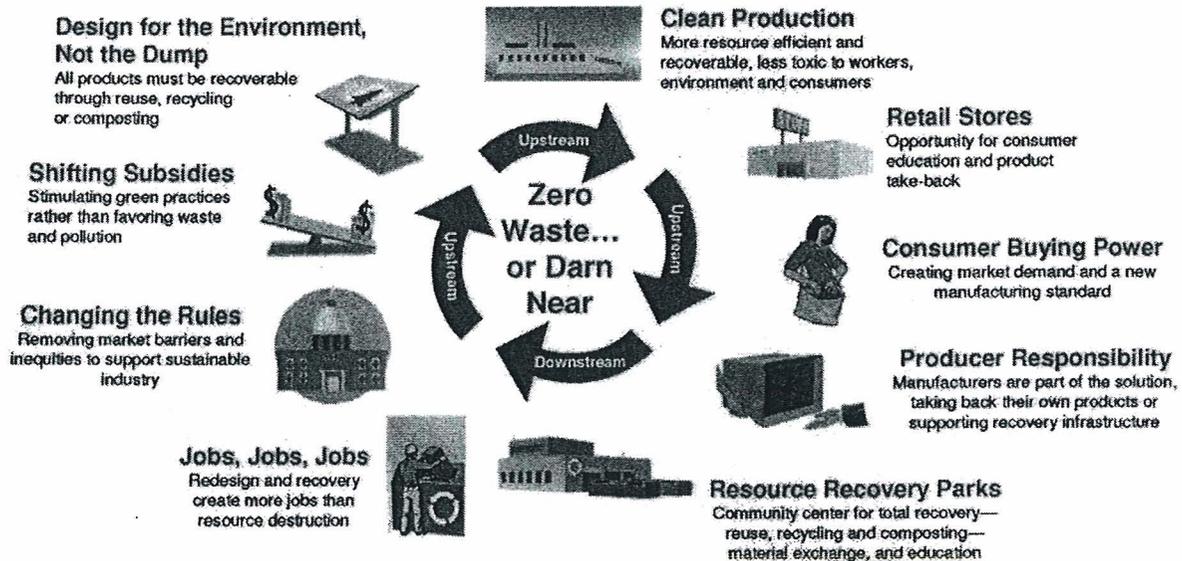


# Zero Waste Action Plan

## For Mountain Village, Telluride and San Miguel County, CO

### The Zero Waste Economy

Designing a Full-Cycle System—Upstream AND Downstream



© Copyright, Eco-Cycle 2005  
[www.ecocycle.org/zerowaste/zwsystem](http://www.ecocycle.org/zerowaste/zwsystem)

## August 8, 2008

Prepared by Gary Liss & Associates  
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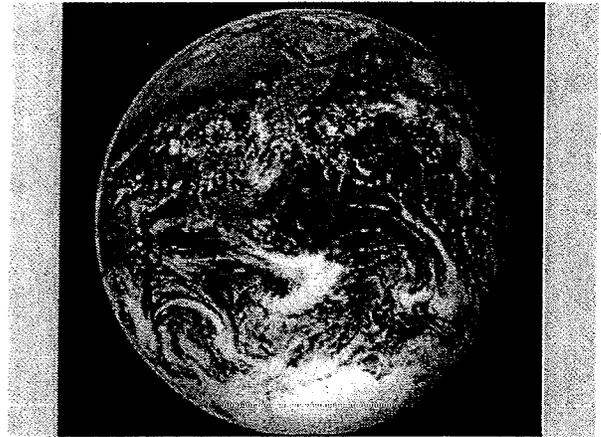
# Acknowledgements

Gary Liss & Associates (GLA) wrote this Plan, with funding provided by the Town of Mountain Village and The New Community Coalition. GLA would like to acknowledge the leadership of Kris Holstrom and The New Community Coalition, who recognized the need for this Plan. Kris made all the arrangements to engage our firm, showed us all the existing facilities and services for solid waste, reuse and recycling in the area, and convened meetings with Town Councils of both Telluride and Mountain Village and with the community and stakeholders in the area. Through this extensive engagement process in February 2008, GLA obtained the information needed to develop this Plan. In addition, GLA obtained significant information from the San Miguel County Sustainability Inventory Prepared by ICLEI (Local Governments for Sustainability U.S.A.) in 2006.

## Partners for a sustainable future...

The success of this Plan will depend upon effective communication and active engagement with each of the stakeholders to harness their interest and energy to turn local solid waste problems into solutions about pressing problems such as climate change.

The New Community Coalition is committed to identifying, coordinating, and implementing sustainability projects in Telluride, Mountain Village, and San Miguel County. The Coalition recognizes community as the key ingredient in our quest for a positive vision of the future. The quality of interactions among all members of the community — businesses, governments, individuals, and organizations — will define the region's ability to adapt to an energy-constrained future and the unpredictable nature of global climate change. By stimulating interest and dialogue in the pressing issues of our time, the



Coalition hopes to herald a new paradigm of interactions among all members of the community. The Coalition envisions community collaborations to increase our energy efficiency, re-localize our economy and food sources, develop a greener built environment, reduce our carbon footprint, and expand educational resources. For more information, go to: <http://www.newcommunitycoalition.org/index.html>.

# 1 Executive Summary

---

In 2007, Telluride, the Town of Mountain Village, and San Miguel County signed an intergovernmental agreement to fund a Sustainability Coordinator that would identify, coordinate and implement projects and ideas that promote regional sustainability. As a result, The New Community Coalition (Coalition), a 501(c)(3) nonprofit, was formed to oversee the Sustainability Coordinator and projects. A Resource Recovery/Recycling Working Group and action plan have since been created with the goal of reducing the amount of waste leaving the community, creating new jobs and business opportunities by using “wastes” as resources, and managing hazardous wastes in a responsible manner.

One of the Resource Recovery/Recycling Working Group’s first tasks was to create a Zero Waste Action Plan for the community. The Coalition and the Town of Mountain Village hired Gary Liss & Associates (GLA), a Zero Waste consultant, to develop this Plan. GLA looked at existing services, garbage rate structures, and services needed for expanding reuse, recycling and composting in the region.

After review of the local solid waste, reuse and recycling system, there are a number of services that stand out as critical to moving forward with the Zero Waste goal in this region:

- ◆ **Composting** - A composting facility is needed to compost all organics, including yard trimmings, food scraps and food-soiled paper
- ◆ **Resource Recovery Park** - More efficient recycling operations are needed to process reusables and recyclables from the region, including recyclables from construction and demolition debris, ideally in a Resource Recovery Park design
- ◆ **Solid Waste System Redesign** - Garbage contracts, rate structures and services provided need to be revised to provide incentives to all involved to move to Zero Waste (as detailed above).

To move forward to implement the Zero Waste Plan, the region needs to address these issues as priorities. The purchase of a baler and composter for the Sunrise Resource Recovery Park would enable the Telluride region to dramatically address two of these key challenges. This would reduce the region’s carbon footprint by not only reducing volumes of waste but by reducing the miles traveled to haul waste to the closest landfills in Montrose County. The third challenge needs to be addressed by leadership provided by TNCC, working with staff at the Towns of Telluride and Mountain Village and San Miguel County. This will require someone full-time at TNCC to work on these and outreach and education functions identified for TNCC in this Plan.

In March 2008, TNCC and Sunrise LLC jointly applied to the State of Colorado for a grant from the Recycling Resources Economic Opportunity Grant Program. In May 2008, the State notified TNCC and Sunrise that they had been awarded the grant. As a result, a majority of the funding to initially implement this Plan has already been arranged by TNCC

## Mountain Village, Telluride and San Miguel County Zero Waste Action Plan

Properly designed avoided collection and disposal costs can become the economic engine that drives the system to Zero Waste. Direct disposal cost savings alone at \$50/ton could generate up to \$450,000 each year for the region to offset expanded costs of Zero Waste initiatives, once those savings are factored into economic evaluations. The value of the materials currently disposed is over \$330,000 each year<sup>1</sup>. If each of the materials were recovered completely and not thrown away, the benefit to the region would be the combination of the value and avoided disposal costs, or close to \$780,000 each year. This represents the budget for implementing Zero Waste in the region.

**If the region could implement all the programs and policies recommended in this ZWAP for less than \$780,000 per year, it would be environmentally and economically much more sustainable.**

The policies and programs recommended will make it more economic to eliminate, reuse, recycle or compost waste, than to dispose of it in landfills. This ZWAP has sought to find homes for all materials generated, with a focus on local solutions. As some wastes are more challenging to eliminate, reuse, recycle, or compost than others; options are proposed to work with the producers of those products and packaging for them to assume responsibility for them, or to ban them from sale or disposal in Telluride, Mountain Village and San Miguel County.

By adopting policies as recommended, the Towns of Telluride and Mountain Village and San Miguel County can help everyone benefit that eliminates and recycles waste, and let those who choose to waste pay higher fees for those services. The local governments can have major impacts in defining what is economic, through the policies adopted in Ordinances, contracts, permits, zoning, and rate structures.

This ZWAP also calls upon retailers and producers to assume responsibility to reuse, recycle or compost difficult to recycle products and packaging that they sell in the area. Once the costs of reuse, recycling and/or composting are incorporated within the purchase price of the products, this becomes a self-funding system, and is one of the most powerful opportunities to move towards Zero Waste.

Businesses also need to know that the City is committed to the goal of Zero Waste before they invest substantial resources in their operations. Therefore, the most critical policy of all is for the Towns and County to adopt the Zero Waste goal, and to ask all stakeholders in the community to participate in working towards the goal. This ZWAP proposes that striving for Zero Waste means that The region will work strategically and diligently to get to Zero Waste *or Darn Close*<sup>2</sup>, by 2025. This ZWAP proposes the adoption of interim goals of 50% diversion of solid waste from landfills and incinerators by 2011 and 75% diversion by 2018. These dates were selected to be one year after the Towns of Telluride and Mountain Village and San Miguel County implement their next solid waste and recycling contracts.

With vision and commitment, this region could become a leader of sustainability and enhance the region's ability to attract those who value the environment in this way.

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<sup>1</sup> See Table 1.

<sup>2</sup> Diverting over 90% of the region's waste from landfills and incinerators compared to the base year in which the Plan was adopted.

## 2 Existing Services

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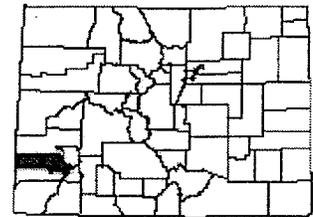
### 2.1 Background

Established in 1887, Telluride currently is home to approximately 2,200 permanent residents year-round. It is one of only 4 towns in Colorado that has been designated a National Historic Landmark District. The Town of Mountain Village was founded one hundred years later (in 1987) and is now home to approximately 1,250 permanent residents year-round. The total population of San Miguel County is about 7,500. However, the area serves about 550,000 visitors year-round.

Telluride sits at the west end of San Miguel County amid the San Juan Mountains and the Uncompahgre National Forest on the western-most edge of Colorado and the Rocky Mountains. Telluride has a traditional compact downtown of 50 square blocks of mostly mining-era buildings with a rich history. Telluride is in a box canyon that is highlighted by the spectacular 365-foot Bridal Veil Falls, which is Colorado's tallest free-falling waterfall. Telluride is at elevation 8,750 feet and is ringed by 12,000- to 13,000-foot mountain peaks, which attract tourists for both winter and summer recreation activities. At 9,078 feet above sea level, the Telluride Regional Airport is the highest commercial airport in North America. Ski Magazine rates Telluride in the Top 10 ski resorts in North America<sup>3</sup>.

Telluride hosts a unique event almost every weekend in the summer, which attract thousands of tourists, including: Mountainfilm, Jazz Celebration & Balloon Rally, Bluegrass Festival, Wine Festival, Blue & Brews, Telluride Film Festival, Oktoberfest, Talking Gourds Spoken Word Festival, Wild West Fest, Mushroom Festival and Tech Fest. Telluride and Mountain Village host a continuous stream of festivals during the summer months.

Mountain Village was developed to resemble a European alpine community (like Zermatt), just south of Telluride ski area's 1,700 acres. It was first developed as a Planned Unit Development in San Miguel County, adjacent to Telluride. It was incorporated as its own Town in 1995. The Mountain Village Core is a pedestrian-friendly area, which is linked to Telluride by the only free gondola system in North America serving over 2 million riders per year. The gondola serves as the main transportation vehicle between the communities (an easy 12-minute commute between them), and services all the ski slopes of both communities.



San Miguel County in Colorado

San Miguel County is 1,287 square miles, extending from the San Juan Mountains in the east to the Utah border. The population of the County was 7,222 in 2004, and is projected to increase to 8,693 by 2010<sup>4</sup>. Telluride is the County seat of San Miguel County. The population is primarily located in the Towns of Telluride and Mountain Village. The County also includes the towns of Ophir, Sawpit and Norwood.

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<sup>3</sup> Source: <http://visittelluride.com/telluride/content/view/149/252/>

<sup>4</sup> Source: [http://www.sanmiguelcounty.org/portal/page?\\_pageid=117,145130&\\_dad=portal&\\_schema=PORTAL](http://www.sanmiguelcounty.org/portal/page?_pageid=117,145130&_dad=portal&_schema=PORTAL)

## Mountain Village, Telluride and San Miguel County Zero Waste Action Plan

Other communities in the County are Placerville, Egnar and Slickrock. About two-thirds of the lands in the County are public federal or state lands.

The population of this area greatly expands during the ski season and summer festivals. The Telluride Tourism Board estimates that about 550,000 tourists a year visit the area (both overnight and day visitors).<sup>5</sup> Skier visits are expected to reach 450,000 during the 2007/2008 winter season, and summer festivals can attract more than 10,000 people per day.

Climate change poses a serious threat to the regional economy as well as to its environment and quality of life. Telluride and Mountain Village are actively working to reduce their carbon footprint and to reverse climate change. In the past few years, Telluride has signed on to The Canary Initiative, The U.S. Mayors Climate Protection Initiative, and the Rocky Mountain Climate Organizations, and worked with ICLEI (Local Governments for Sustainability) to develop a Sustainability Inventory for the region<sup>6</sup>.

Historically, the economy of the region was primarily based on mining and agriculture. The primary economic engines now are recreation and tourism and the associated real estate and construction industries. There has been a surge in second home ownership associated with the expansion of the Telluride Ski Area and the Mountain Village resort development. In San Miguel County, construction jobs comprise seven percent of all jobs, and construction is the top employment sector exceeded only by accommodations, food services and government jobs.

Telluride and Mountain Village host a continuous stream of festivals during the summer months, which attract thousands of tourists. These festivals, although vital to the resort economy, produce an enormous amount of trash and compostable waste. The Town of Telluride, the San Miguel Regional Recycling Task Force and TNCC have been working with festivals to require and facilitate recycling and composting. The Telluride Bluegrass Festival, attracting over 10,000 attendees a day for 4 days, has been able to reduce its trash by 50% as a result of voluntary recycling and compost collection sites staffed by volunteers.

The region has many restaurants, boutiques, recreation stores, heritage hotels, bed and breakfasts and full service resorts. Some of the major attractions that draw people to The region include: hiking, mountain biking, climbing, golf, canoeing, kayaking, fishing, skiing (cross-country and downhill) and snowboarding, along with spectacular mountain views.

Zero Waste could contribute to the region becoming a focus for eco-tourism. In fact, the Telluride Tourism Board has already indicated its support for such an initiative. One of the driving forces for the adoption of Zero Waste in New Zealand was that country's desire to strengthen tourists' perception of New Zealand as dedicated to maintaining the highest environmental standards. Increasingly, conference organizers are asking potential site locations for future conferences about their Green policies and programs. The region has always attracted those who value the environment in this way and could

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<sup>5</sup> Email communication from Scott McQuade, Telluride Tourism Board, April 28, 2008.

<sup>6</sup> See Appendix C

expand upon that, like the Olympics did when they added “Environmental Stewardship” as a core value in organizing the Olympics. With leadership in Zero Waste and other sustainability initiatives, the region could also demonstrate to visitors policies and programs that would be good for them to bring back to their own communities to replicate. This could amplify the region’s impact dramatically in the world.

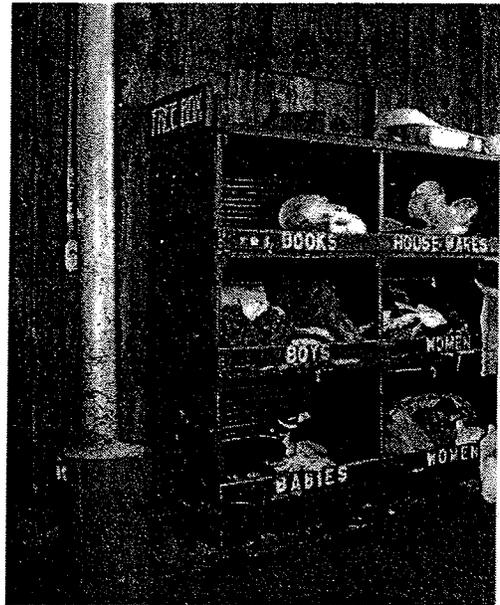
## 2.2 Service Opportunity Analysis

In a Zero Waste systems approach, one of the first steps is an inventory of the services that are currently provided to collect or receive materials generated in the area. GLA obtained input from The New Community Coalition on a Service Opportunity Analysis form, and from other stakeholders and service providers through the course of its research. This analysis identified how average residents or businesses would have their products or materials collected, received and/or processed for reuse, repair, recycling and composting. This analysis included products or materials that generators had to self-haul to reuse, recycling or composting facilities, as well as collection services provided by government, private or nonprofit service providers. It also identified products or materials where residents or businesses are able to take those back to where they bought them. The following is a summary of that information.

## 2.3 Reuse Services

Many reusables are dumped at the “FreeBox,” a unique Telluride tradition. Located downtown along a side street, the “FreeBox” is a set of large shelves on the side of a building where people donate all types of reusables, and they are available for free for anyone to take them away. Unfortunately, the FreeBox attracts too much stuff, that is either unusable, or not taken. As a result, the Town of Telluride is now paying over \$50,000 per year to haul these materials away and to dispose of them properly.

Appliances and “white goods” are collected via spring clean-up activities and once/year with household hazardous wastes. Usable textiles are reused by Pip’s consignment store in Telluride and the Second Chance store in Ridgeway. A limited amount of textiles is placed in the FreeBox. Books are donated to the library for reuse, and placed in the FreeBox. A very limited amount of used building materials are taken to the Construction Depot or the new ReStore (of Habitat for Humanity) in Montrose. These facilities are located within blocks of each other, and attract similar types of donations.



## 2.4 Recycling Services

Waste Management (WM), which has the current exclusive franchise to provide curbside recycling in the Town of Telluride, hauls recyclables to Grand Junction. WM has a materials recovery facility (MRF) in Grand Junction that can process single-stream recyclables (commingled papers and containers). Bruin

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Waste contracts with Sunrise<sup>7</sup>, LLC for all of its recycling services. Bruin and Sunrise provide recycling services to about 60% of the region (Town of Mountain Village, Ophir, Lawson Hill, Sawpit, Placerville), 95% of Ridgway and 20% of the Town of Telluride.

Bruin (contracting through Sunrise) estimates that it collected 1,420 cubic yards of recyclables (commingled, paper, and cardboard) in 2007. Waste Management estimates that it collected 2,340 cubic yards of recyclables for the Town of Telluride, which is its primary service area for recycling. The total amount of recyclables diverted from landfills is 3,760 cubic yards, or only 8% of total waste produced.<sup>8</sup> This percentage may be a low estimate; however, it indicates that the region has much room for improvement in the area of recycling. Further, visitors often ask why it is so hard to recycle when they are here as they often come from other locations in the country where recycling services are more prevalent. One of the challenges has been to institute recycling programs with resort lodges.<sup>9</sup>

Both Waste Management, Inc. and Bruin collect recyclables for an extra fee. Curbside recycling services<sup>10</sup> include the following materials:

- ◆ Newspapers
- ◆ Glass bottles and jars
- ◆ #1 and #2 Plastic bottles
- ◆ Aluminum and tin cans
- ◆ Cardboard boxes
- ◆ White and colored paper
- ◆ Magazines
- ◆ Junk mail (including windowless envelopes)
- ◆ Brochures and pamphlets
- ◆ Computer printouts
- ◆ Carbonless receipts

There are generally three categories of recyclables for commercial customers: 1) corrugated cardboard (broken down and stacked neatly next to the rolling carts); 2) white paper and newspaper; 3) aluminum, glass, plastic and steel/tin cans. Bottles and jars must be rinsed; plastics #1 and #2 are acceptable, but do not include lids; papers are not to be bundled or tied. If cardboard is not broken down, this is a fee for its collection. Special pick-ups include metal, wood or plastic crates and other bulky non-compactible materials.



People may also drop off recyclables at the VCA (Village Court Apartments), Montrose Recycling Center, or in convenient recycling containers located throughout the public areas in the downtowns of Telluride and Mountain Village. Most of these public recycling containers are limited to bottles and cans only, with some locations also having public containers clearly labeled for newspapers only.



Telluride Gravel has cement and excavating crushers that could be used for more construction and demolition recycling activities in the future. The State highway spur to Telluride used recycled asphalt in the project's mix. More specification of

<sup>7</sup> Sunrise = San Juan Uncampaghre Natural Resources and Industrial Services for the Environment

<sup>8</sup> Source: Recycling Resources Economic Opportunity Grant Program, FY 09 Project Application, pages 4-5.

<sup>9</sup> Source: Recycling Resources Economic Opportunity Grant Program, FY 09 Project Application, page 3.

<sup>10</sup> This is list from Waste Management. Bruin collects similar materials.

that type of use could stimulate the recycling of concrete and asphalt products in the area.

There are significant costs in hauling materials to recycling centers in Grand Junction and Denver. In Montrose, there is a major metals recycler, Recla Metals that buys recycled metals (including auto bodies) from the region, and has a rail connection for shipping large volumes to major markets. However, they do not handle other recycled materials. There are also two construction and demolition (C&D) recyclers in Montrose – the Construction Depot and the Habitat for Humanity ReStore. Both of these locations specialize in the reuse of C&D products, and don't handle large volumes of C&D materials for recycling by grinding or other processing.

Some businesses indicate that some of the recycling services are provided sporadically and result in overflowing containers. Given the market conditions, it is to the credit of existing recyclers that they collect similar types of materials as accepted by other communities around Colorado. By adjusting some of the costs for wasting as proposed below, the economic viability of recycling could be enhanced considerably.

## 2.5 Composting Services

Sunrise LLC provides valuable services to reuse dead trees or trees cut for fire mitigation as a resource for building trails, for firewood, for fencing posts, for landscaping chips, as well as selling logs to local mills. Sunrise is now able to provide local resources to substitute for mulches used in local construction projects that were coming from as far away as Montana and Idaho.

Sunrise bought the first wood chipper in San Miguel County and began chipping wood material for use on the trails in addition to using logs for lining trails. Needing a place to stockpile wood products and equipment, Sunrise purchased the site of its proposed Resource Recovery Center in the Ilium Valley Industrial Park.



Tree trimmers now also haul prunings, branches and stumps to either Sunrise or Fennbro Construction for chipping. Landscapers locally often use mulching mowers as well.

However, there is no *collection* system currently for yard trimmings or other organics from residents and businesses on a regular basis. There is also no on-going compostables processing system in the region. There have only been temporary composting operations set up for special events on a very limited basis.

The festivals organized throughout the region produce an enormous amount of trash and compostable waste. The Town of Telluride and The New Community Coalition have been working with festivals to require and facilitate recycling and composting. The Telluride Bluegrass Festival, attracting over 10,000 attendees a day for 4 days, has been able to reduce its trash by 50% as a result of voluntary recycling and compost collection sites staffed by volunteers. Unfortunately, the composting has been done at temporary facilities and cannot be done on a continuous basis this way.

## 2.6 Solid Waste Services

Currently in San Miguel County, there are two private haulers for collecting solid wastes: Bruin Waste and Waste Management. They are both located in Montrose County and service commercial and residential refuse needs of the region from there. San Miguel County uses Broad Canyon, a private landfill near Naturita (about 50 miles from Telluride and Mountain Village) in west Montrose County, for about 20% of its trash. Both haulers haul the remaining 80% of waste from within San Miguel County to the Montrose County landfill (about 75 miles from Telluride and Mountain Village).

Waste Management estimates commercial and residential trash from the region at 23,500 cubic yards of compacted refuse annually. Bruin estimates 25,300 compacted cubic yards of total waste hauled annually. Therefore, the region currently generates approximately 48,800 compacted cubic yards of waste annually<sup>11</sup>, or about 9,000 tons per year<sup>12</sup>. Waste volumes increase in the summer months with the festivals and active construction season adding significantly to the waste stream.

Unincorporated County and Norwood customers are not required to have trash pick up service. They have the option of taking their refuse to the regional landfill or to the County-owned transfer station west of Norwood. Most of the unincorporated subdivisions in the County have centralized trash enclosures for residents. Ophir residents have a centralized facility for trash and recycling serving the whole community. There is no curbside recycling offered anywhere in unincorporated San Miguel County or in Norwood.<sup>13</sup>

A sample of the typical garbage rate structures in the region is that of Waste Management for Telluride, effective April 1, 2007:

**Table 1 - Telluride Garbage Rates**

<b>SERVICE</b>	<b>Bi-Monthly Rate</b>
<b><u>Residential</u></b>	
65-gallon trash container with recycling	\$47.38
95-gallon trash container with recycling	\$51.22
18-gallon recycling bin only – 1 bin	\$15.16
18-gallon recycling bin only – 2 bins	\$28.32
<b><u>Commercial</u></b>	
95-gallon recycling container – 1	\$36.76
95-gallon recycling container – 2	\$71.52
95-gallon recycling container – 3	\$106.28
3-cubic yard dumpster for cardboard recycling	\$104.00

<sup>11</sup> Source: Recycling Resources Economic Opportunity Grant Program, FY 09 Project Application, page 4.

<sup>12</sup> Assuming a density of 370 pounds per compacted cubic yard.

<sup>13</sup> Source: San Miguel County, Sustainability Inventory, Prepared by ICLEI – Local Governments for Sustainability U.S.A., 2006

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All rates are based on weekly pickups and are billed bi-monthly. Residential trash and recycling pickups are on Thursday and commercial recycling pickups are on Mondays. The Town of Telluride provides billing on the water bills. Waste Management pays Telluride a fee for providing that billing service. In the event that customers do not pay their bill, the Town may stop all their water service.

In Telluride, the City requires all businesses to pay for recycling service, and recycling services are provided as part of the core services. However, businesses are NOT required to actually participate in the recycling programs. Prior to 5 years ago, Bruin Waste did not offer recycling services. As a result, the Town of Telluride has a unique contract structure for its competitive procurement of solid waste services. The Town has selected one hauler to provide the residential solid waste and recycling services, and to have the exclusive contract for recycling services at businesses. The Town allows businesses to select their own waste hauler. The current exclusive contract in Telluride is with Waste Management, which expires in 2010. Five years ago, Bruin began offering recycling services through a subcontract with Sunrise, LLC. If a business wants to use recycling services of Bruin and Sunrise, they are able to do so, but have to pay Waste Management for offering recycling services as well. The Town solicits new contracts for solid waste services every 3 years, as they consider solid waste to be subject to local procurement requirements that no contract exceed 3 years in length.

Interestingly, the San Miguel Power Association (SMPA) operates in the same region providing electric services. SMPA is bound by contracts that must be re-negotiated every 10 years under CO law that governs such services.

In Norwood, San Miguel County owns a Transfer Station with a drop-off recycling center. The current 4-year contract for that operation expires in June 2010.

The Town of Telluride Department of Public Works indicated that it hauls wastes from street sweeping and wastes from City construction activities directly to the Broad Canyon Landfill in Montrose. They pay \$8 per cubic yard there, or about \$50 per ton for disposal<sup>14</sup>.

The Town of Mountain Villages operates a Transfer Station in their core area (see picture on right). This includes a compactor for corrugated cardboard

Waste Management operates a Transfer Station that is located in the Ilium Valley Industrial Park, down the hill, directly below the Sunrise LLC facility. This Transfer Station primarily serves to compact the Municipal Solid Waste collected in the area into larger vehicles for shipping to landfills 50-75 miles away.



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<sup>14</sup> This assumes a density of about 320 pounds per cubic yard. This is the disposal rate that is charged for wastes received from the public at this facility as well, and is the basis for other avoided disposal cost calculations in this Plan.

San Miguel County operates a Transfer Station at Norwood that provides many valuable services. This station is open to all San Miguel County residents. Many Montrose County residents also use the facility, as it is on their way to or from work for those commuting from Montrose County to Telluride or Mountain Village. This Transfer Station recycles aluminum cans, glass and newsprint paper, but not white or glossy paper or plastics.

## 2.7 Special Wastes and Household Hazardous Wastes

Special Wastes include:

- ◆ Ash
- ◆ Sewage Solids
- ◆ Industrial Sludge
- ◆ Treated Medical Waste
- ◆ Bulky Items
- ◆ Tires
- ◆ Remainder/Composite Special Waste

Sewage solids (also known as sludge or biosolids) are spread on non-food producing agricultural lands in Montrose County. Bulky items and tires are collected as part of Spring and Fall Clean-ups.

Telluride currently accepts Household Hazardous Wastes (HHW) dropped off at designated locations during Spring Cleanups, with support of San Miguel County. In other communities, permanent drop-off locations have become the state-of-the-art so that HHW can be dropped off whenever the need arises, rather than waiting for once a year service. Even with these state-of-the-art drop-off programs, only 1 to 10% of all HHW are collected through these programs. This highlights that the system is broken, and a new system is needed that is more effective and harnesses the forces of the marketplace to collect materials and design wastes out of the system.

## 3 Service Opportunities

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The following list clearly identifies products and materials for which additional reuse, recycling or composting services are needed. The following materials are not accepted in current area recycling programs:

### Recyclables

- ◆ Telephone books
- ◆ Books
- ◆ Colored paper (Bruin does not accept; WM does)
- ◆ Pressed cardboard or “chipboard” (like cereal boxes)
- ◆ “Wet-strength” cardboard, like 6-pack or 12-pack beverage container packages
- ◆ Egg or Milk Cartons
- ◆ Carbon Paper
- ◆ Candy wrappers
- ◆ Plastic containers #3-7
- ◆ Plastic bags or stretch wrap (like Saran Wrap)
- ◆ Expanded polystyrene packaging or “peanuts” (EPS, commonly known by proprietary name of Styrofoam)
- ◆ Window glass, drinking glass, ceramics (plates or dishes), Pyrex or light bulbs

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- ◆ Aluminum foil or pie tins
- ◆ Carpet
- ◆ Textiles
- ◆ Batteries
- ◆ Oil
- ◆ Paint
- ◆ Ewaste
- ◆ Containers from oil, pesticides, paints or hazardous materials
- ◆ Ash

### Compostables

- ◆ Food or any organic waste
- ◆ Food soiled cardboard or paper (including paper cups, plates, towels)
- ◆ Waxed cardboard (generally used for shipping fruits and vegetables)
- ◆ Wet paper
- ◆ Used tissues
- ◆ Liquids

In addition, there are limited reuse, recycling and composting services provided for:

- ◆ Reusables
- ◆ Construction, remodeling and demolition debris
- ◆ Bulky Goods
- ◆ Tires
- ◆ Medical Wastes
- ◆ Household hazardous wastes

### 3.1 Know Your Waste and Recyclables

The more specifically Telluride can identify which materials are disposed to landfill, the more clearly it can develop policies and programs to develop waste reduction, reuse, recycling and composting programs to target those materials. To find a relevant point of comparison, GLA used waste composition data for Mammoth Lakes, CA. Mammoth Lakes is a comparable community to Telluride in many respects, and the State of California provides detailed estimates of the waste composition for both residential and commercial accounts in that region (see Appendix B). The data from Mammoth Lakes is adequate for the purposes of this Plan. Estimates of the materials discarded in this region are presented in Table 1.

However, it is clear that one of the priorities for San Miguel County should be to request that the State of Colorado provide similar waste composition analyses for small rural areas on the Western Slope as provided by the State of California. Waste characterization sampling should include both summer and winter data, to identify seasonal variations in the waste stream. Sampling should be conducted from all collection vehicles throughout the service area, (including waste haulers and recyclers), and self-haul vehicles from both businesses and residents to local transfer stations. Such waste composition studies should be conducted every 5 years by the State to track on-going waste reduction progress. This approach would provide an appropriate baseline for comparing results of new programs locally.

Until the State completes this analysis, the region could confirm what are the largest materials being wasted by conducting a visual waste assessment. This could involve a professional studying the contents of a variety of collection vehicles in advance of the waste being disposed at local transfer stations. Based on prior work and their careful review of the wastes, they should be able to estimate the major components of the waste stream. Alternatively, local college students or volunteers from TNCC could be trained by a professional to perform such a visual waste assessment. This would not substitute for hard

quantitative data needed to plan for and evaluate new programs over time. However, this could provide sufficient information to confirm that the recommendations of this ZWAP are on target.

### 3.2 Commodities Analysis

The two largest categories of materials discarded are organic materials and paper products. Organics represent 48% of the total residential waste stream and 38% of the total commercial waste stream. Paper represents 26% of the total residential waste stream and 35% of the total commercial waste stream. These two categories eclipse the other material categories, and highlight the urgency to develop viable organics recovery programs and expanded paper recovery programs to meet a Zero Waste goal.

The next largest material categories are plastic, metals, glass and construction materials. In Telluride and Mountain Village, construction materials may be somewhat higher than the 3.6% of the total waste stream indicated from Mammoth Lakes data, due to the relatively large amount of remodeling, renovation and construction projects in this region, and the magnitude of each of the projects. In Telluride, the commitment to maintaining heritage buildings also means that there is a significant need for reuse and salvaging services that will carefully dismantle old structures, so that the original materials are maintained in a usable condition. This is generally referred to as “deconstruction”.

GLA added a category of Reusables to Table 2 that was not in the original CIWMB database for Mammoth Lakes. This is based on recent analyses of reusables in: San Luis Obispo, CA; Los Angeles, CA; and Austin, TX. To adjust for that, the total amount estimated for the largest categories of waste (organics) was reduced for both residential and commercial sectors.

The remaining materials in the solid waste stream are: textiles; household hazardous wastes (HHW); tires; bulky goods (e.g. furniture, bicycles and water heaters); white goods (large appliances like washers, dryers and dishwashers); and “E-Waste” (anything with a plug). Although the latter materials are not disposed of in large quantities, some of them are *very* expensive to properly dispose of (particularly the HHW and E-wastes). As a result, these materials need to be the focus of attention in state and federal laws requiring the takeback of these products by the manufacturers, or requiring other financial or physical responsibility being assumed by the manufacturers or retailers that sell such products.

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**Table 2 - Commodities Analysis for San Miguel County**

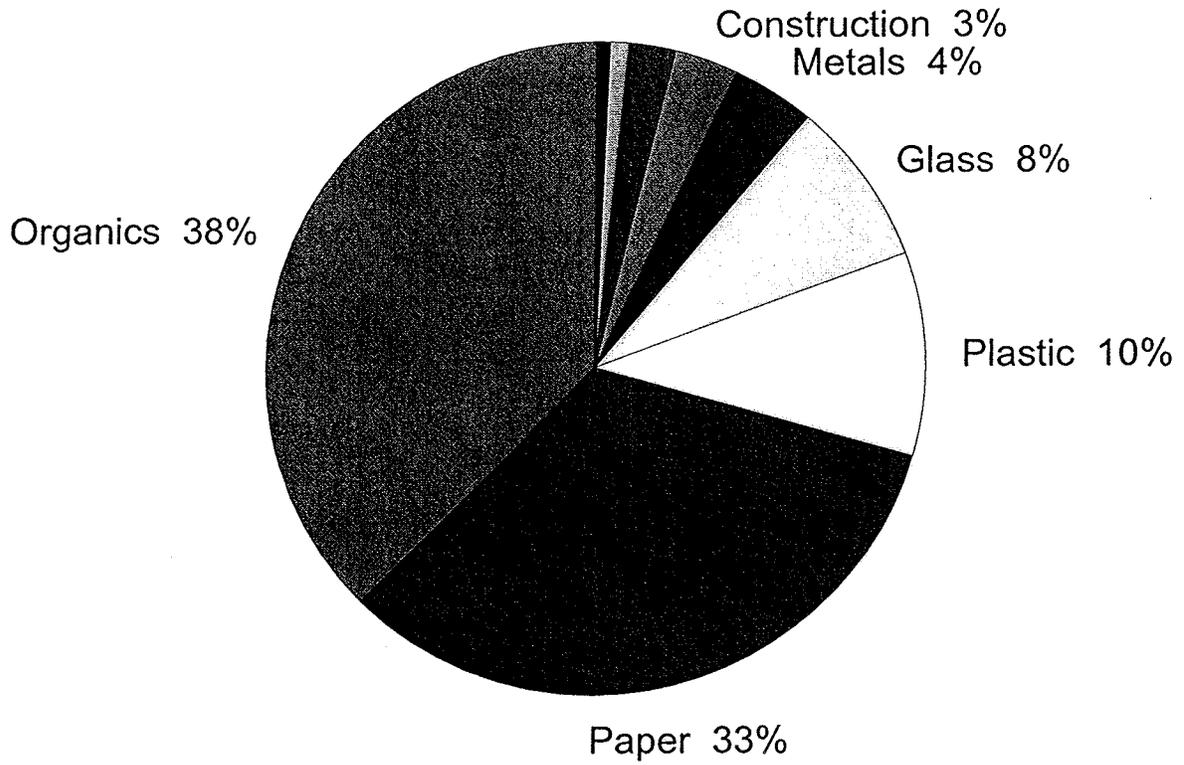
<b>Material</b>	<b>Waste Composition<sup>15</sup></b>	<b>Tons Disposed<sup>16</sup></b>	<b>Value of Materials (\$/ton)</b>	<b>Total Value of Materials Disposed</b>	<b>Avoided Disposal Costs for Recovered Materials</b>
<b>RESIDENTIAL</b>					
♦ Organics	44%	824	\$7	\$5,769	\$41,206
♦ Paper	26%	487	\$50	\$24,349	\$24,349
♦ Plastic	9%	169	\$50	\$8,429	\$8,429
♦ Construction	6%	112	\$4	\$450	\$5,619
♦ Mixed Residue	5%	94	\$0	\$0	\$4,683
♦ Metals	4%	75	\$40	\$2,997	\$3,746
♦ Glass	3%	56	\$10	\$562	\$2,810
♦ Reusables	2%	37	\$550	\$20,603	\$1,873
♦ Special Wastes	0.8%	15	\$0	\$0	\$749
♦ Hazardous	0.3%	6	\$5	\$28	\$281
<b>Totals</b>	<b>100%</b>	<b>1,900</b>		<b>\$63,186</b>	<b>\$93,744</b>
<b>COMMERCIAL</b>					
♦ Organics	36%	2,557	\$7	\$17,902	\$127,872
♦ Paper	35%	2,486	\$50	\$124,320	\$124,320
♦ Plastic	10%	710	\$50	\$35,520	\$35,520
♦ Glass	9%	639	\$10	\$6,394	\$31,968
♦ Metals	4%	284	\$40	\$11,366	\$14,208
♦ Construction	3%	213	\$4	\$852	\$10,656
♦ Reusables	2%	180	\$550	\$78,144	\$7,104
♦ Mixed Residue	0.6%	43	\$0	\$0	\$2,131
♦ Special Wastes	0.5%	36	\$0	\$0	\$1,776
♦ Hazardous	0%	0	\$5	\$0	\$0
<b>Totals</b>	<b>100%</b>	<b>7,104</b>		<b>\$274,499</b>	<b>\$355,555</b>
<b>Grand Totals</b>		<b>8,977</b>		<b>\$337,684</b>	<b>\$449,299</b>

The value of the materials currently disposed is over \$330,000 each year. The cost avoidance identified in Table 2 should be viewed as one of the key sources of revenue that could be the engine of change and investment in equipment and programs needed to move towards Zero Waste.

<sup>15</sup> Based on waste composition data from 1999 from the CA Integrated Waste Management Board for the Town of Mammoth Lakes

<sup>16</sup> Applied total tonnages for Mammoth Lakes times 1.4 (a factor of 7500 population for San Miguel County/5350 population of Mammoth Lakes)

# Figure Major Commodities Discarded



## 4 Recommended Programs, Facilities and Policies

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This section of the Plan outlines key elements of the Zero Waste Action Plan: new programs, facilities policies and incentives that the region should adopt to implement its Zero Waste Goal.

Zero Waste focuses on reducing and designing wastes out of the system, reusing discarded materials and products for their highest and best use for their original form and function for as long as possible, then recycling and composting the rest. The Zero Waste International Alliance defines Zero Waste to be:

“A philosophy and visionary goal that emulates natural cycles, where all outputs are simply an input for another process. It means designing and managing materials and products to conserve and recover all resources and not destroy or bury them, and eliminate discharges to land, water or air that do not contribute productively to natural systems or the economy.”<sup>17</sup>

For the region, although the intent of this Plan is to strive for Zero Waste, practically **if the region diverts at least 90 percent of the waste generated by all sources** (residential, business, schools, and institutions), **it will be well on the way to Zero Waste and the program will be deemed a success.**

The following criteria were used to evaluate the merits of different policies, programs and facilities needed to meet the challenges identified above:

- Potential for largest impact in diverting waste from landfill
- Potential for most immediate impact in diverting waste from landfill
- Potential for greatest visibility in diverting waste from landfill
- Potential for involving community in diverting waste from landfill
- Potential cost to implement
- Ease of Implementation
- Availability of existing markets or uses
- Ability to create new markets or uses

These were considered in making the recommendations below.

### 4.1 Programs

This section outlines programs the region should expand or implement to strive for Zero Waste.

#### 4.1.1 Refuse, Return and Design Out Waste

1. Develop a web-based directory of businesses which will takeback products and packaging that are difficult to reuse, recycle or compost locally.

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<sup>17</sup> From: <http://www.zwia.org/standards.html>

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2. Encourage businesses by policies and incentives to take back their products and packaging and to reduce the volume and toxicity of wastes by redesigning manufacturing processes.
3. Develop a Shop Smart Program that encourages residents to buy reusables, recycled and durable products.
4. Allow all legal documents to be filed on-line without the use of paper.
5. Support the Sheep Mountain Alliance Plastic Bag Ban unless all major users of such bags voluntarily phase them out by a target date.
6. To reduce the use of paper in the real estate industry, all the realtors should join together to create a single directory for available residential properties for sale, a single directory for available residential properties for rent and a single directory for available commercial properties for sale or rent. This would eliminate a lot of duplication of dueling individual company real estate directories, be more cost effective for realtors, and dramatically decrease the use of paper.
7. To reduce the use of paper in the hospitality industry, there should be a review of what types of papers are produced in which locations, then evaluate whether an electronic transaction could replace the paper transaction. This would also demonstrate the ingenuity of the region to tourists and impress them as to the commitment to operating with a minimum of paper wasted.

### 4.1.2 Reuse and Repair

In the waste composition charts, reusables appear to be a small percentage of the total waste stream. However, within several of the other categories, there may be a number of reusable items that are prominently made of one material type or another (e.g. ceramics, glass, metals, plastics). In a similar rural area of northern California, reusables comprised 6% of the materials discarded by generators.<sup>18</sup> Reusables often produce the highest value materials and products recovered from discards.<sup>19</sup> Many discarded items may be reused, depending on its condition and function. Nearly everything that is reusable could also be recycled, but usually for a much lower value. Reusable goods are useful to buyers either for their original intended purpose, or for a creative reuse function. For example, used wrought iron gates can be sold individually for hundreds of dollars, but their value is reduced to pennies on the dollar by treating them as scrap. Reuse operators are business people who specialize in attracting, receiving, organizing, and selling discarded reusable goods. Reuse operators vary in the amount of effort they take to upgrade their products by cleaning, sorting, organizing and/or repairing them. The average value of reusables (not including used clothing) could be as much as \$550 per ton.<sup>20</sup>

One of the most visible reuse programs in the area is the "Free Box" in downtown Telluride. That should be expanded, organized and integrated with other reuse programs recommended in this Plan. Instead of spending up to \$50,000 per year to landfill materials inappropriately placed by the Free Box, some of those funds should be used to improve the maintenance and usability of the Free Box, and to fund the new programs recommended here. Any excess materials collected at the Free Box should be delivered to reuse operations elsewhere (e.g., the Resource Recovery Park or reuse operations in Montrose) to sort out where to distribute these valuable materials and products for their highest and best use.

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<sup>18</sup> Del Norte Resource Recovery Park Cluster Analysis, Del Norte Solid Waste Management Authority, prepared by Gary Liss & Associates, February 2001, Page 6.

<sup>19</sup> Ibid, page 4.

<sup>20</sup> Source: Richard Anthony Associates, analysis of reusables value in Los Angeles, CA and Austin, TX, 2008.

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There should be a concerted effort to promote reuse and repair in the region with a web-based directory, other internet services (e.g., e-Bay, Craig's List and FreeCycle.org), garbage bill inserts, brochure and cooperative advertisements in tourist literature. Programs and services that should be promoted include:

- ◆ The donation of edible food to food-banks and other discarded food to animal-feed from restaurants and grocers.
- ◆ Local antique and thrift stores, repair shops (e.g. appliances, autos, furniture) and local electronic equipment, furniture and appliance resellers.
- ◆ Deconstruction services and used building materials stores in Montrose.

San Miguel County should adopt a free swap policy for reusables and household hazardous wastes at the County Transfer Station to provide a place for the community to share these goods at no cost.

There are a number of operations that collect and/or sell used clothing in the region (e.g., Pip's Consignment store in Telluride). The City could promote these operations, as well as include the collection of clean, bagged textiles in the residential recycling collection program (perhaps once a month or coinciding with Spring and Fall Cleanups). If the latter is done, the region should encourage the collaboration of existing textile recyclers with residential recyclers proposing services to the City, particularly for marketing of those materials.

One of the needs for existing used clothing retailers is to create more opportunities for sale of such clothing in traditional clothing stores. The TNCC should work with major retailers of clothing in the area to establish "Bargain Basement" sections of their stores where premium used clothes could be sold that would be supplied by existing thrift stores, with the profits from sales split between them. This would provide an expanded way for major retailers to highlight their Green attributes and sensitivity to the current economy, and forge a new partnership that truly provides greater social equity through support of local job-creating thrift businesses and nonprofits. A model for this might be the Nordstrom or Filene's Basement concept, coupled with the "Blue Hangar" of Goodwill stores in Austin, where those clothes that don't sell in the Goodwill stores get sold for pennies on the dollar in "lot" sales that support many local businesses. The latter is actually the most profitable cost center for this major network of Goodwill stores in Austin.

A similar concept should be pursued with other reusable products that are discarded. Used lumber, building materials and compost products should be marketed through major home repair, hardware stores and nurseries in the region. Used furniture should be marketed through furniture stores in the region. Used appliances should be marketed through appliance stores in the region. A whole network of repair and refurbishing businesses or nonprofits could be established to upgrade materials and products that are collected through large-scale reuse programs to attain a higher price in such retail activities. This is the model that Urban Ore uses in Berkeley, CA. Urban Ore specializes in large volume throughput of products through their system. Urban Ore estimates that they supply about 100-200 other local businesses and nonprofits (including many antique stores and specialty stores such as furniture manufacturers from used wood) that sell these products for added value. The other businesses and nonprofits add value

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through the way they polish, repair, manufacture, display and/or advertise items. Urban Ore should be requested to do training for the display and marketing of used building materials and other reuse operations.

One of the major roles that the TNCC should play to promote reuse is working with historic preservation advocates and those seeking to restore and reuse buildings, rather than deconstruct or demolish them. TNCC should work with Towns and the County to include “adaptive reuse” as a priority in City building standards for residential and commercial construction and to not allow the demolition of any building that is still functional.

The TNCC could help form a Reuse Collaborative with businesses and nonprofits throughout the region (including as far as Montrose). The function of the Collaborative should be to help in marketing all the materials and products collected through various reuse networks, and to help develop the above distribution system.

### 4.1.3 Organics

There are currently no collection programs for organics in the region. As organics represent 38% of all materials currently discarded, this is clearly the largest service gap that needs to be filled for the region to move towards Zero Waste.

A hierarchy for organics use<sup>21</sup> should be considered that prioritizes the use of discarded food as follows:

- ◆ Prevent food waste
- ◆ Feed people
- ◆ Convert to animal feed and/or rendering
- ◆ Compost

Major generators of food scraps in the region include:

- ◆ Hotels, Lodges and Resorts
- ◆ Bars and Restaurants
- ◆ Groceries
- ◆ Festivals
- ◆ Schools
- ◆ Residents

Using Mammoth Lakes data, about 75% of the commercial food scraps are generated by hotels, lodges and resorts, and 24% by bars and restaurants. These are also the largest generators of paper (82% by hotels, lodges and resorts and 9% by bars and restaurants).

In addition, the Festivals generate a large amount of food scraps and compostable products. According to the above evaluation criteria, all three of these categories are very visible and therefore a high priority for

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<sup>21</sup> Based on recommendations of the CA Integrated Waste Management Board at: [www.ciwmb.ca.gov/FoodWaste/](http://www.ciwmb.ca.gov/FoodWaste/)

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focused attention. When you add in food-soiled paper to the mix of what could be composted, this needs to be the highest priority for implementation of all Zero Waste programs. As the value of the materials for composting is not as high as for other materials, the implementation of organics programs will require a strong public/private partnership with support from local nonprofits to develop the most cost effective program.

Commercial organics are estimated to be about 3 times as large an amount discarded as residential organics. Therefore, it is appropriate to focus first on implementing organics programs in the commercial sector. There are a number of approaches that should be pursued to accomplish that following the organics hierarchy noted above:

- ◆ Support local purchase of food and beverages to decrease carbon footprint associated with food services and increase local jobs and agriculture. Encourage purchasing of fruits and vegetables in season locally.
- ◆ Promote local food banks to help feed the needy. Encourage all bars, restaurants, grocers and other sources of discarded food to participate. Encourage businesses to highlight the donations they make to patrons.
- ◆ Demonstrate the use of an on-site composting system for lodges, hotels, resorts and ski areas that have sufficient room to dedicate a couple of parking spaces to such operations. By using on-site composters, food generators would reduce their cost of garbage collection and disposal by over 80%, and that avoided cost can be used to purchase the on-site composting system and expertise needed to operate them successfully.
- ◆ Encourage one or more service providers in the region to offer on-site composting systems for lodges, hotels and resorts that have sufficient room on a lease-basis like a garbage or cardboard compactor. The service provider should also provide training on how to use the composter, and maintain the composter in good operating condition. The service provider could also offer to “cure” compost off-site if desired, so that smaller units, or less number of units, are needed to process materials on-site.
- ◆ Encourage one or more service providers in the region to develop a composting program that can accept food scraps and food-soiled paper. To support that composting program, service providers should be able to charge a fee for the service, which should be less than the cost of garbage collection and disposal to provide an incentive for participation by food generating businesses. The start of such a system could be done on a subscription basis, with the service provider starting the service once it has subscribed a minimum number of customers to make it cost effective.
- ◆ Alternatively, the Town of Telluride and/or the Town of Mountain Village could require the participation of all food-generating businesses over a certain size to participate in a food-composting program by Ordinance, to get the program started.
- ◆ The service provider should obtain sufficient size or numbers of composting equipment to provide redundancy and backup to the system, so that reliability will not be a problem.
- ◆ Encourage home and restaurant vermiculture systems as alternatives for composting on-site (as recommended by ICLEI Sustainability Inventory)
- ◆ TNCC and Sunrise LLC applied together to the State of CO, Recycling Resources Economic Opportunity Grant Program for funding to purchase a composter for a Resource Recovery Center in the Industrial Park in Ilium Valley, approximately five miles from Telluride. On April 25, 2008, they

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were notified that this grant proposal would be funded. This will jump start the composting programs noted above with the seed capital needed to quickly implement this program.

- ◆ Provide shared chipping services in one of the following ways that have been offered by other communities:
  - 1) A central location open on Saturdays with a staff person there to chip yard trimmings brought in from residents, with chips provided back to the residents;
  - 2) A central location open for deposits of yard trimmings all the time, with a mobile chipper brought in periodically to chip the materials, and the chips then made available to users of the facility; or
  - 3) A mobile chipper operation, like arborists use, with residents having the option of yard trimmings left on the curb being taken away or left for them to use as mulch.

As the region continues to grow its tourist industry, the amount of discarded food and food-contaminated paper from the hospitality industry is also likely to grow substantially. As a result, there is a need for both residential and commercial organics collection programs that would collect yard trimmings, discarded food, and food-contaminated paper on a regular basis. The region should work to establish a residential program once there are one or more composting processing facilities in the region that can handle materials. The design of the residential collection program could collect

- ◆ Discarded food separately from yard trimmings, as done in Toronto, Italy and the Philippines
- ◆ Combined food and yard trimmings, as done in most locations that have started residential organics collection programs in California.

The weekly separate collection of discarded food from residents would be too costly to implement on its own. However, if rolled out with the proper rate incentives (see below) and a switch to every other week collection of rubbish, it should be economically viable. In Toronto they provide a 14-gallon Norseman locking container for each household to set out discarded food. That food is then taken to an enclosed digestion system, where methane gas is recovered as an energy source, and the “digestate” is then composted. Toronto collects rubbish every other week, as they no longer have to collect it weekly once the putrescibles (Food scraps) are collected at least weekly. Toronto is in the process of retooling its program to automate the collection of these containers with slightly larger containers (about 18-20 gallons). This is due to the large number of worker injuries from bending to get such a small container that is also very heavy. In Italy, they have pioneered collecting discarded food twice a week in smaller buckets. In the Philippines they organized residential separate collection of discarded food by “Barangays” or neighborhoods. Both Italy and the Philippines are using very low technology systems and reporting better efficiencies than the more high technology solutions developed in the U.S.

In the Town of Telluride, the Town was about to implement a new collection system with “Bear-Proof” containers. This is an excellent time for the Town to review its container and collection options more broadly, and to provide new containers that are designed to be *both* Bear-Proof and Green. The sooner the results are in from the commercial pilot organics programs, the quicker the Town may proceed with its new collection system and containers.

#### 4.1.4 Paper

There are a variety of paper recycling programs in Telluride, including residential curbside and commercial recycling, paper recycling bins located sporadically throughout the downtowns of both Telluride and Mountain Village, and at the recycling drop-off at the San Miguel County transfer station in Norwood. However, 33% of the remaining waste is still comprised of recyclable paper products including office paper, newspaper and cardboard. As a result, it is clear that there is still a large gap in both services being provided, and, incentives to recycle more paper.

As a large source of paper is from the hospitality and real estate industries, efforts should be pursued to both reduce the use of paper wherever possible (see above), and to place far more paper or single-stream recycling containers at all points of public use or paper generation.

Every lodge should provide reusable bags to guests at registration with instructions listed on the bag to take single-stream recyclables to the designated common area at the lodge. Guests should be able to purchase extra bags with a Telluride logo at both registration desks and area stores. Guests that do not return their reusable bags at checkout should be charged for those bags (like mini-bars are charged at check-out).

Every public trash bin should also have at least a single-stream recycling container next to it. This is particularly important in areas of high visibility, such as in the downtown or core areas, in the ski areas, in the Gondola areas, at the Airport, and wherever public events and festivals are held.

In areas of high paper generation areas (e.g., where newspapers and real estate literature are on display), paper recycling containers should be placed right next to them. These public containers could be sponsored by the real estate industry, with advertisements on the sides of the containers (like bus shelters or benches are funded in some communities), as an alternative to getting their name out via paper directories.

#### 4.1.5 Construction, Remodeling, Landclearing and Demolition Debris (C&D)

With the commitment of Telluride to its heritage buildings, the deconstruction and reuse of C&D debris could generate a number of business opportunities. Existing reuse operators (e.g., Construction Depot and Habitat for Humanity in Montrose) or others may want to partner with local businesses interested in expanding into this area. This expansion could be facilitated by policies adopted that encourage the deconstruction of buildings and the *reuse* of used building materials.

Similarly, local recyclers may be interested in expanding into more recycling of C&D debris, if policies are adopted that support it (see policies section below). Programs need to expand to provide separate 30 to 40-cy bins for single-stream recyclables, corrugated, gypsum, lumber, stumps and plant debris, concrete, asphalt, bricks, tile and mixed C&D debris at construction sites. Policies to require all projects over a certain size to meet waste diversion requirements should be pursued as recommended below. Education and training needs to be provided for all contractors, homebuilders and property managers to make sure they are aware of the policies and programs.

#### 4.1.6 Other Recyclables

Metal cans are recycled primarily through local curbside recycling programs, and major scrap metal items are recovered primarily from C&D activities. As scrap metal prices have increased dramatically in the past year due to major industrialization of China and India, there may be new opportunities to collect and process metals that will be cost effective in today's markets that were never possible before. The region should request that their contracted waste haulers add scrap metals to the list of materials collected curbside, and from businesses. Policies establishing waste diversion goals for businesses would encourage increased recovery and recycling of metal and other recyclables.

Glass beverage and food containers are collected in curbside recycling programs and through commercial recycling programs. It is likely that a large amount of the remaining glass could be recovered through the implementation of a commercial program targeted to the hospitality industry (e.g. bars, restaurants and lodging).

Local recyclers do not collect all recyclable plastics. As plastics continue to proliferate in their uses, it is incumbent upon the region to either develop programs to recycle these materials, or develop policies that get retailers and producers to takeback the plastics used in their products and packaging.

#### 4.1.7 Education and Outreach

Development and implementation of a public education program, for businesses, residents and visitors is critically important to expanding reuse, recycling and composting programs to achieve Zero Waste. A communications program should be developed after the design of new waste diversion programs and incentives. Implementation of the education program should begin in advance of the implementation of any new programs, policies and incentives. Communications with all aspects of the community is critical to the success of any new program or policy, including multiple languages, lots of signs and lots of graphics (given that people come here from all over the world). Trash and recycling containers throughout county should be color-coded (Blue = recycle, Green = organics, Black/gray = trash). Of great importance will be highlighting the links between Zero Waste and climate change, and to report on the climate change benefits of local Zero Waste actions.

A key target for Zero Waste education should be working with the schools in the area to adopt Zero Waste into curricula and to implement Zero Waste systems at all schools and administrative offices. Campaigns should include incentives and convenient programs that make it simple and easy for students, faculty and staff to participate. Ask students through Student Councils as to what incentives would be of most interest (e.g., first in line on a powder day or a day off from school). Seek celebrities to promote Zero Waste and make it "cool" or "hot" (depending on what generation is targeted). Class contests (as recommended by ICLEI Sustainability Inventory) with prizes could be patterned after Recyclemania, which is being conducted all across the country on college campuses.<sup>22</sup> A Recycling or Sustainability Science Fair could be organized at the high school to highlight sustainability principles, challenges and

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<sup>22</sup> See: <http://www.nrc-recycle.org/recyclemania1.aspx>

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opportunities.<sup>23</sup> Art and poster contests could also be used positively to promote Zero Waste. An international program, Odyssey of the Mind, that gives kids a problem to solve could be enlisted to promote Zero Waste, and encourage kids to participate in their contests.

Helping visitors to understand local recycling, which may differ from their hometown, needs to be an additional focus for the reuse, recycling and composting programs education and outreach programs. As part of that, there will be a need for on-going education of cleaning crews, as there is substantial turnover of employees.

### 4.2 Facilities

Before any new programs can be started, markets need to be identified for all the materials to be collected. The markets could be local businesses or nonprofits, or more distant ones. For products to be processed locally, the businesses or nonprofits may need to expand their existing facilities to handle more materials, or there may be a need to site new facilities. Local governments in the region should build upon the investments and capacity of existing operators before developing new facilities. In the event that existing operators are not interested or able to operate needed new facilities, local governments should actively solicit the participation of other potential operators locally, regionally and nationally.

#### 4.2.1 Composting

The most important facility that is needed to move forward with Zero Waste in the region is an on-going composting facility. There are many ways that the program could be developed (as described above). Before any major new composting program can be started though, an on-going composting facility needs to be built somewhere.

Major progress has been achieved regarding this. The USEPA has awarded a grant to TNCC and Sunrise, LLC for a composter and a baler. Sunrise proposed to get a composter that is mobile, so that it may be moved on-site or to major festivals and events, as needed. Most of the time the composter will be located at the Ilium Valley Industrial Park, on a 3.85-acre site owned by Sunrise, LLC.

#### 4.2.2 C&D Processing

There is a need to expand the C&D processing capacity in the region, particularly for commingled construction and remodeling materials, and mixed demolition materials. There are no available services to recycle pallets, drywall, and wood products, and those materials are currently landfilled.<sup>24</sup> Single items should be able to be recycled more readily in the future by those who provide the heavier processing capabilities as well.

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<sup>23</sup> See the South Bay Business Environmental Coalition Science Fair as a good example, at: <http://sbbec.org/scifair.htm>. Also, ZERI fables provide great stories of sustainability principles at: <http://www.chelseagreen.com/2006/items/zeriset> or <http://www.zerilearning.org/>

<sup>24</sup> Source: Recycling Resources Economic Opportunity Grant Program, FY 09 Project Application, page 1.

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reuse matching services set up around the country, probably the best model is the LA Shares system. LA Shares works with schools and nonprofits throughout the LA City boundaries to identify what needs they have for usable products discarded as excess inventory by companies in the area. Nonprofits and schools give LA Shares their specific needs. When items become available from businesses discarding products, the nonprofits and schools “bid” on getting those items. The computer selects winning nonprofits and schools by a random number calculator. LA Shares then advises the nonprofits and schools who is donating the items, and the business and nonprofit or school make arrangements between the two of them to get the products being donated.

The LA Shares model could be replicated locally in the region. This would decrease the need for lots of warehousing capacity, and would be a great adjunct to one or more of the local reuse or recycling service providers in the region.

### 4.2.4 Resource Recovery Park

A Resource Recovery Park (RR Park) is a location where reuse, recycling and composting businesses co-locate to gain added efficiencies in operating, marketing and serving the public.<sup>25</sup> RR Parks are naturally evolving at many landfills and transfer stations in CA. Instead of just evolving, the concept of Resource Recovery Parks is to actually PLAN for that to happen, and design in price incentives with the way rates and fees are set, and to design in the proper flow of materials to encourage users to stratify their loads to drop reusables and recyclables off first, then compostables and C&D (which may require some tip fee to cover their costs), and then to dump any little amount of trash that they couldn't figure out how to sort out, last (with the highest costs for dumping that).

The Towns of Telluride and Mountain Village and San Miguel County should support the development of one or more Resource Recovery Parks (RR Park) in the region. As noted above, Sunrise LLC has proposed the development of such a facility in the Ilium Valley Industrial Park, less than 4 miles from Mountain Village.

The Towns and San Miguel County should support the development of the Sunrise RR Park (and possibly others that are complementary) by: supporting requests for grants and loans for activities there as promoting the public purposes of pursuing Zero Waste in the region; providing low-cost loans or grants for site improvements if needed to supplement or match grant programs; deferral of property taxes in the first 10 years as would be done in urban renewal areas; adopt the location into official plans for the region, including Solid Waste, Sustainability and General Plans; and generally to endorse, provide technical assistance and promote the Park.

The Sunrise RR Park could co-locate collection and processing for organics, reusables and recyclables not currently processed in the region. The RR Park should aggregate, segregate and distribute reusable products at wholesale prices to supply reuse stores throughout the region. The RR Park could also include retail sales of used building materials, used furniture and appliances, and compost products and a free swap program for appropriate household hazardous wastes (e.g. paint and garden supplies) and

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<sup>25</sup> See Resource Recovery Park case study written by Gary Liss & Associates at:  
<http://www.ciwmb.ca.gov/Publications/LocalAsst/31001011.doc>

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reusable products. The RR Park could also tie in with local schools and nonprofits to donate products needed.

Sunrise has full support from local governments and the local ski area to develop the RR Park at the Ilium Industrial Park. With funding from grants and private investments, Sunrise will be able to divert from landfills: Ferrous and non-ferrous metals; Wood waste (from construction debris, tree debris, pallets, and like products); Drywall; Yard and food waste; and Traditional recyclables (including plastic, tin, aluminum, glass, and paper).

### 4.2.5 Transfer Stations

The existing recycling bins at the County Transfer Station require more frequent collection or greater capacity so that there is more room for recyclables dropped off by residents on the west side of the County.

Depending on what services are developed by Sunrise, either Waste Management's Transfer Station and/or the San Miguel County Transfer Station could also be expanded to include some attributes of a RR Park. San Miguel County is particularly well placed to assist in the collection of manure from the County Fairgrounds, which is located across the street.

The Towns of Telluride and Mountain Village could also transfer the wastes they collect in Public Works projects at either Waste Management's or the County's Transfer Station. This would decrease their hauling costs, time and environmental impacts considerably from current practices. Once the RR Park is operating, the Towns should recycle as much of the materials they collect from Public Works projects as possible at the RR Park.

### 4.2.6 Landfills as a Last Resort

Why discuss landfills in a Zero Waste Action Plan? Because the policies and economics that govern landfills will impact on the perceived cost effectiveness of alternatives to landfilling, such as waste reduction, reuse, recycling and composting. In addition, although Zero Waste is the goal, it will not be achieved overnight, and therefore well-designed and operated landfills should be viewed as a scarce resource to be optimized and conserved as much as possible.

Landfills generally are also one of the largest contributors to greenhouse gas emissions in North America, and many landfills have leaked toxics underground to neighboring properties, causing major liabilities for the owners.

As a result, it is critically important for the region to work actively with Montrose County to make sure that all landfills used by residents and businesses in the region meet the highest environmental standards, and reflect their full past, present and reasonably anticipated future costs in their user fees.

Specifically, Montrose County should incorporate into the user fees for its landfills:

- Capital and operating costs (including site acquisition costs)

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- Liability for contamination and cleanup of existing sites
- Current and future gas and leachate collection systems
- Current and future gas and leachate monitoring costs
- Closure and post-closure costs, including a commitment to perpetual maintenance and cleanup of the landfills (like a cemetery), to make sure that those costs are planned for and budgeted over the life of the operating facilities.
- Long-term liabilities from future contamination due to leaks of gas or leachate by setting aside dedicated funds or obtaining insurance to cover the long-term liability of perpetual maintenance and cleanup of all County landfills.

Ideally, Montrose County should also develop new processing capabilities at their landfills that pre-process all wastes before burying them to recover all recyclables remaining in the waste stream and leach out all toxics and gases so that they bury only materials tested to be inert. This is the approach taken in Halifax, Nova Scotia<sup>26</sup> and the European Union (in their 1999 Landfill Directive).

If all the above costs were factored into user fees charged today, the total cost to users of the Montrose County landfill system would more appropriately reflect the value of the landfills, its potential impacts on climate change, and provide sufficient funds to ensure that there are no problems with leaking of gas or leachate in the long-term. If Montrose County is concerned about the costs to its residents and businesses, as owner and operator of their landfill, they could charge higher fees on users outside of the County, to at least assure that their County residents don't subsidize the broader region's costs for landfilling. Under recent US Supreme Court decisions, such differential fees are likely to be upheld.

San Miguel County should work through regular intergovernmental meetings with Montrose County to adjust its landfilling costs to reflect these concerns and other opportunities for regional collaboration detailed in this ZWAP. Once a firm estimate is developed by Montrose County of what the landfilling costs should be to reflect all of the above factors, that estimate should be viewed as the basis for the region to evaluate what is "economic" to do with regard to waste management and recycling in the region. That would reflect the current costs and potential liability to the City from past and present practices.

Although this seems counter-intuitive to support the raising of rates, it is one of the key actions needed to adjust the economics locally to reflect the long-term consequences of landfilling wastes. This would also encourage more waste reduction and recycling activities. However, because only 20% of the costs of any solid waste or recycling system is in the disposal costs, the overall rates for the region's solid waste system would not necessarily increase that dramatically. In fact, once these price signals are adjusted correctly, it is quite possible there will be enough of an incentive for residents and businesses to reduce their total amount of materials discarded for landfilling, that their total costs for solid waste and recycling services may not increase that much, because they will be throwing away fewer valuable resources and reinvesting them in the local economy.

### 4.3 Policies and Incentives

Benefits to businesses from decreasing wasting include:

- ◆ Reducing their liabilities - Every ton buried in a landfill remains the responsibility of the generator, under Federal Superfund law. If there are any problems with the landfills used (e.g., from leaks of gas

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<sup>26</sup>For more info on that, get the videotape made by Paul Connett entitled *Nova Scotia: Community Responsibility in Action*, 2001, 30 minutes. To order copy, go to <http://www.grm.org/Cart/description.php?II=8&UID=20031023202806209.165.52.156>

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or liquids), the attorneys involved will send a bill to everyone who ever used that facility, proportionate to the amount generated.

- ◆ Increasing their efficiency – When sustainability audits are conducted for businesses documenting all the energy, materials and products they buy to create their own products, they find that nationally only 6% is used for producing products, and 94% is wasted.<sup>27</sup>
- ◆ Improving their Green standing – This is of increasing importance to customers, employees and shareholders for companies. By reducing wasting, businesses find they can increase customer and employee loyalty and demonstrate leadership in the Triple Bottom Line to their shareholders.

Telluride's Ordinance requires businesses to pay for recycling services, whether they use them or not. Although that Ordinance provides a stable revenue stream for the recycling service provider, it has not been successful in getting businesses to recycle. In addition, the Towns of Telluride and Mountain Village need to restructure their garbage rates so that reducing wastes will also reduce total waste management costs for residents and businesses. This can be done by adding fees, surcharges and/or taxes to wasting activities, and in the approval of rates proposed by waste haulers under contract to the Towns.

The Telluride and Mountain Village Ordinances should also obtain reports from all waste and recycling haulers in the region to set a clear baseline and for measuring progress. Haulers already keep detailed records to maintain their billing system. The key is establishing a reporting system to the Towns and County that ensures that proprietary information is not disclosed publicly. The reporting Ordinance need to be clear as to what type of information is required and include an enforceable system of reporting this data on an equal basis for all operators in the system. All haulers of waste and recyclables (including the Towns of Telluride and Mountain Village and San Miguel County) should track every pickup they do. The waste tracking policies should require annual reporting of the volume of materials collected from businesses and the total amount of waste and recyclables collected each day from residential, commercial and institutional generators.

There are many policies and incentives that have been adopted by other communities that could be used to assist the region in achieving Zero Waste. Those include economic incentives and disincentives, challenges to generators of waste to reduce and recycle their wastes, retail product sales and landfill bans, and policies that would hold retailers and/or producers physically or financially responsible for the products and packaging that they produce. In communities that have achieved high rates of waste diversion, these tools are used incrementally to influence the marketplace, with voluntary approaches and partnerships tried first before more challenging policies are adopted. However, businesses also need to know that the City is committed to the goal of Zero Waste before they invest substantial resources in changing their operations. Therefore, the most critical policy of all is for the City to adopt its Zero Waste goal, and ask all stakeholders in the community to participate in working towards the goal, to achieve it, or darn close, by the target deadline.

The following policies and programs complement each other, and provide an integrated system that is logically consistent and makes economic sense. The priority for the region's Zero Waste policies and

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<sup>27</sup> Source: Gil Friend, Natural Logic, email on May 11, 2008, [gfriend@natlogic.com](mailto:gfriend@natlogic.com), [www.natlogic.com](http://www.natlogic.com)

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incentives should be to restructure rates and fees to provide a clear price signal to reward those who waste less and recycle more. The region should also work with neighboring regions to adopt policies that will also keep recyclable materials (e.g. C&D debris) from being landfilled. In the event that significant progress is not made towards the goal of Zero Waste after adoption of the following policy options, the region should further consider other policy options that are available, such as more aggressive bans, mandates and EPR policies.

### 4.3.1 Adoption of Zero Waste Policies

1. The Town Councils of Telluride and Mountain Village and the County of San Miguel should adopt the Zero Waste Resolution proposed in Appendix A.
2. To ensure that Zero Waste is included in all elements of regional planning, Zero Waste should also be incorporated as a guiding principle of local Town and County General Plans the next time they are updated.
3. Zero Waste goals should also be adopted in zoning law and other regulations to identify appropriate locations for needed facilities and infrastructure.

### 4.3.2 Policies and Incentives for Waste Generators

1. The structure of the Telluride garbage and recycling contract structure needs to be revised. It reflects the historical availability of services instead of current operations. Now that there are two major waste haulers that offer recycling services in the area, the Towns should **require businesses to subscribe for at least an equal amount of recycling service as garbage service, but not require them to pay their waste hauler for recycling service. Require businesses to source separate all materials designated by the City.** Designate all materials recyclable that are collected by the residential curbside recycling program. **Rates for business recycling services should be offered at a 50% discount (at a minimum) from garbage rates.** All multi-family dwellings and lodging should be provided recycling services as part of their core garbage rates, without an extra charge.
2. The Towns should add the collection of materials from all waste and recycling receptacles to their contract. The Towns should require their contractors to purchase more recycling receptacles (that meet Town specifications for quality signage and compatibility with waste receptacles). Recycling receptacles should be located immediately adjacent to every garbage receptacle throughout the region.
3. Currently local policy limits the length of waste contracts to no more than 3 years. That policy should be adjusted to allow for longer term contracts that enable haulers to fully amortize costs of containers and collection equipment (e.g., Contracts of the local power utility are limited to 10 years). If that can't be done under CO law, then the Towns should agree with contractors on a contract clause that passes the unamortized costs forward for the next contract to cover, regardless of who is selected. That could be as simple as putting a condition in the next Request for Proposals (RFP) that unamortized costs of equipment should be included as part of their proposal, and that the title for that equipment will be transferred at the end of the contract to the new contractor.

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4. Ask businesses to meet a goal of Zero Waste for greater efficiency and sustainability of the local economy. Work to achieve Zero Waste Business Principles adopted by the GrassRoots Recycling Network.<sup>28</sup> TNCC provide training in these Zero Waste Business Principles and technical assistance on how to achieve them. TNCC provide other outreach, educational materials and recognition to businesses adopting Zero Waste (e.g., Zero Waste Decals for windows of Zero Waste Businesses diverting over 90% of their waste). TNCC also provide waste audit tools and technical assistance to businesses (including identifying specific recycling options for individual businesses).
5. Garbage rates for residents should include the cost of curbside recycling and organics collection and processing. Where multiple levels of solid waste service are offered, there needs to be a large gap between single-family residential rates for these different service levels to provide the most incentive to recycle. The cost for single-family residential services should be the same for each 30 gallons of garbage service. Once food scraps are able to be collected from residents, an every other week option for rubbish service should be offered to provide a greater incentive to reduce waste. Once expanded recycling and composting services are offered, at a minimum, the Towns should require their solid waste contractors to offer more than just 95-gallon solid waste service. Efforts underway in Telluride to eliminate 65-gallon service options due to difficulty in getting containers out every week while there are heavy snows in winter, should only be implemented as part of an every-other-week RUBBISH service, once food scraps composting is offered weekly (or residents document they are composting on-site).
6. As more processing capabilities are developed in the area, additional materials should be added to the residential curbside recycling service. Contractors should also leave promotional materials, and then warnings to residents to make sure they are aware of what types of materials can be recycled in the residential collection system. Contractors should require residents to pay for additional garbage service if they repeatedly contaminate their recyclables, to make sure the overall system works as planned.
7. One prospect for an environmental mitigation fee would be a transfer tax on the transfer of wood burning permits in the area. If the Towns charged 10% upon the transfer of ownership of such permits, they could generate a significant amount of revenue.

### 4.3.3 Retailer and Producer Responsibility

1. Be a strong advocate for Extended Producer Responsibility (EPR) legislation and programs regionally and statewide to encourage producers and retailers to takeback their products and packaging and reuse, recycle or compost them. Support the formation of Colorado Product Stewardship Council composed only of representatives of local government to clearly address this “unfunded mandate.”

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<sup>28</sup> See: <http://www.grrn.org/zerowaste/business/>

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2. Encourage businesses and institutions to take back products & packaging sold in area that are toxic in their manufacture, use, or disposal, and/or are difficult to recycle in the area.<sup>29</sup> Develop a web-based directory of all those who will takeback products and promote that widely.
3. Solicit industry-sponsorship of facilities to receive household hazardous wastes and difficult to recycle materials that are not taken back to producers or retailers in the area.<sup>30</sup>
4. Work to obtain legal authority and regional cooperation to ban problem products and packaging or require businesses and institutions to take back designated products and packaging sold in region.

### 4.3.4 Policies and Incentives for Recyclers

1. Identify and involve existing businesses and nonprofits that could provide reuse, recycling and composting services. Build on existing private and nonprofit reuse, recycling and composting operations to minimize public investments.
2. Facilitate and/or provide equipment, containers, land, building space and financing support to make reuse, recycling and composting more economic, including help from market partners (e.g., providing balers and containers). Encourage manufacturers of recycled content products to locate in the region. Target such manufacturers as priorities for economic development by the Towns and San Miguel County.
3. Expedite permitting of reuse, recycling and composting facilities by letting project developers to go to the head of the line in the permitting process.
4. The Towns and San Miguel County should adopt environmentally preferable purchasing specifications in public projects and as conditions of land use permits for major new commercial developments. TNCC should develop specifications for the use of compost or mulch in public projects and the Towns and San Miguel County should require all new major developments to use compost or mulch in their landscaping. TNCC should also work with the Farmers Cooperative to develop pilot programs targeting specific crops and demonstrating enhanced yields with less water and chemicals from the use of locally generated compost products.
5. Require all private haulers collecting wastes and recyclables from businesses to track the amount of waste and types of recyclable materials collected from each business, and make that information available upon Town request. Information reported should be readily available, such as volume of materials collected by type (i.e. waste, type of recyclable) and tons sent for processing or disposal. The ICLEI Sustainability Inventory recommended “Adopt a consistent system for tracking landfilled, incinerated, composted, and recycled waste by material type with uniform and frequent reporting by all waste service providers.”
6. Require recycling at all Construction, Demolition, Landclearing and Remodeling projects and require deposits be left for major projects over 10,000 square feet in gross floor area.<sup>31</sup> Require all

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<sup>29</sup> The City of Ottawa Ontario developed a voluntary takeback program that publicizes businesses that voluntarily accept products they sell from their customers, which engenders customer loyalty and appreciation for their corporate responsibility.

<sup>30</sup> like the Center for Hard to Recycle Materials (CHaRM) in Boulder, CO.

private developers, construction and demolition contractors, waste haulers and others handling these materials to report the quantities diverted and disposed to the Towns.

#### 4.3.5 Policy and Incentives for Waste Haulers

1. Develop 7-year contracts with up to 3-year extension for solid waste and recycling services contracted by the Towns of Telluride and Mountain Village to allow for amortization of containers and equipment needed to provide Zero Waste services.
2. Add fees, surcharges or taxes for waste hauling, transfer and disposal to internalize external costs and make it more economic for reuse, recycling and composting. Waste Management already pays the Town of Telluride for billing services. The Town could add additional fees that could be collected as part of that billing process. Although the unit rates for garbage disposal will be higher, increased waste diversion programs will decrease the number of tons requiring such disposal.
3. Work with Montrose County to add landfill surcharges to help fund reuse, recycling and composting programs recommended in this Zero Waste Action Plan and to provide greater incentives and a funding source for alternatives.
4. Adopt a Zero Waste environmental mitigation fee for all solid waste haulers to pay as a percentage of their gross receipts to help fund reuse, recycling and composting programs recommended in this Zero Waste Action Plan and to provide greater incentives and a funding source for alternatives.
5. Adopt a Zero Waste surcharge for all public and private solid waste transfer stations in San Miguel County to help fund reuse, recycling and composting programs recommended in this Zero Waste Action Plan and to provide greater incentives and a funding source for alternatives. Encourage coordination between Waste Management Transfer Station and Sunrise Resource Recovery Park for the public to bring source separated materials to the Resource Recovery Park, and only solid waste to the Transfer Station. At the San Miguel County Transfer Station, provide wider range of boxes for reused and recycled materials once additional processing services are developed in the region. Then receive at no charge or set lower rates for clean, source separated materials at the San Miguel County Transfer Station.
6. Work with Mountain Village to move the Transfer Station in core area to area in front of parking structure (or other more appropriate location). Add one or more on-site composters to that Transfer Station to compost food scraps and food-contaminated paper from restaurants, the Convention Center and lodges in the Mountain Village core area.
7. As recommended by the ICLEI Sustainability Inventory, work with Montrose County to ban the disposal of recyclable materials such as construction & demolition (C&D) debris at landfills, once recycling systems are in place in San Miguel County.

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<sup>31</sup> The towns of Telluride and Mountain Village and San Miguel County have all recently passed, or are in the process of passing, Green Building Codes that will encourage and require reusing and recycling building products. This proposed C&D ordinance would go beyond the requirements of the Green Building Codes to also ensure that the necessary C&D recycling infrastructure is developed.

8. Work with San Miguel and Montrose Counties to ban toxics, recyclables and compostables from transfer stations and landfills as facilities to more appropriately handle those materials are developed.

#### 4.4 Proposed Zero Waste Budget

After review of the local solid waste, reuse and recycling system, there are a number of services that stand out from all the other recommendations as critical to moving forward with the Zero Waste goal in this region:

- ◆ **Composting** - A composting facility is needed to compost all organics, including yard trimmings, food scraps and food-soiled paper
- ◆ **Resource Recovery Park** - More efficient recycling operations are needed to process reusables and recyclables from the region, including recyclables from construction and demolition debris, ideally in a Resource Recovery Park design
- ◆ **Solid Waste System Redesign** - Garbage contracts, rate structures and services provided need to be revised to provide incentives to all involved to move to Zero Waste (as detailed above).

To move forward to implement the Zero Waste Plan, the region needs to address these issues as priorities. The purchase of a baler and composter for the Sunrise Resource Recovery Park would enable the Telluride region to dramatically address two of these key challenges. This would reduce the region's carbon footprint by not only reducing volumes of waste but by reducing the miles traveled to haul waste to the closest landfills in Montrose County. The Resource Recovery Park would divert an estimated 50% of waste currently being hauled to the Broad Canyon Landfill, located in west Montrose County (over 50 miles away) and to the Montrose Landfill (over 75 miles away).

Expanding the capability of the Sunrise Resource Recovery Park with new equipment will likely produce two to three new jobs and an additional three to eight jobs at full build-out of the Center. The baler will allow Sunrise to produce marketable sized bales of recyclables, which will be competitive in the industry, potentially reducing the overall cost of curbside recycling.

The third challenge needs to be addressed by leadership provided by TNCC, working with staff at the Towns of Telluride and Mountain Village and San Miguel County. This will require someone full-time to work on these and outreach and education functions identified for TNCC in this Plan.

In March 2008, TNCC and Sunrise LLC jointly applied to the State of Colorado for a grant from the Recycling Resources Economic Opportunity Grant Program. In May 2008, the State notified TNCC and Sunrise that they had been awarded the grant. As a result, a majority of the funding to initially implement this Plan has already been arranged by TNCC.

The only remaining funding that needs immediate attention is funding of a full-time staff for TNCC. Similar to the recommendations of the ICLEI Sustainability Inventory, staffing is the critical element that will enable all of the different pieces of this Plan to begin to be implemented in a methodical and efficient

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way. It is recommended that the Towns of Telluride and Mountain Village and San Miguel County jointly fund this staffing for TNCC, and incorporate the costs of that staffing into their solid waste budgets or funding from the garbage system (e.g., through one or more of the fees recommended to be charged above).

Properly designed avoided collection and disposal costs can become the economic engine that drives the system to Zero Waste. Direct disposal cost savings alone at \$50/ton<sup>32</sup> could generate up to \$450,000 each year for the region to offset expanded costs of Zero Waste initiatives, once those savings are factored into economic evaluations. The value of the materials currently disposed is over \$330,000 each year<sup>33</sup>. If each of the materials were recovered completely and not thrown away, the benefit to the region would be the combination of the value and avoided disposal costs, or close to \$780,000 each year. This represents the budget for implementing Zero Waste in the region.

**If the region could implement all the programs and policies recommended in this ZWAP for less than \$780,000 per year, it would be environmentally and economically much more sustainable.** It would also become a beacon of hope for all those visiting the area as bright as the first electric streetlights in the nation that Telluride pioneered last century.

By adjusting policies as recommended, the Towns of Telluride and Mountain Village and San Miguel County can help everyone benefit that eliminates and recycles waste, and let those who choose to waste pay higher fees for those services. The local governments can have major impacts in defining what is economic, through the policies adopted in Ordinances, contracts, permits, zoning, and rate structures.

Once retailers and/or producers assume responsibility for their difficult to recycle products and packaging, the costs of reuse, recycling and/or composting will be incorporated within the purchase price of the products. This essentially becomes a self-funding system, and is one of the most powerful opportunities that exist to move towards Zero Waste.

As the Zero Waste Plan is implemented, other local business people may like to invest in new ventures outlined in this Plan, or may self-finance the expansion of new reuse, recycling and/or composting services by diversifying existing unrelated businesses.

Socially responsible investors would be interested in investing in projects like the Resource Recovery Park and new reuse, recycling and composting ventures. There is strong interest in investments in sustainable development and Zero Waste certainly qualifies as a tool to achieve a sustainable local economy. Adopting Zero Waste as a goal will also distinguish the region from most other communities at this point in time, which will immediately attract more interest and attention for outside funders to support the region's initiatives, as already demonstrated by the State funding that has been approved.

The Social Venture Network ([www.svn.org](http://www.svn.org)) is where socially conscious entrepreneurs meet, teach, support and create new ventures. The Business Alliance for Local Living Economies

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<sup>32</sup> Based on \$8/cubic yard, the current rate paid for disposal of waste from the public in Montrose.

<sup>33</sup> See Table 1.

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([www.livingeconomies.org](http://www.livingeconomies.org)) was established by the Social Ventures Network to not only help on sustainable development projects, but also to develop programs that encourage the reinvestment in local communities. Other socially responsible investors can be identified through a variety of sources, including:

- ◆ Investors Circle ([www.Investorscircle.net](http://www.Investorscircle.net))
- ◆ Green Biz Com ([www.greenbiz.com](http://www.greenbiz.com))
- ◆ Institute for Local Self-Reliance ([www.ilsr.org](http://www.ilsr.org))
- ◆ Center for New American Dream ([www.newdream.org](http://www.newdream.org))
- ◆ Business for Social Responsibility ([www.bsr.org](http://www.bsr.org))
- ◆ CERES ([www.ceres.org](http://www.ceres.org))

There are many foundations that are particularly interested in funding Sustainable Development. The Environmental Grantmakers Association ([www.EGA.org](http://www.EGA.org)) has a Sustainable Consumption and Production Committee that is composed of many foundations around North America that are funding such initiatives.

Funding is also available from the federal and state governments, as part of environmental protection, pollution prevention, economic development, agriculture, forestry and climate change initiatives.

TNCC's Zero Waste Coordinator should work with the Towns of Telluride and Mountain Village, San Miguel County and other local stakeholders to develop and submit proposals for project funding as one of their priority tasks.

Table 3 highlights the costs that are envisioned initially to implement this Zero Waste Action Plan.

**Table 3 - Costs to Initially Implement Zero Waste Action Plan**

<b>Costs</b>	<b>RREOF Grant</b>	<b>Other Sources</b>
Composter/Processor	\$65,000	
Baler	\$80,000	
Solid Waste System Redesign		\$45,000 (for TNCC staff, including benefits)
Education/Marketing		\$5,000 (for TNCC materials)
<b>TOTAL</b>	<b>\$145,000</b>	<b>\$50,000</b>

### 4.4.1 Zero Waste Coordinator

To ensure the effective and efficient delivery of Zero Waste programs, the Towns of Telluride and Mountain Village and San Miguel County should jointly hire a Zero Waste Coordinator in TNCC. This position could be created on a contract basis (one-year term). The Zero Waste Coordinator will be responsible for implementation of the programs outlined in this ZWAP respectively for the region, with the priorities detailed in the position's scope of work. It is recommended that the person hired have at least 3 years experience in the field of waste reduction and recycling, with preference given for local

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experience and knowledge. The position should be filled by someone who is particularly familiar with sustainability initiatives, in addition to their background in waste reduction. In addition, the successful candidate should be familiar with reuse, recycling and composting program implementation, as well as the concept of Resource Recovery Parks. Excellence in communications will also be a key attribute for this important position. Knowledge of grants and solid waste system funding would also be important.

## 4.5 Implementation Schedule for Priorities

Table 4 details a proposed implementation schedule for the priority tasks detailed in this Plan.

**Table 4 - Implementation Schedule for Priorities**

<b>Tasks</b>	<b>Completion Date</b>	<b>Deliverable</b>	<b>Person Responsible</b>
1) Sunrise purchase baler	Sept. 1, 2008	Equipment in operation	Sunrise
2) Sunrise purchase composter	Sept. 1, 2008	Equipment in operation	Sunrise
3) Sunrise hire staff and expand its Resource Recovery Park in Ilium Valley	Sept. 1, 2008	<ul style="list-style-type: none"> <li>• Expanded center and site</li> <li>• New jobs</li> </ul>	Sunrise
4) Work with local festivals and food service businesses to join in new compost and recycling programs	On-going	<ul style="list-style-type: none"> <li>• Number of festivals and events participating in recycling/compost program</li> <li>• Festivals to report on amount of trash/compost diverted</li> </ul>	TNCC with support of local governments
5) Work with local landscapers and garden centers to use compost and mulch materials.	May 1, 2009	<ul style="list-style-type: none"> <li>• Quantity of compost available to local landscapers, gardeners</li> </ul>	Sunrise LLC and TNCC
6) Create a drop-off site at Resource Recovery Park targeted to residents in region without curbside recycling.	Jan. 1, 2009	<ul style="list-style-type: none"> <li>• Completion of drop-off site</li> <li>• Drop-off site policies and rate structure, if necessary</li> <li>• Educational materials regarding drop-off site use</li> </ul>	Sunrise and TNCC
7) Solid Waste System Redesign - TNCC will work with local governments to increase reuse, recycling and composting through redesign of rate structures, incentives and other policies	May 1, 2009	<ul style="list-style-type: none"> <li>• New recycling rate structure</li> <li>• Incentives for recycling/composting</li> <li>• Mandatory recycling requirements</li> <li>• Mandatory tracking requirements for trash haulers, recyclers, and Festivals</li> </ul>	Local Governments, TNCC

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<p>8) TNCC will create an education program for community residents, businesses and visitors about reuse, recycling, composting and Zero Waste programs and policies.</p>	<p>May 1, 2009</p>	<ul style="list-style-type: none"> <li>• Educational materials</li> <li>• Press releases</li> <li>• Information on website</li> <li>• Public meetings/educational workshops</li> <li>• Contacts with event/festival organizers</li> <li>• Contacts with food service providers</li> <li>• Contacts with construction businesses</li> </ul>	<p>TNCC</p>
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## Appendix A – Model Zero Waste Resolution

WHEREAS, the placement of materials in waste disposal facilities, such as landfills and incinerators, is costly to taxpayers, causes environmental damage, wastes natural resources, and transfers liabilities to future generations; and,

WHEREAS, a resource management-based economy will create and sustain more productive and meaningful jobs; and,

WHEREAS, through the application of innovative policies, programs and facilities, virtually all resources can be recovered; and

WHEREAS, government is ultimately responsible for leading by example and establishing policies needed to eliminate waste, and

WHEREAS, the Telluride, Mountain Village and San Miguel Zero Waste Action Plan dated July, 2008, details how to eliminate waste and pollution resulting from landfilling our resources.

THEREFORE, be it resolved that the Council of the \_\_\_\_\_ [Town of Telluride, Town of Mountain Village or County of San Miguel] supports the adoption and implementation of the Zero Waste Action Plan, dated July, 2008 and endorses a Zero Waste *or Darn Close* <sup>34</sup>Goal by 2025, with interim goals of 50% diversion of solid waste from landfills and incinerators by 2011 <sup>35</sup> and 75% diversion by 2018<sup>36</sup>.

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<sup>34</sup> “Darn Close” means diverting over 90% of the region’s waste from landfills and incinerators compared to the base year in which the Plan was adopted.

<sup>35</sup> Assuming that is 1 year after the start of the next solid waste and recycling contract

<sup>36</sup> Assuming that is 1 year after the start of the following solid waste and recycling contract



Newspaper	5.2%	-57	10.1%	245	6.5%	87
White Ledger	0.6%	-7	0.5%	11	0.6%	8
Color Ledger	0.1%	-1	0.1%	1	0.1%	1
Computer Paper	0.0%	-0	0.0%	0	0.0%	0
Other Office Paper	1.3%	-14	0.5%	13	1.1%	14
Magazines and Catalogs	2.0%	-22	1.8%	45	2.0%	27
Phone Books and Directory	0.3%	-3	0.8%	19	0.4%	6
Other Miscellaneous Paper	4.6%	-50	5.2%	126	4.8%	64
Remainder/Composite Paper	8.2%	-89	7.7%	186	8.1%	108
Glass	3.1%	-34	6.5%	158	4.0%	54
Clear Glass Bottles and Containers	1.6%	-17	3.2%	78	2.0%	27
Green Glass Bottles and Containers	0.5%	-5	1.3%	31	0.7%	9
Brown Glass Bottles and Containers	0.7%	-7	1.3%	31	0.8%	11
Other Colored Glass Bottles and Containers	0.0%	-0	0.0%	0	0.0%	0
Flat Glass	0.0%	-0	0.1%	1	0.0%	0
Remainder/Composite Glass	0.4%	-4	0.7%	16	0.4%	6
Metal	4.3%	-47	5.5%	134	4.6%	62
Tin/Steel Cans	1.4%	-15	1.3%	32	1.4%	18
Major Appliances	0.0%	0	0.0%	0	0.0%	0
Other Ferrous	1.0%	-11	1.5%	35	1.1%	15
Aluminum Cans	0.4%	-4	0.4%	10	0.4%	5
Other Non-Ferrous	0.3%	-3	0.3%	8	0.3%	4
Remainder/Composite Metal	1.3%	-14	2.0%	48	1.5%	20
Plastic	8.7%	-95	9.1%	221	8.8%	118
HDPE Containers	1.0%	-10	1.5%	36	1.1%	15
PETE Containers	0.6%	-6	0.8%	18	0.6%	8
Miscellaneous Plastic Containers	0.8%	-9	0.8%	19	0.8%	11
Film Plastic	4.2%	-46	4.3%	103	4.2%	56
Durable Plastic Items	1.0%	-11	0.8%	21	1.0%	13

Remainder/Composite Plastic	1.2%	-13	1.0%	24	1.1%	15
Other Organic	45.7%	-497	43.1%	1,045	45.0%	602
Food	17.4%	-189	27.2%	660	20.0%	268
Leaves and Grass	12.7%	-139	4.2%	101	10.5%	140
Prunings and Trimmings	3.3%	-36	0.3%	8	2.5%	34
Branches and Stumps	0.1%	-1	0.0%	0	0.1%	1
Agricultural Crop Residues	0.0%	0	0.0%	0	0.0%	0
Manures	0.0%	0	0.0%	0	0.0%	0
Textiles	2.6%	-29	2.0%	48	2.4%	33
Remainder/Composite Organic	9.5%	-103	9.4%	229	9.5%	127
Construction and Demolition	5.5%	-60	1.5%	37	4.5%	60
Concrete	0.3%	-3	0.0%	0	0.2%	3
Asphalt Paving	0.0%	-0	0.0%	0	0.0%	0
Asphalt Roofing	0.0%	-0	0.0%	0	0.0%	0
Lumber	1.7%	-19	0.6%	15	1.4%	19
Gypsum Board	0.8%	-8	0.1%	1	0.6%	8
Rock, Soil and Fines	1.7%	-18	0.2%	4	1.3%	17
Remainder/Composite Construction and Demolition	1.0%	-11	0.7%	17	0.9%	12
Household Hazardous Waste	0.3%	-3	0.4%	9	0.3%	4
Paint	0.2%	-2	0.3%	6	0.2%	3
Vehicle and Equipment Fluids	0.0%	-0	0.0%	0	0.0%	0
Used Oil	0.0%	-0	0.0%	0	0.0%	0
Batteries	0.1%	-1	0.1%	2	0.1%	1
Remainder/Composite Household Hazardous	0.0%	-0	0.0%	0	0.0%	0
Special Waste	0.8%	-9	2.4%	58	1.2%	17
Ash	0.0%	-0	0.1%	3	0.1%	1
Sewage Solids	0.0%	0	0.0%	0	0.0%	0
Industrial Sludge	0.0%	0	0.0%	0	0.0%	0

Treated Medical Waste	0.0%	-0	0.0%	0	0.0%	0
Bulky Items	0.5%	-5	0.2%	5	0.4%	5
Tires	0.1%	-1	0.8%	19	0.3%	4
Remainder/Composite Special Waste	0.2%	-2	1.3%	32	0.5%	7
Mixed Residue	5.1%	-56	0.8%	20	4.0%	54
Mixed Residue	5.1%	-56	0.8%	20	4.0%	54

**MAMMOTH LAKES: 1999 Overall Commercial Waste Stream Sorted by Percent of Waste Stream for MAMMOTH LAKES <sup>39</sup>**

Material Type	Annual Tonnage	Disposal Percent of Commercial Stream
<u>Food</u>	1,518	29.8%
<u>Newspaper</u>	539	10.6%
<u>Remainder/Composite Paper</u>	471	9.2%
<u>Uncoated Corrugated Cardboard</u>	301	5.9%
<u>Film Plastic</u>	238	4.7%
<u>Other Miscellaneous Paper</u>	212	4.2%
<u>Clear Glass Bottles and Containers</u>	187	3.7%
<u>Brown Glass Bottles and Containers</u>	143	2.8%
<u>Remainder/Composite Organic</u>	139	2.7%
<u>Leaves and Grass</u>	126	2.5%
<u>Textiles</u>	98	1.9%
<u>Remainder/Composite Plastic</u>	84	1.6%
<u>Magazines and Catalogs</u>	77	1.5%
<u>Other Ferrous</u>	75	1.5%
<u>Remainder/Composite Construction and Demolition</u>	72	1.4%
<u>Prunings and Trimmings</u>	71	1.4%
<u>Green Glass Bottles and Containers</u>	69	1.4%

<sup>39</sup> Source for this solid waste data: <http://www.ciwmb.ca.gov/wastechar/wcabscm.asp>

<u>Durable Plastic Items</u>	62	1.2%
	49	1.0%
<u>HDPE Containers</u>	46	0.9%
<u>Lumber</u>	44	0.9%
<u>Phone Books and Directory</u>	43	0.8%
<u>Tin/Steel Cans</u>	43	0.8%
<u>PETE Containers</u>	39	0.8%
<u>Paper Bags</u>	37	0.7%
<u>Remainder/Composite Metal</u>	33	0.6%
<u>Mixed Residue</u>	32	0.6%
<u>Computer Paper</u>	31	0.6%
<u>Miscellaneous Plastic Containers</u>	28	0.6%
<u>Other Office Paper</u>	27	0.5%
<u>Remainder/Composite Glass</u>	23	0.5%
<u>Aluminum Cans</u>	21	0.4%
<u>Rock, Soil and Fines</u>	17	0.3%
<u>Tires</u>	16	0.3%
<u>Other Non-Ferrous</u>	11	0.2%
<u>Bulky Items</u>	10	0.2%
<u>Gypsum Board</u>	10	0.2%
<u>Manures</u>	8	0.1%
<u>Concrete</u>	6	0.1%
<u>Asphalt Paving</u>	5	0.1%
<u>Color Ledger</u>	5	0.1%
<u>Flat Glass</u>	3	0.1%
<u>Remainder/Composite Special Waste</u>	2	0.0%
<u>Batteries</u>	1	0.0%
<u>Other Colored Glass Bottles and Containers</u>	1	0.0%
<u>Major Appliances</u>	1	0.0%
<u>Paint</u>	0	0.0%

<u>Remainder/Composite Household Hazardous</u>	0	0.0%
<u>Vehicle and Equipment Fluids</u>	0	0.0%
<u>Branches and Stumps</u>	0	0.0%
<u>Asphalt Roofing</u>	0	0.0%
<u>Used Oil</u>	0	0.0%
<u>Sewage Solids</u>	0	0.0%
<u>Industrial Sludge</u>	0	0.0%
<u>Treated Medical Waste</u>	0	0.0%
<u>Agricultural Crop Residues</u>	0	0.0%

## Appendix C – Excerpts from ICLEI Sustainability Inventory 2006 regarding Waste<sup>40</sup>

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"In 2003 the [San Miguel Regional Recycling] Task Force developed guidelines for summer festival promoters. Several of the major festivals have adopted these guidelines and in several cases gone farther in this effort. The Telluride Bluegrass Festival, and the Blues and Brews Festival are the two largest to adopt the guidelines. With attendance numbering between 8,000 to 12,000 daily, this has significant potential toward reducing waste. The goal is to persuade more festival and event organizers to adopt the guidelines. The guidelines are outlined below:

### ***Green Festival Guidelines***

Goal: To reduce the consumption of virgin materials.

To reduce the amount of waste generated.

To get the highest environmental return for our dollar.

Festivals which wish to promote their festivals as "green" will try to adhere to the following guidelines.

- Do not offer for sale or give away bottled water – provide a stand where festival goer can fill up their own containers.
- Use post consumer waste to produce programs.
- Provide bins where festival programs can be recycled.
- Include in all programs "green" festival guidelines.
- Any festival with a "beer booth" will use mugs with post consumer recycled content, mugs that are recyclable, or mugs that will be reused by the festival organizers at future events. Discarding of mugs will be discouraged through a required deposit.
- Do not put festival specific information on mugs so that they can be used at future events.
- Increase education of festivalgoer regarding waste reduction and recycling.
- Provide recycling of glass, aluminum, and #1 and #2 plastics at all campgrounds.
- Food booths use biodegradable serving items.
- Publish an "approved green" list for all supplies that vendors use.
- Provide a manned recycling area inside the festival grounds.
- Use biodiesel whenever possible to run generators.
- Purchase "green" power for the event."...

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<sup>40</sup> From:

<http://www.sanmiguelcounty.org/pls/portal/docs/PAGE/SMCWEBSITE/TABNEWS/SMC%20FINAL%20SUSTAINABILITY%20INVENTORY.PDF>

## **“RECOMMENDATIONS**

- Set a community goal to reduce solid waste generation by a certain percentage. Stimulate participation through a contest created by youth in schools.
- Create a contest for re-use of disposable materials.
- Encourage home and restaurant business vermiculture composting systems. Hold a community workshop teaching citizens “how-to”. Sell vermiculture kits as a fundraiser.
- More easily accessed recycling services region-wide.
- Consistent tracking of recycling statistics between the county and town agencies to work on goals.
- With the help of local governments, continue to explore locations for a regional composting center; considering the possibility of two locations, one on the West end of the County and one closer to Telluride.
- Improve county-wide recycling by improving participation and finding more resourceful market destinations for materials.
- Research composting technology in similar climates in Europe.
- Investigate the benefits of instituting a plastic bag ban. Although no data is directly provided on this issue, nationally plastic bags are a significant and growing part of the waste stream and a significant source of litter.
- Adopt a consistent system for tracking landfilled, incinerated, composted, and recycled waste by material type with uniform and frequent reporting by all waste service providers.
- Increase opportunities for community recycling by implementing curbside recycling where feasible throughout the county, increasing the number of community recycling drop-off locations and material types collected.
- Develop a local recycling transfer station to collect recyclables and improve the economic viability of shipping them out of the community.
- Follow Seattle’s lead and ban the inclusion of recyclables in waste sent to landfill or incineration.
- Establish a goal for reducing total community and municipal solid waste sent to landfill as well as target diversion rates.
- Create strict disposal guidelines and salvage/re-use requirements for commercial and residential construction.
- Utilizing the San Miguel Regional Recycling Task Force, develop a newsletter to provide regular communication with residential and commercial recyclers on changes in regional recycling programs, reminders on how, when, and where to recycle, and other news worthy information such as special hazardous waste and electronics disposal events.”

See full Sustainability Inventory at: <http://www.telluridevision.org/DocumentView.asp?DID=14>.

## Mountain Village, Telluride and San Miguel County Zero Waste Action Plan

To expand the C&D processing infrastructure, there needs to be a larger demand for the services. In many communities they are adopting C&D ordinances to stimulate that demand. Assuming the policies recommended below are implemented, then the existing recycling operators should be able to justify investment in new equipment to process more commingled and mixed materials. These should be operated in properly zoned areas, preferably heavy industrial, to be compatible with their neighbors.

Sorting, grinding, and baling equipment are needed at one or more recycling facilities in the area, especially for the commingled and mixed materials. Mobile or portable sorting lines can be obtained for \$200,000 - \$500,000, depending on whether new or used, and the amounts and types of materials targeted for sorting. Grinding equipment is more expensive, but initially could be found used for several hundred thousand dollars to get facilities off the ground. Baling equipment can be obtained for \$50,000 - \$500,000, again depending on whether new or used, and the amounts and types of materials targeted for sorting.

C&D processing facilities also need to handle all types of used building materials identified in the programs discussion. The used building materials reuse and recycling could be located at the C&D processing facilities, adjacent to existing home repair and hardware stores, or as standalone locations like the Construction Depot and Habitat for Humanity ReStore in Montrose.

A way to move forward most easily in the region would be to build on the existing facilities in Montrose, and encourage people who commute for jobs in Telluride or Mountain Village that live in Montrose to haul reusable products to Montrose for marketing through the existing infrastructure that has been set up. That would jump start the flow of materials, provide immediate outlets for those materials in the San Miguel County region, and help Montrose commuters offset their increasingly costly commute costs by adding a new service in backhauling these products to markets.

Similarly, the region has not been a major supplier of used metals to Recla Metals in Montrose in the past. One or more of the region's recyclers should develop a stronger relationship to recycle metals with Recla Metals, as one of the largest recyclers in the area.

### 4.2.3 Reuse

Probably the biggest needs for **facilities** for reuse are warehousing functions that could help absorb the ebb and flow of products that are collected prior to distribution. The extent of the warehousing needs depends on how many players get involved in the reuse and recycling of products. If the decentralized ideas suggested above take hold, then there may be only a small need for a general warehouse function that could be leased out on a spot basis as needed to help in the ups and downs of market conditions. This could be done at the Resource Recovery Park proposed below, or another location.

In addition, the amount of warehousing needs could be decreased dramatically by an effective computerized matching service for materials reuse or resale. Although there have been many materials



## FOR IMMEDIATE RELEASE

### INCENTIVE PROGRAMS MAKE IT EASIER FOR COMMUNITY TO SAVE IN MORE WAYS THAN ONE

MOUNTAIN VILLAGE, COLO. – May 23, 2016 – The Town of Mountain Village is investing over \$170,000 in community incentive programs focused on the environment. The reason for doing so is simple and two-fold: Mountain Village wants to give its community members the power to make a difference and it's much easier to make a larger impact together than alone.

"We prefer to reward folks for doing the right thing rather than regulating them into compliance," said Environmental Services Director Deanna Drew. "Our incentive programs are a fun way to educate the community about our environment, and then engage them with meaningful actions to protect our outdoors and conserve our natural resources."

All told, five of the six programs will launch on or around Memorial Day Weekend and are part of the town's larger ethos of protecting the environment outside of its 3.27 square mile radius.

"What we do here extends way beyond Mountain Village Boulevard," said Nichole Zangara Riley, director of marketing and business development. "We know these programs are teaching our community that small changes can have a large impact, which is why we've continued with three tried-and-true incentive programs and added three new ones for 2016. With all of this, we've also been able to partner with key organizations that are also changing the environmental landscape for the better and want to connect with our community to make it more sustainable. This is about going at this together in order to move the needle in the right direction."

#### INCENTIVE PROGRAMS | LAUNCH DATES

The following is a list of 2016 Mountain Village incentive programs and their associated launch dates. With the exception of Relight Mountain Village, all programs are open until funds are exhausted.

1. Heat Trace Incentive Program, Launch May 2016, \$12,000 funding
2. Solar Energy Incentive Program, Launch May 27, \$12,500 funding
3. Noxious Weed Control Incentive Program, Launch May 27, \$7,500 funding
4. Relight Mountain Village Incentive Program, Launch June 1, \$20,000 funding
5. Wildfire Mitigation Incentive Program, Launch June 3, \$100,000 funding
6. Smart Water Controls Incentive Program, Launch August 2016, \$20,000 funding

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## HEAT TRACE INCENTIVE PROGRAM DETAILS

Mountain Village wants its residents to take control of their roof and gutter heat trace system. So the town is funding this new incentive program aimed at improving the safety and efficiency of heat trace systems commonly applied on roofs and gutters by offering a free system controller valued at \$380. To take advantage of this free offering, Mountain Village residents will need to follow a few steps, which are totally worth it: using an estimated 25 amps and 230 volts supplying a heat trace system on a home without controls from November to March may cost a resident approximately \$2,277 per zone. With the use of controls and a properly installed system, a resident may save 30- to 50-percent of their electricity costs per winter.

## SOLAR ENERGY INCENTIVE PROGRAM

The Solar Energy Incentive Program is another creative way that Mountain Village encourages the responsible use of natural resources throughout the community. With that, the town is offering significant savings to those who install solar on their home or business. First launched in 2014, the Solar Energy Incentive Program offers a rebate of \$0.40 per watt of installed power generated by the sun. This is in addition to [San Miguel Power Association's](#) current rebate of \$0.75 per watt and the current **federal tax credit of 30 percent.**

## NOXIOUS WEED CONTROL INCENTIVE PROGRAM

Controlling noxious weeds in a high alpine environment takes the entire community's support and due diligence. In 2015, the town distributed \$10,000 in noxious weed control rebates to over 50 properties. For 2016, Mountain Village was awarded another \$7,500 grant from Colorado Department of Agriculture's Noxious Weed Management Fund to incentivize Mountain Village property owners to manage noxious weeds on their properties. Property owners who professionally treat noxious weeds on their property are reimbursed 25 percent of their total bill, up to a maximum rebate amount of \$250 per property.

## RELIGHT MOUNTAIN VILLAGE INCENTIVE PROGRAM

For the third year, Mountain Village is offering its residents and business owners an opportunity to save money and energy by switching from inefficient light bulbs to new light-emitting diode technology (LEDs). In partnership with [San Miguel Power Association](#) (SMPA) and [Cooperative Business Lighting Partners](#), the Relight Mountain Village program provides instant rebates and exclusive offers to those who purchase up to 50 LEDs at [greenlivingtown.com](http://greenlivingtown.com). The 2016 online order period begins June 1 and will run until midnight July 31. Program participants can expect to save up to 75 percent for each LED bulb they purchase. In an effort to reduce waste, bulbs are delivered in bulk and available for pickup at Town Hall Plaza. Customers will be contacted via email regarding the specific date and time for this pickup event. Large commercial purchases that qualify for additional rebates will work directly with SMPA.

## WILDFIRE MITIGATION INCENTIVE PROGRAM

Mountain Village wants to help its residents create defensible space on their property in order to lower their wildfire risk. So the town, in partnership with the Telluride Fire Protection District, created the Wildfire Mitigation Incentive Program with Telluride Mountain Village Owners Association and the West Region Wildfire Council as funding partners. Through this program, every homeowner received a postcard and a unique personalized website that informed them of their property's wildfire risk rating using a variety of site data.

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To learn more, Mountain Village will host the Wildfire Mitigation Forum June 3 beginning at 10 a.m. in Mountain Village Town Hall. At this forum, residents can learn about the risk of wildfire from experts and then sign up for a home site visit with the town's forester and a wildfire mitigation specialist in order to learn how one can reduce their individual wildfire rating risk by creating defensible space. Mountain Village will reimburse a property owner 50 percent of their total defensible space project cost up to \$5,000 per property. This program is for existing Mountain Village homes, not new home construction.

### **SMART WATER CONTROLS INCENTIVE PROGRAM**

Our newest program for 2016 intends to educate the community about ways to prevent water loss, both inside and outside the home, and will encourage property owners to install devices on their water systems to eliminate water waste and conserve. The Smart Water Controls Incentive Program will reimburse the homeowner's full cost of an Environmental Protection Agency-approved WaterSense irrigation controller installed on lawn irrigation systems. These smart controllers use real-time local weather data, including humidity, wind speed, solar radiation and rainfall, to calculate evapotranspiration rates and automatically adjust irrigation watering accordingly. All residential properties in Mountain Village, West Meadows and Ski Ranches are eligible for this program, and the town will reimburse the homeowner for all controllers needed to serve the entire property.

For more information about each incentive program, visit Mountain Village's website.

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### **ABOUT MOUNTAIN VILLAGE**

Situated in the heart of the breathtaking San Juan Mountains, Mountain Village was incorporated in 1995 as a home rule municipality. Its founders envisioned a European-style ski-in/ski-out, pedestrian-friendly destination resort that would complement the historic mining town of Telluride. A three-stage gondola transportation system connects the Town of Mountain Village with the Town of Telluride. Situated at 9,500 feet, Mountain Village is comparably a world apart from other resorts: it is innately spectacular, beautifully orchestrated and planned, and overflowing with style, charm and sophistication. For more information, please visit us on the Web at [townofmountainvillage.com](http://townofmountainvillage.com).