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Eagle County Climate Action Plan

Stakeholder Meeting #1

Monday, March 21, 2016

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Let's Get Started!

- Welcome
- Logistics
- Agenda Overview
- "Bike Rack"

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Session #1:
Introductions
& Project Overview

Introductions

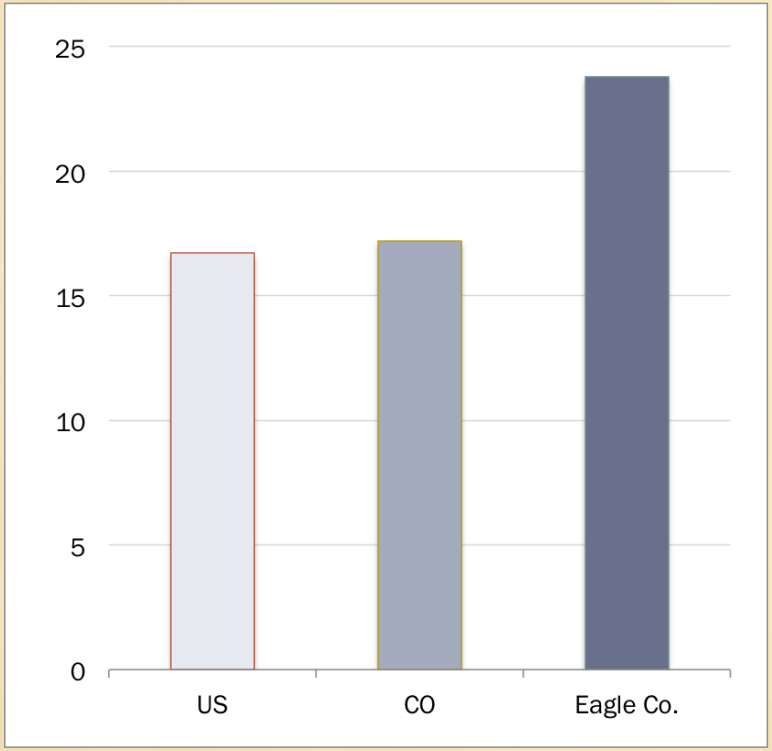
- Stakeholder introductions:
  - Your name, your agency/organization, and your role there
  - Something we don't know about you
- Introduction of the planning team

Background and Project Need

- Project background and overview
- Why a climate action plan (CAP)?
- What's in a climate action plan?
- Why now?

Emissions per capita

mT CO2e



Goals for the Climate Action Plan

- Set meaningful, achievable greenhouse gas emissions reduction targets for Eagle County
- Educate and engage our community about climate change
- Build on each others' knowledge and commitment
- Collaborate across towns, agencies, and organizations
- Support and reflect state goals and regional efforts

Stakeholder Roles and Responsibilities

- Be a thoughtful listener and contributor; share “air-time”
- Commit to this process with your time and energy; come prepared for meetings and participate fully
- Communicate regularly with your organization’s leadership; minimize surprises and share information
- Provide feedback to the planning team on what you need to carry the group’s messages and decisions forward
- Keep the big picture in mind as you also represent your organization’s needs

Stakeholder Input

- Engagement in the development of the plan
- Key roles in meeting our climate action goals
- Strong connections to our community
- Feedback and collaboration on the plan
- Opportunity to participate in regional effort

…which is why your participation matters so much!

What motivated YOU to participate in this effort?

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Let's take a ten-minute break!

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Session #2:
Understanding Climate Change

Terminology*

- Weather: the current and short-term way the atmosphere is behaving (temperature, humidity, precipitation, cloudiness, visibility, wind, and atmospheric pressure… and snowfall, of course!)

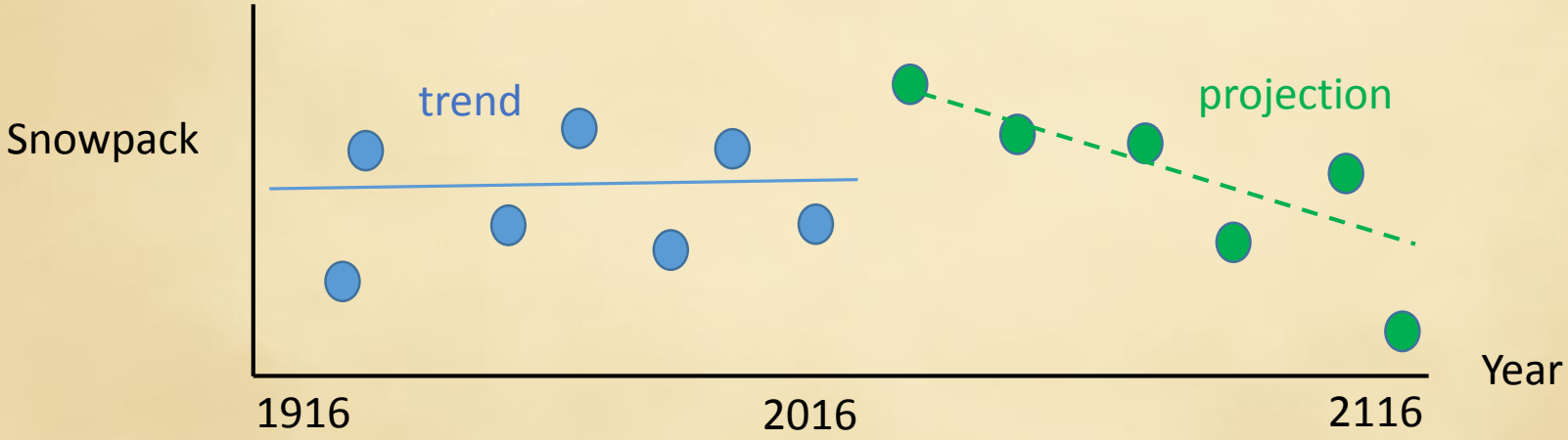
- Climate: the average weather over space and time (usually >30 years)

- Climate change: a statistically significant variation in either the mean state of the climate or in its variability (decades or longer); can be due to natural or anthropogenic causes

*Definitions on these slides were taken from NASA, IPPC, Denver's Climate Action Plan, and similar sources.

More Terminology

- Trend: the trajectory of historic climate data over short- or long-term timespans (*think: understanding the past)*
- Projection: the response of the climate system to emission or concentration scenarios of greenhouse gases and aerosols, often based on climate models (*think: a plausible future*)



More Terminology

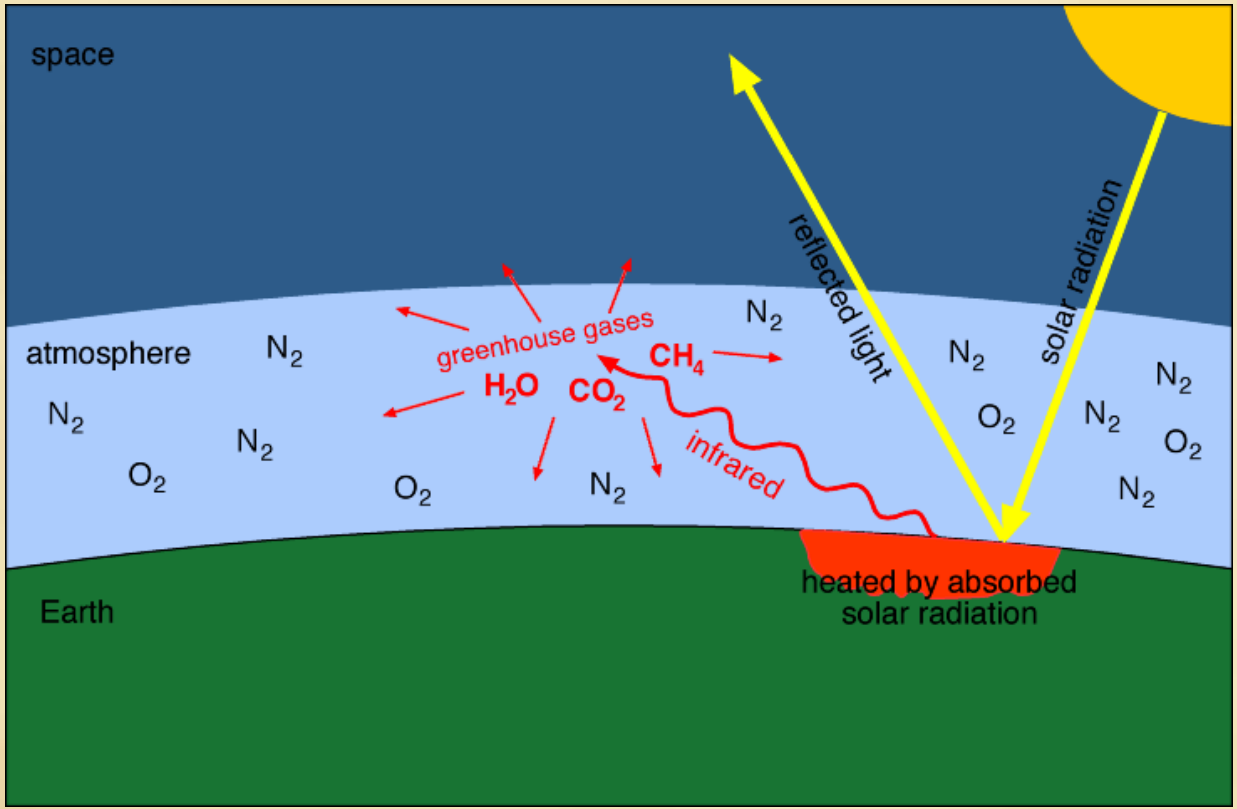
- Mitigation: efforts to reduce or prevent emission of greenhouse gases
  - E.g., increasing bicycle paths to reduce car traffic
- Adaptation: efforts by society or ecosystems to prepare for or adjust to future climate change
  - E.g., upgrading infrastructure to withstand climate changes
- Resilience: a capability to anticipate, prepare for, respond to, and recover from significant multi-hazard threats with minimum damage to social well-being, the economy, and the environment

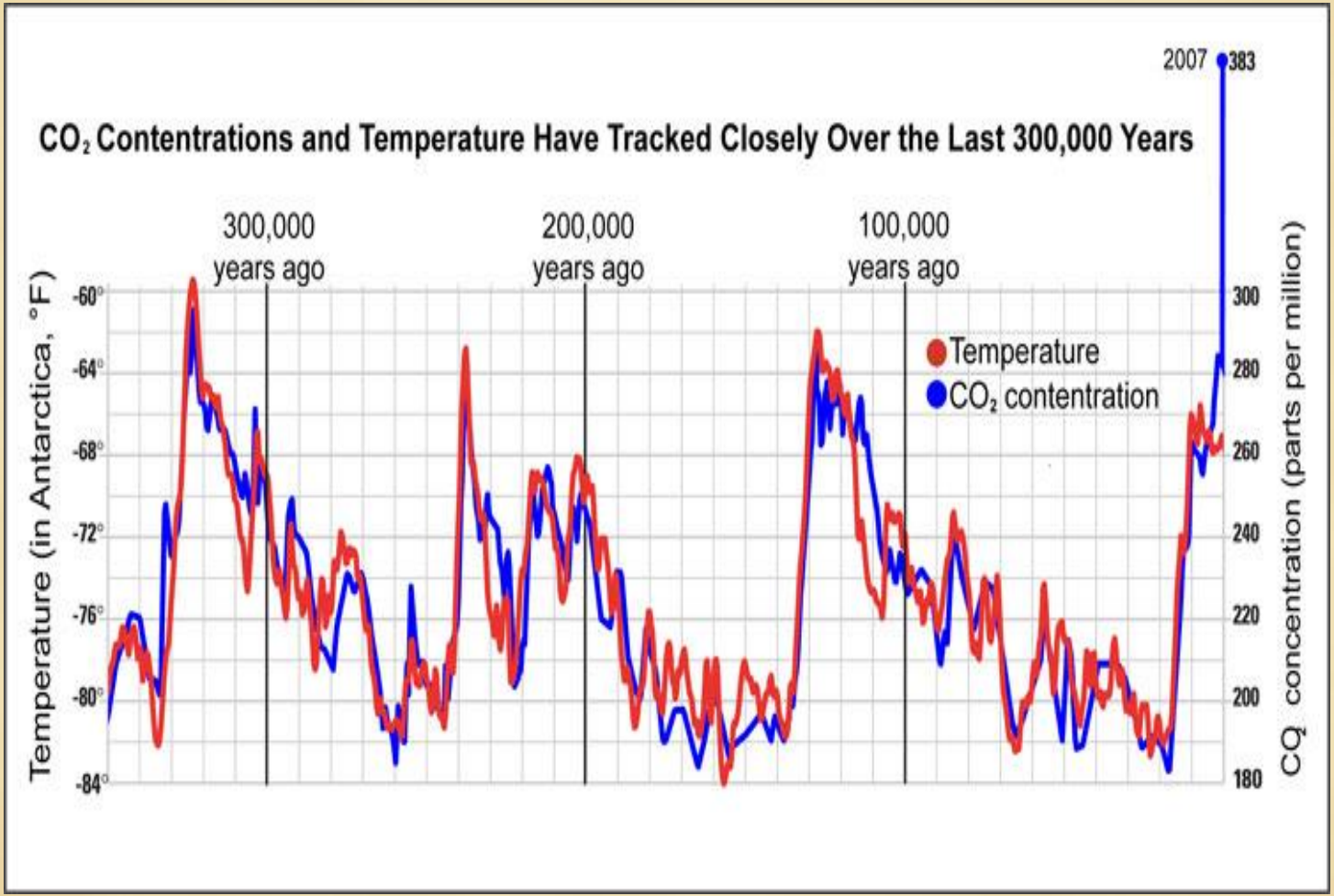
And a Few Acronyms

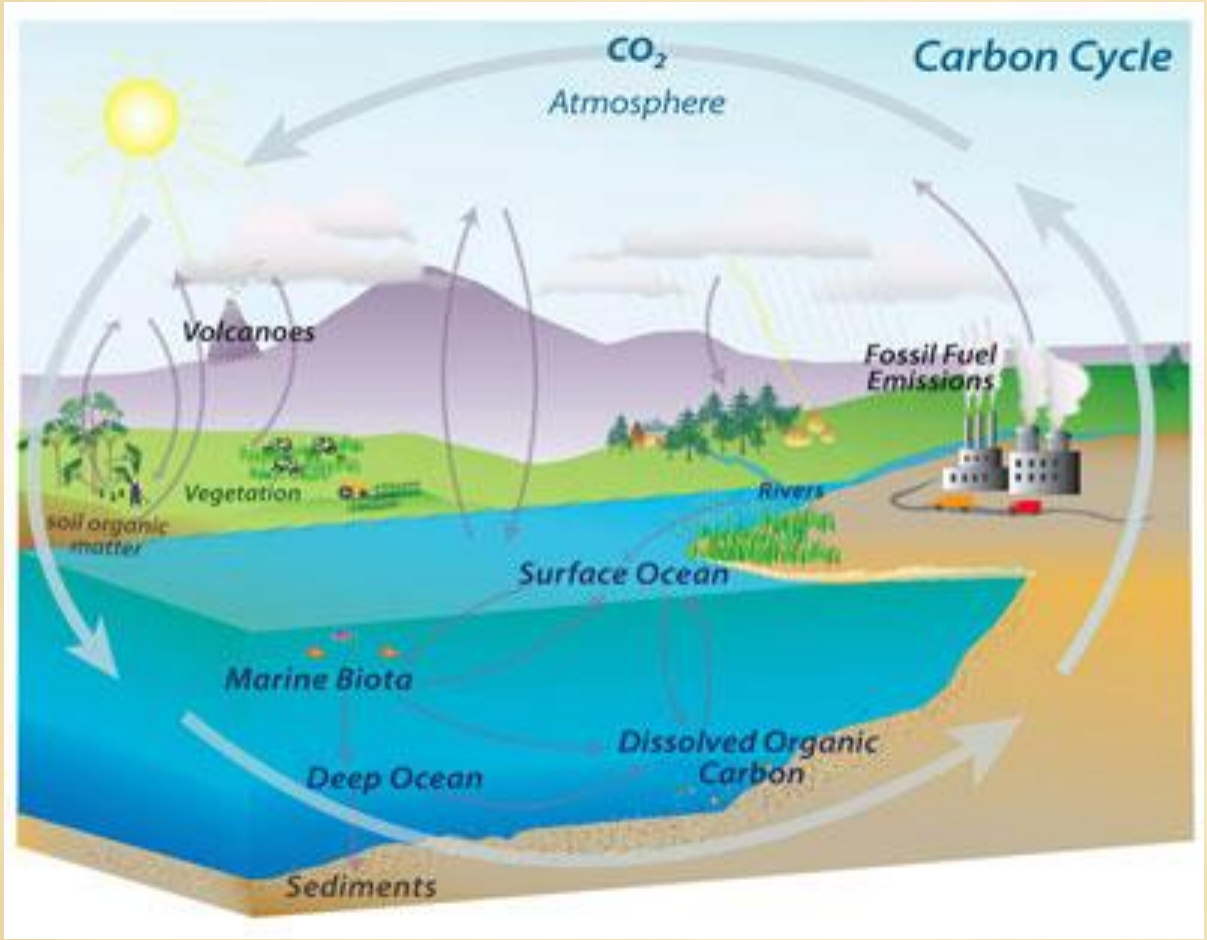
- Greenhouse gases (GHGs): gases that absorb and emit radiation at specific wavelengths, causing the greenhouse effect
  - The big four are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and water vapor (H2O).
- NCA: (US) National Climate Assessment
- IPCC: Intergovernmental Panel on Climate Change
- COP21: Conference of Parties; a.k.a. 2015 Paris Climate Summit

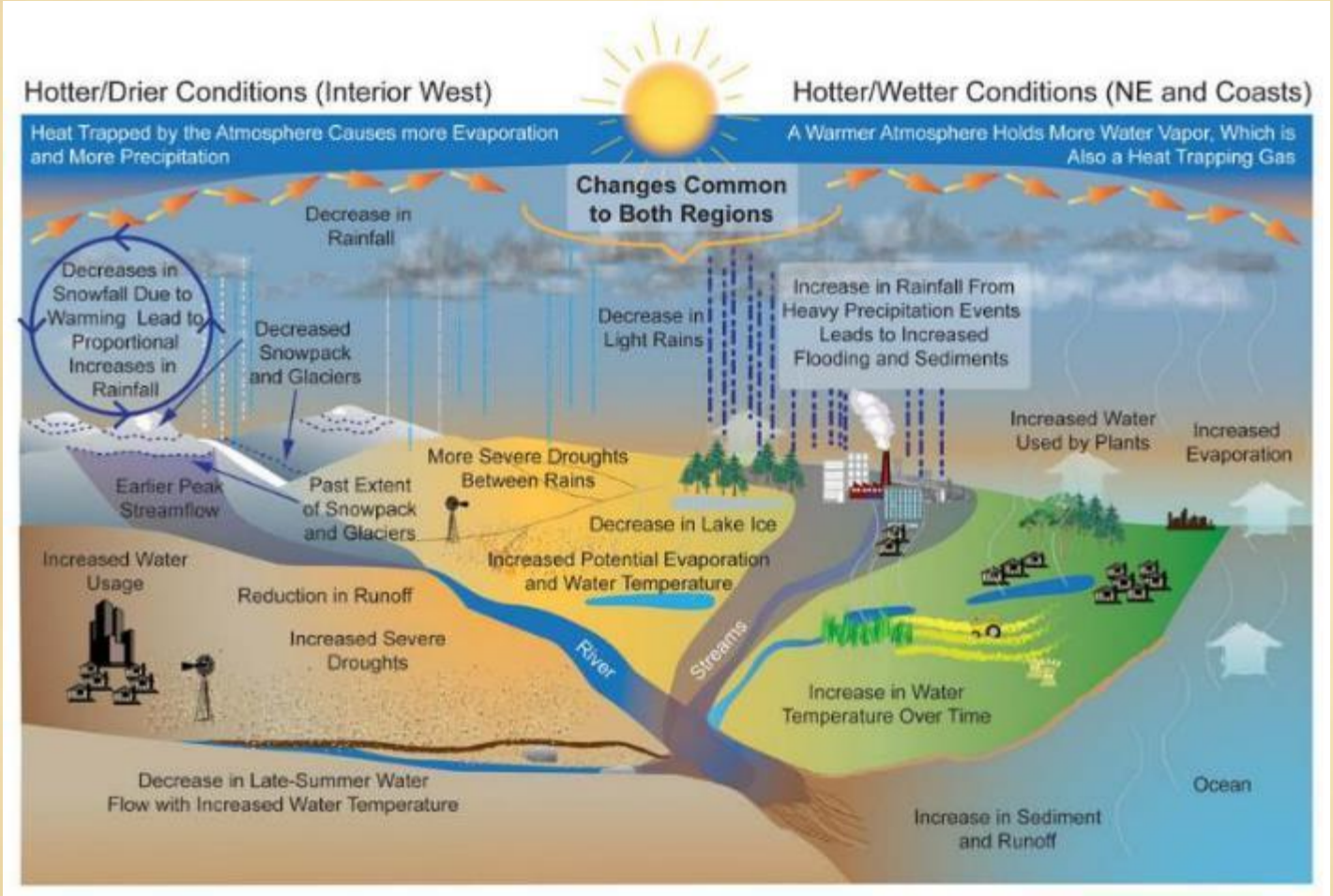
1 metric ton of CO_2 = 1 hot air balloon

Overview of Climate Science




CO_2 Contentrations and Temperature Have Tracked Closely Over the Last 300,000 Years
2007
383
300,000 years ago
200,000 years ago
100,000 years ago
Temperature (in Antarctica, °F)
-60°
-64°
-68°
-72°
-76°
-80°
-84°
Temperature
CO_2 contentration
300
280
260
240
220
200
180
CO_2 concentration (parts per million)


CO_2
Atmosphere
Carbon Cycle
Volcanoes
Fossil Fuel Emissions
Vegetation
Rivers
soil organic matter
Surface Ocean
Marine Biota
Dissolved Organic Carbon
Deep Ocean
Sediments


Hotter/Drier Conditions (Interior West)
Hotter/Wetter Conditions (NE and Coasts)
Heat Trapped by the Atmosphere Causes more Evaporation and More Precipitation
A Warmer Atmosphere Holds More Water Vapor, Which is Also a Heat Trapping Gas
Changes Common to Both Regions
Decrease in Rainfall
Decreases in Snowfall Due to Warming Lead to Proportional Increases in Rainfall
Decreased Snowpack and Glaciers
Decrease in Light Rains
Increase in Rainfall From Heavy Precipitation Events Leads to Increased Flooding and Sediments
Increased Water Used by Plants
Increased Evaporation
More Severe Droughts Between Rains
Earlier Peak Streamflow
Past Extent of Snowpack and Glaciers
Decrease in Lake Ice
Increased Water Usage
Increased Potential Evaporation and Water Temperature
Reduction in Runoff
Increased Severe Droughts
River
Streams
Increase in Water Temperature Over Time
Decrease in Late-Summer Water Flow with Increased Water Temperature
Ocean
Increase in Sediment and Runoff

Colorado Climate Trends*

- Average annual temperature up 2.5˚F in last 50 years
- Daily minimum temperatures have increased more than daily maximums
- Timing of peak runoff and snowmelt has shifted 1-4 weeks earlier
- Decreasing trend in cold waves, increasing trend in heat waves
- No clear trend in precipitation or flooding

*Source: C*limate Change in Colorado: A Synthesis to Support Water Resources Management and Adaptation. A report for the CWCB*. 2014. Lead author Jeff Lukas, CU CIRES WWA. http://cwcb.state.co.us/environment/climate-change

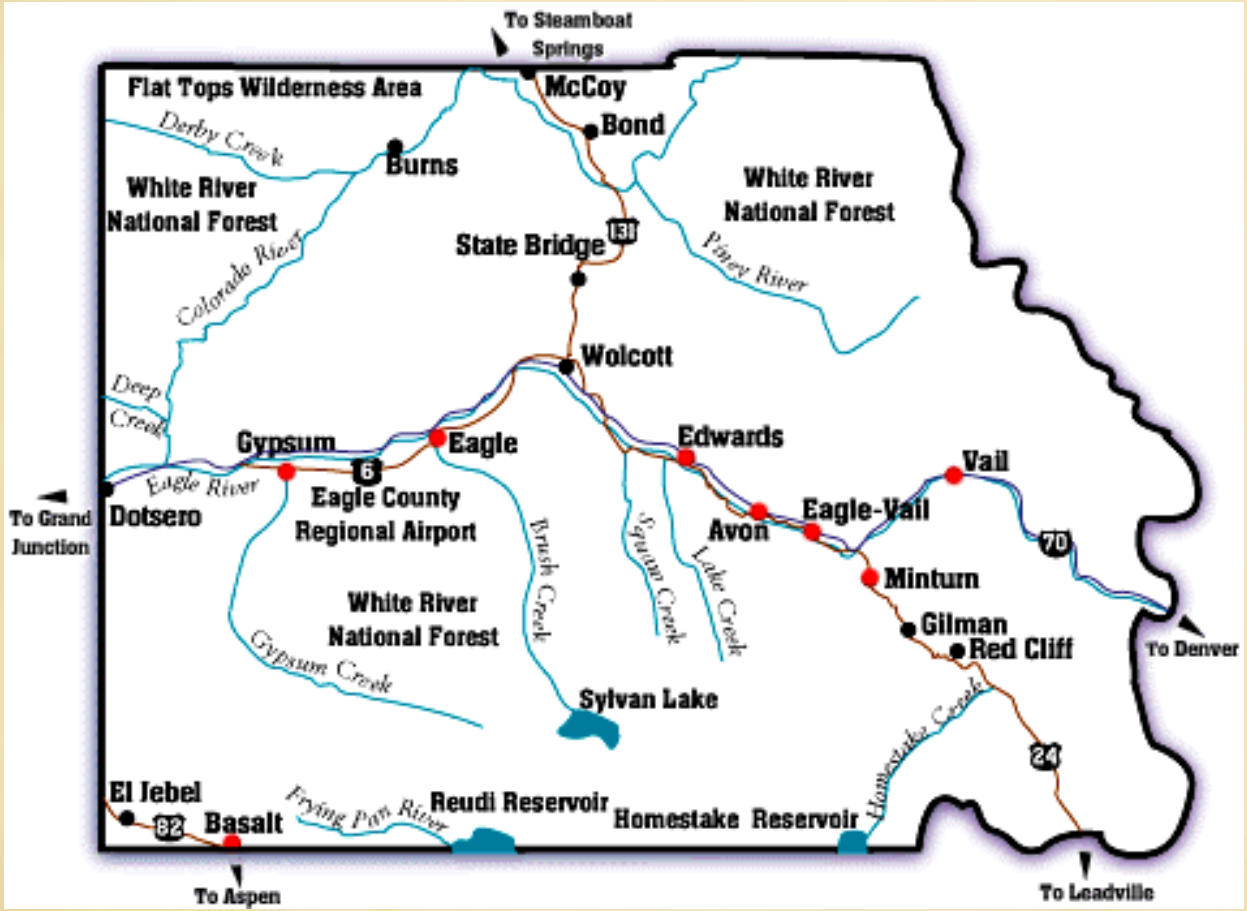
Colorado Climate Projections*

- Statewide annual temperature will rise 2.5˚F - 5˚F by 2050, and could be as much as a 6.5˚F increase
- Summer temperatures will warm more than winter temperatures
- Greatest warming will occur in summer
- Most models indicate spring snowpack decline and continued shift in peak snowmelt
- Most models indicate increase in extreme events (wildfires, droughts, floods)

Focusing on the CAP

- The focus of the community CAP is on GHG reduction

- This requires:
  - Understanding the *amount* of emissions in the county
  - Understanding the *sources* of emissions in the county
  - Discussing *where and how* emissions reductions can take place
  - Deciding on the specific *goals* for emissions reductions
  - Deciding on projects; who does what and how the plan will *succeed*

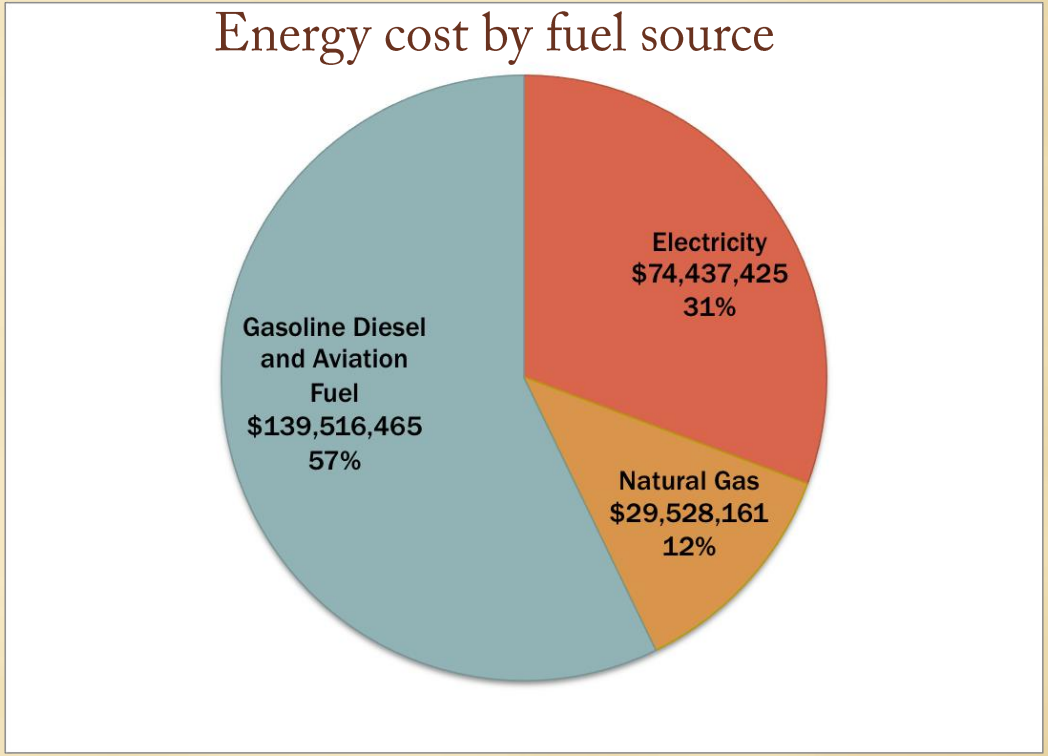

To Steamboat Springs
Flat Tops Wilderness Area
McCoy
Bond
Derby Creek
Burns
White River National Forest
White River National Forest
State Bridge
131
Colorado River
Piney River
Wolcott
Deep Creek
Gypsum
Eagle
Edwards
Vail
Eagle River
6
Eagle County Regional Airport
Dotsero
To Grand Junction
Avon
Eagle-Vail
70
Minturn
Brush Creek
Squaw Creek
Lake Creek
White River National Forest
Gilman
Red Cliff
To Denver
Gypsum Creek
Sylvan Lake
Homestake Creek
24
El Jebel
82
Basalt
Frying Pan River
Reudi Reservoir
Homestake Reservoir
To Aspen
To Leadville

Eagle County Emissions Overview

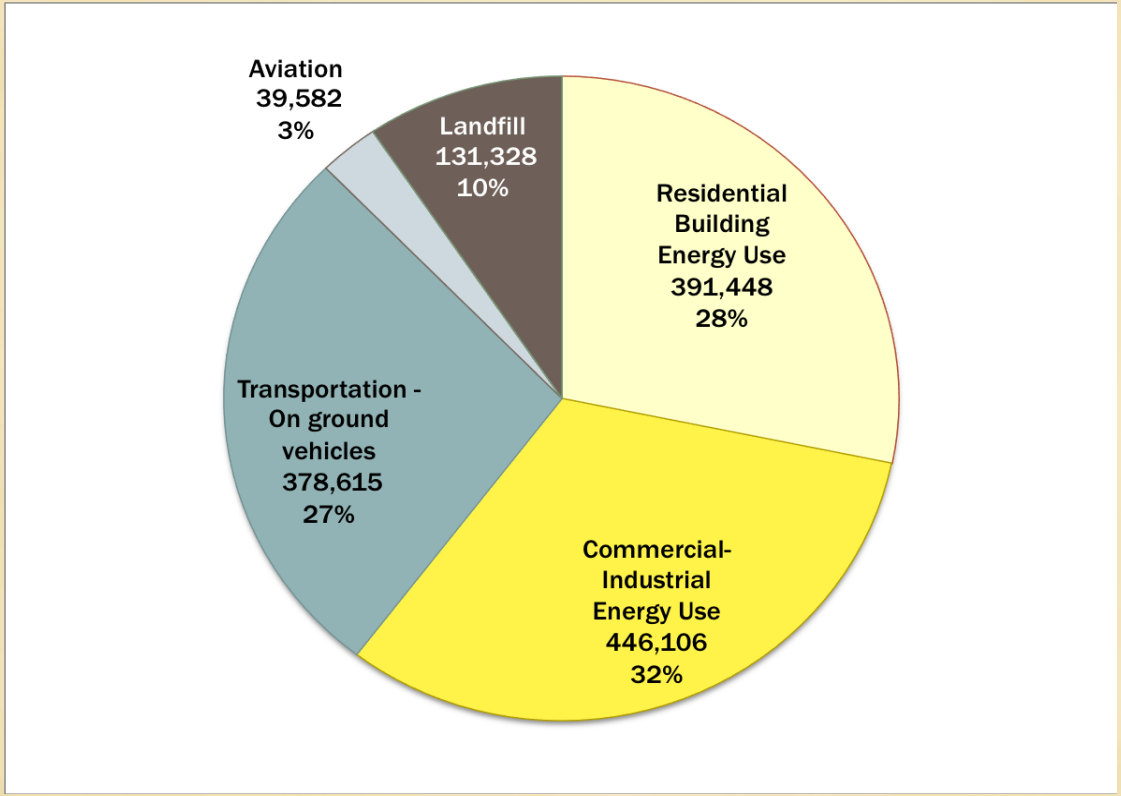
- Erica Sparhawk, Program Director, Clean Energy Economy for the Region (CLEER)

2014 Eagle County GHG Inventory

- $243 million / year
- 1.25 million tons CO_2

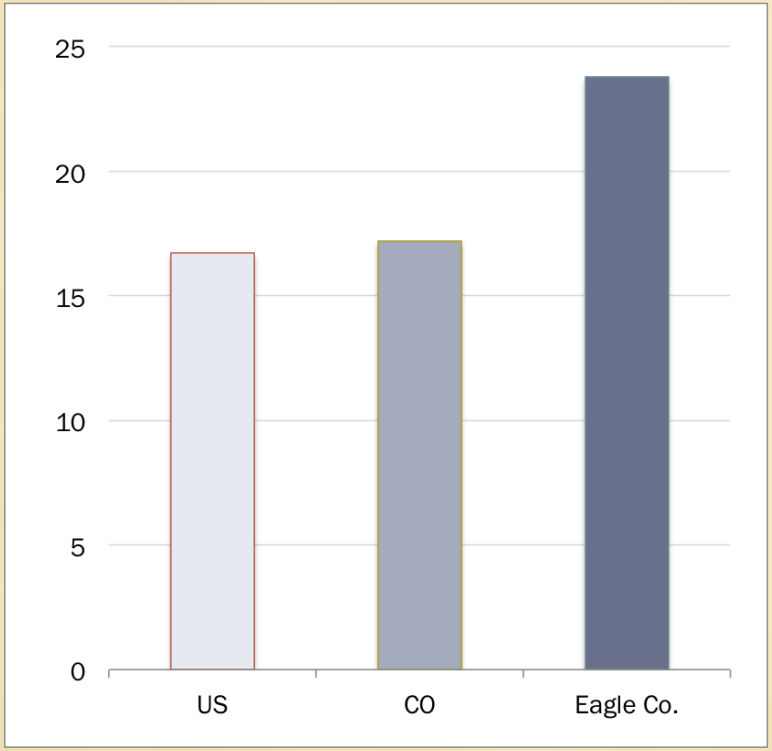


Total emissions in Eagle County by sector

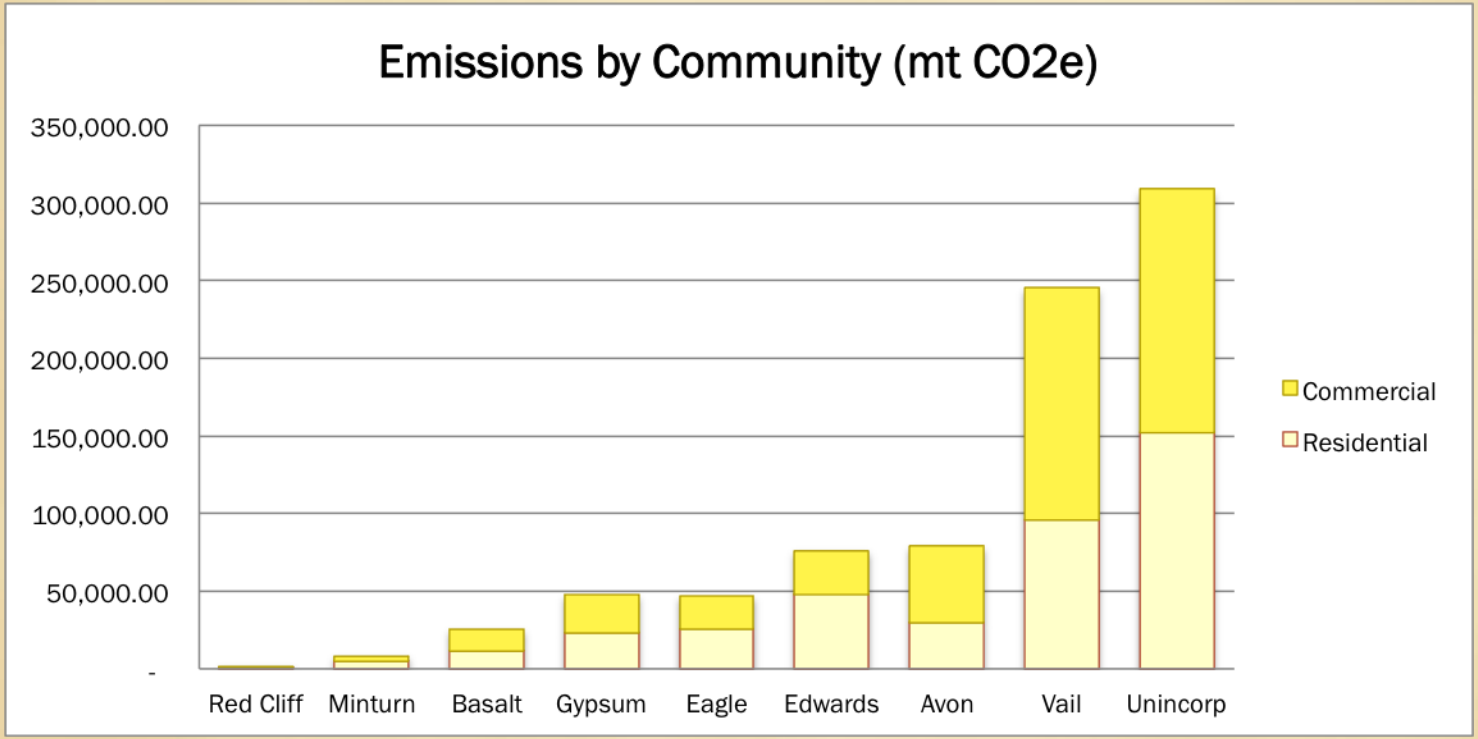


Emissions per capita

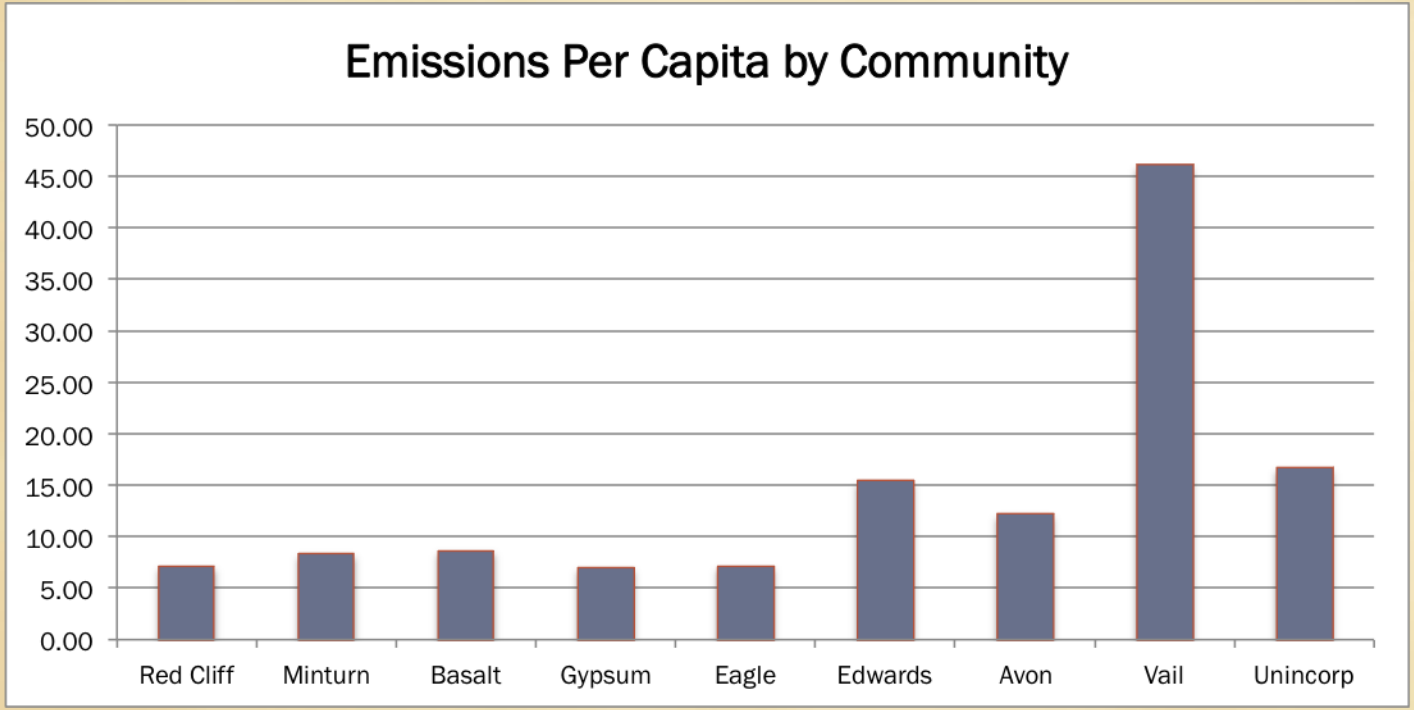
mT CO2e



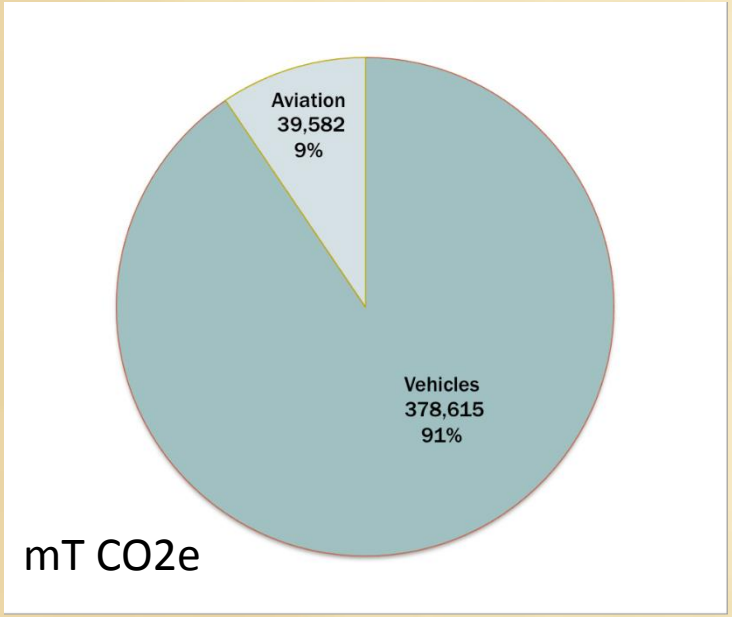
Energy use by Community

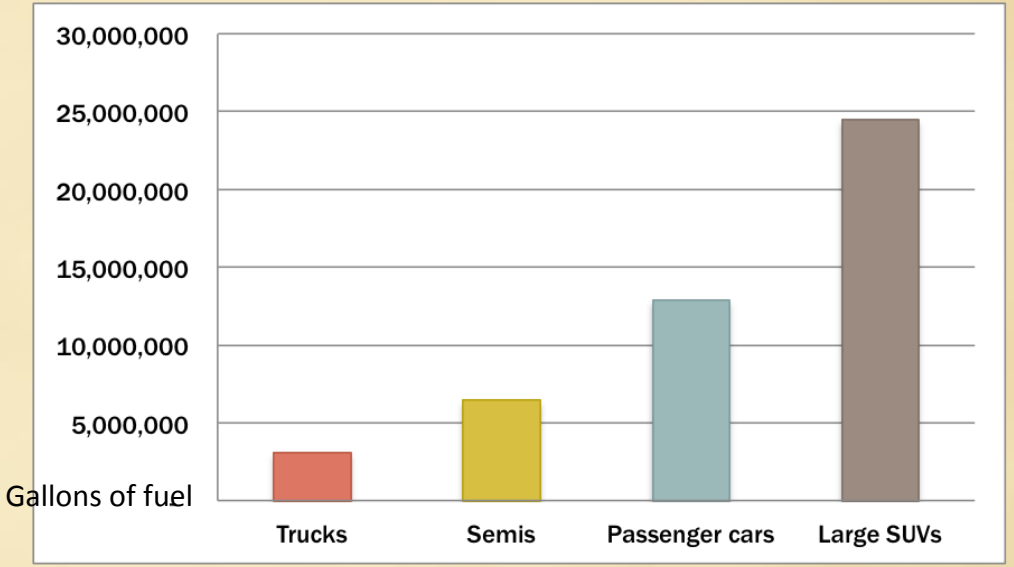


Emissions per capita by Community

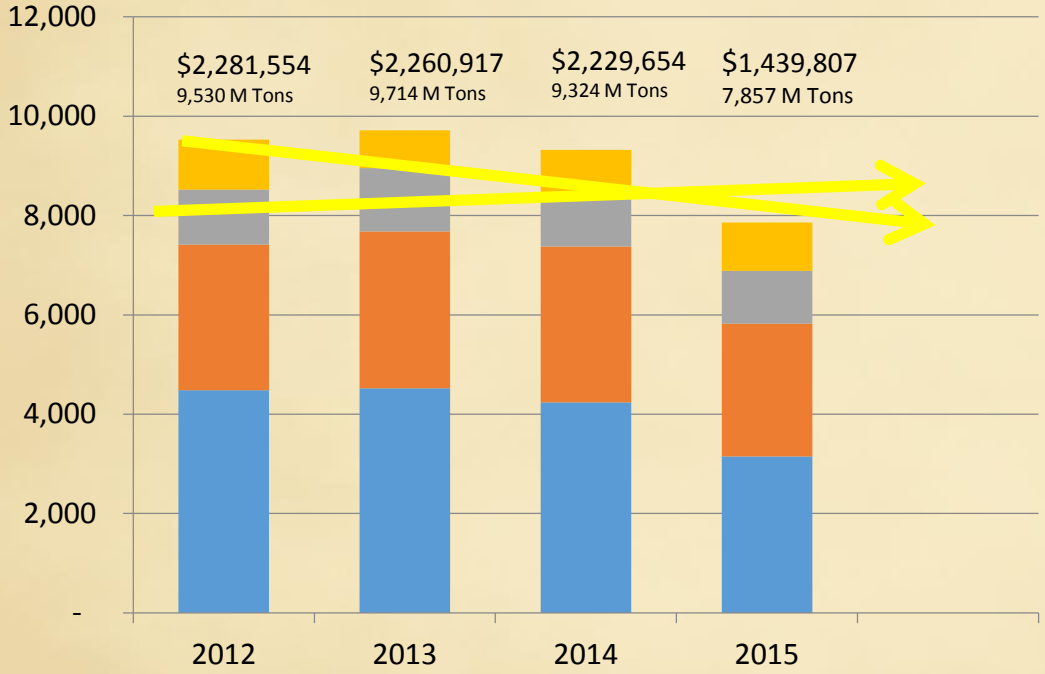


Transportation emissions





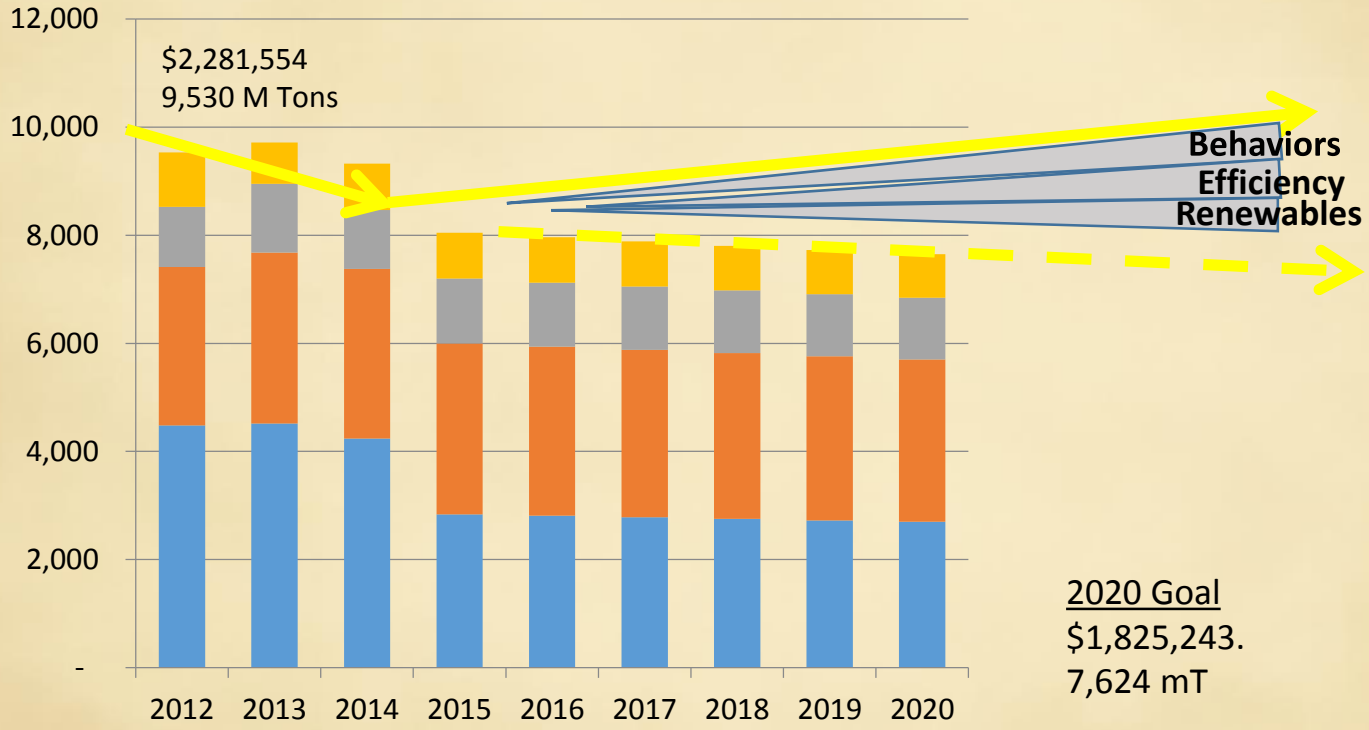
Greenhouse Gas Emissions, metric tons



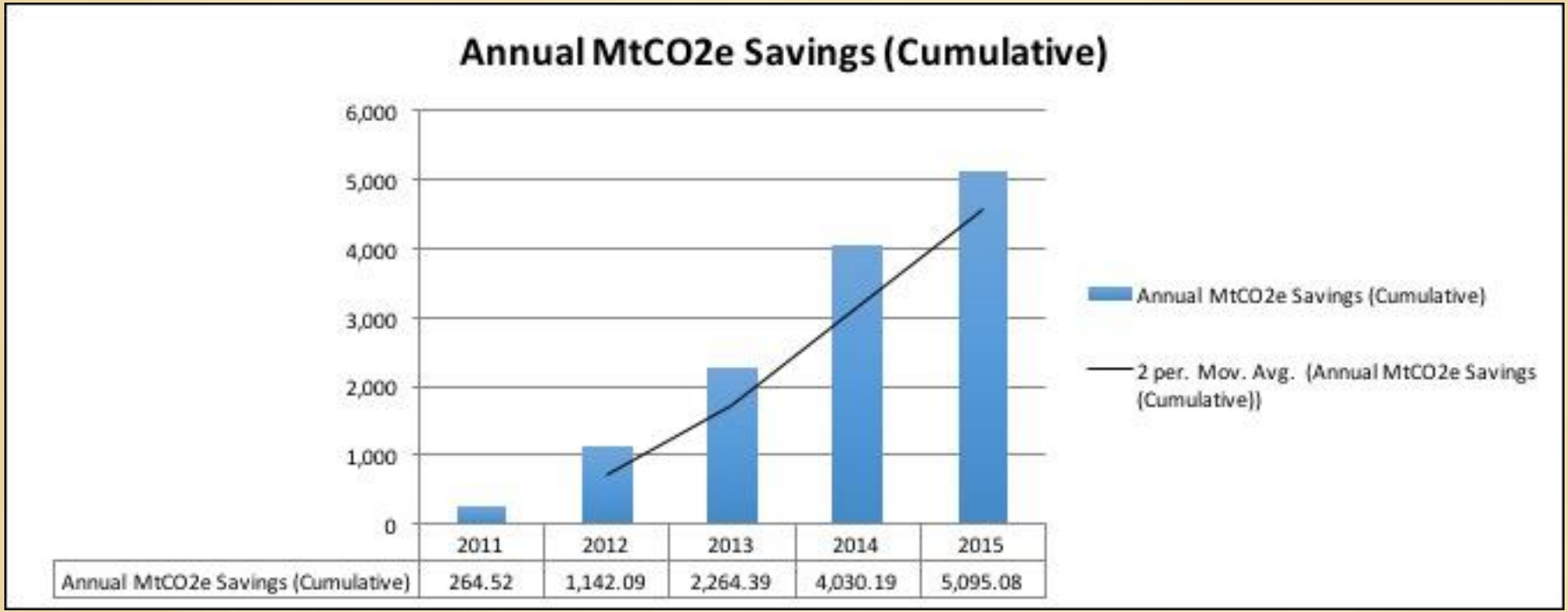
Baseline 2012
9,530 M Tons

2015
7,857 M Tons

Moving Forward
Example - 1% per year reduction



2020 Goal
$1,825,243.
7,624 mT



	2011	2012	2013	2014	2015
Annual MtCO2e Savings (Cumulative)	264.52	1,142.09	2,264.39	4,030.19	5,095.08

Our Ultimate Goals Are…

- Engage the community in this important dialog
- A plan that is meaningful, useful, and implementable
- An "X% by YEAR" type of goal
- A set of actions and/or projects that will support the achievement of the community-wide goal
- Community recommendations for GHG emissions reductions

Other Communities' Targets

Community	GHG Reduction Target	Baseline
Aspen	30% by 2020 and 80% by 2050	2004
Boulder	20% by 2020, 43.5% by 2030, and 81% by 2050	2005
Boston	25% by 2020 and 80% by 2050	2005
Denver	80% by 2050	2005
Fort Collins	20% by 2020, 80% by 2030, and 100% by 2050	2005
Lake Tahoe	15% by 2020 and 49% by 2035	2005/2010

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Let's have lunch!

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Session #3:
What Success Looks Like

Group Discussion

- What does success look like for our community climate action plan?
- What does success look like for your organizations?
- What challenges do we anticipate?

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Session #4:
Process Discussion

Guiding Principles for the CAP

- Value each others' and the community's input and knowledge
- Keep in mind the triple bottom-line, "people, planet, profit"
- Take calculated risks
- Address all areas/sectors that contribute to GHG emissions
- Develop meaningful goals and metrics to show progress through time
- Strive for informed consent on CAP decisions

Stakeholder Process Overview

- Six total stakeholder meetings
- Plan scheduled to be complete by end of 2016
- What will the final plan look like?
- Finalization process: to be discussed during our next few meetings

Overview of Project Schedule

Step	Date
Stakeholder Meeting #2	April 18, 2016
Stakeholder Meeting #3	May 23, 2016
Stakeholder Meeting #4	June 20, 2016
Planning team works on draft	July (no stakeholder meeting)
Stakeholder Meeting #5	August 22, 2016
Public Involvement / Open Houses	Early Fall 2016
Stakeholder Meeting #6	Mid Fall 2016
Finalize / Approve Plan	Late Fall 2016

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Session #5:
Wrap-Up and Next Steps

Next Steps in the CAP Process

- Next meeting: focused discussion on setting targets on April 18
- Let's take a vote – morning (9-12) or afternoon (1-4)?
- Follow-up on any Q&A and bike rack items
- Are there any information needs for next time?

For Our Next Meeting

- Stakeholder tasks:
  - Discuss this meeting with your agency/organizational leadership
  - Read through the background material posted at: http://www.walkingmountains.org/sustainability-2/climate-action-plan/
  - Be prepared to discuss a "X% by YEAR" goal for the community
  - Start conversations about what your organization can do to help meet our county CAP goals

- Planning team tasks:
  - Post summary of meeting notes (including future meeting dates & times)
  - Follow up on any Q&A and bike rack items

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A Big THANK YOU!

- Mark your calendars for the next meeting on **April 18, 2016**
- Please keep in touch

  Kim Langmaid
  kiml@walkingmountains.org
  970.827.9725 ext. 131
- Thank you again for your participation today!