

# Shades of Green Sustainability Strategies



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# Sustainability



Sustainability is the balanced stewardship of human, financial, and environmental resources for present and future generations.

# Colorado Impacts



- Shorter and warmer winters, with thinner snow pack and earlier runoff
- Severe weather events
- Widespread beetle infestation (3.6 millions acres in CO & WY)
- More wildfires, burning twice as many acres each year than before 1980



# Establish Comprehensive Goals and Re-evaluate





## 1. Carbon:

Reduce greenhouse gas (carbon) emissions from municipal operations at least 2% per year starting in 2010, in order to achieve a reduction of 20% below 2005 levels by December 31, 2020; and ultimately to achieve carbon neutrality for the municipal organization.



## 2. Electricity & Natural Gas:

Reduce City energy consumption by 20% of the 2005 baseline by 2020, reduce demand peak use by 15% by 2020, and achieve a 20% kBtu/sq. ft. reduction in all City facilities from 2005 baseline levels. If funding is available, purchase 20% of energy from renewable sources by 2020 with 10% provided by onsite distributive energy.



## 3. Fuel

Reduce traditional fuel use by the City's vehicle fleet by 20% by 2020 and reach a 1.5 average vehicle ridership (AVR) by 2020 for city employees.



## 4. Solid Waste Reduction

Reduce solid waste from: public access facilities by 5% each year; municipal workplace and office by 10% by weight each year; and each industrial byproduct at least 10% each year.



## 5. Education & Outreach

Information about the municipal sustainability program will be available to all levels of the community — students in grades K-12 and university, the general public — as well as internal customers.



## 6. Funding

Foster a culture of sustainability in the organization and advance municipal goals through various funding mechanisms (i.e. Innovation Fund, grants). Identify and implement innovative improvements to the City's physical plant and operational procedures that are not otherwise funded.



## 7. Parks & Natural Areas

Maintain a 30% forest canopy density in suitable areas of City Parks and 70% of native vegetative cover in Natural Areas.



## 8. Water

Reduce municipal operations water irrigation use and increase efficiency per acre. Reduce building water use by 20% by 2020.



## 9. Sustainable Purchasing

Implement sustainable purchasing practices throughout the City organization and establish means to verify departments' compliance with revised purchasing policy. Establish quantifiable goals of 2% increase in office and industrial purchases annually starting in 2013.



## 10. Employee Safety & Health

Incorporate a city-wide program fostering a culture of health and safety. Increase the number of employees that participate in the Wellness Program from 45% to 75% by 2020. Lower accident frequency and severity.



## 11. Local Food

20% of food purchased by City staff for City functions will be grown within 50 miles or prepared by a local business, beginning in 2013.



Purchase or lease 20% of electricity from renewable sources by 2020



20% of food purchased by the municipal government will be grown within 50 miles, or prepared by a local businesses.



Achieve a 10% sq. ft./year energy reduction by 2020 based on the baseline year of 2005.



Increase sustainability purchasing rate for all office and industrial products by 2% starting in 2013.

# Community Based Social Marketing



- Information-intensive approaches such as bill-stuffers, flyers and direct mail have little likelihood of changing behavior.
- Individuals will engage in behavior if its part of a social norm (i.e. challenge, pledge).
- Pledges should have more than environmental benefits listed (i.e. TBL).
- Public and signed commitments increase participation rates.

# Challenges

- Use pledge cards  
(electronically and hard copies)
- Track cumulative environmental, economic and social benefits;
- Competition among departments and Poudre Fire Authority stations
- Provide prompts and solicit feedback
- Enter participants in drawing for “educational prizes”
- Report back on the savings



# Community Services Delivered (i.e., electricity and water)



- 2005 - .53 metric tons CO<sub>2</sub>e per citizen
- 2012 - .42 metric tons CO<sub>2</sub>e per citizen



# Communication- Choir Six America's (Yale)



Alarmed (12%)

Activate them to influence policy/legislation

Cautious (25%)

Move the conversation from debate to risk management

Concerned (27%)

Connections to co-benefits

# What's the Point ?



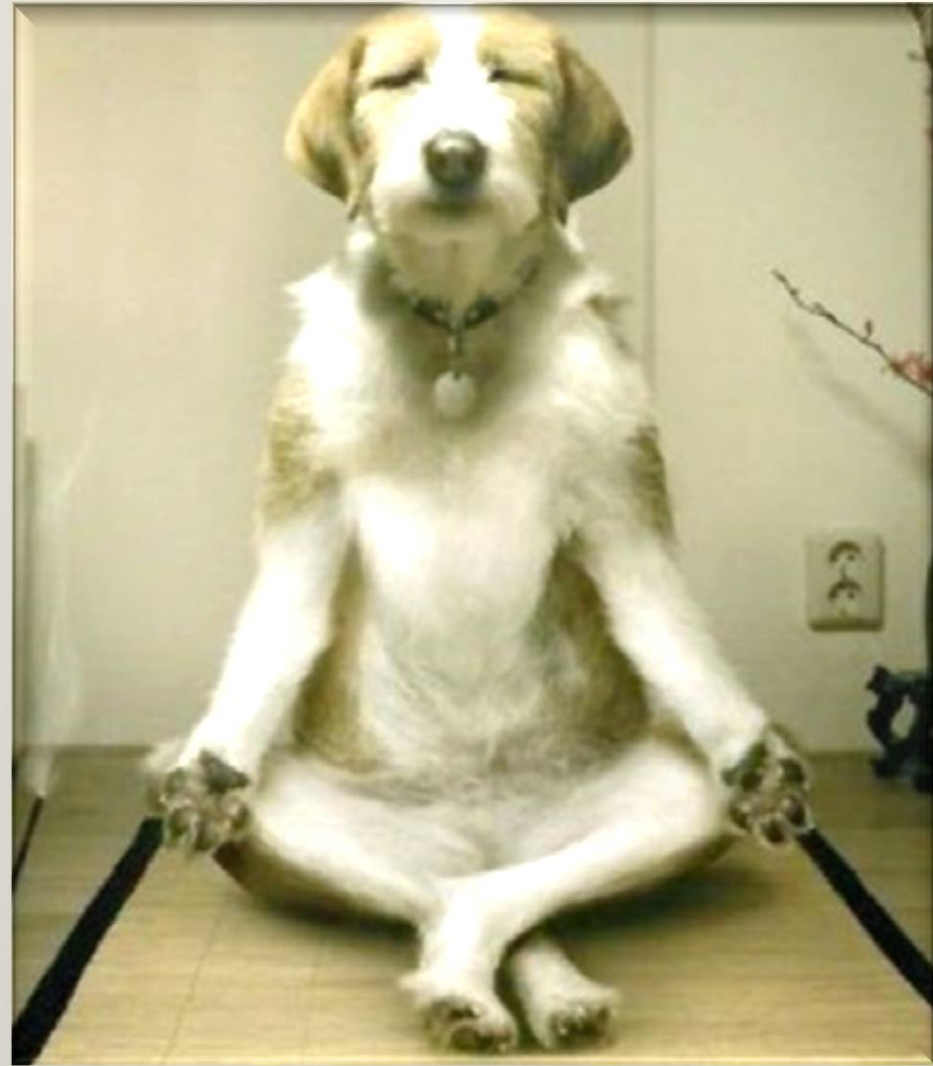
Climate Change affects us and we can all take action.

# Health Connections

Reductions of 2,615 MT of CO<sub>2</sub>e (carbon dioxide equivalent) from electricity and natural gas conversion and conservation has significant health benefits.

Air pollution leads to ozone problems and affects asthma and allergy sufferers.

Air pollution avoided:  
300 pounds of nitrogen oxide  
732 pounds of sulfur dioxide  
VOCs



# Simple Messaging Single Stream & Compost



## CANS, BOTTLES & GLASS



## PLASTIC BOTTLES, TUBS, JUGS & JARS



## CONTAINERS & CARTONS



**NO THANKS!**



## PAPER & CARDBOARD



- Verify there are enough containers in your area.
- Composting (Future Soil).
- Containers are near trash or use green cones.

# Six Americas – Non-Choir



## Disengaged (10%):

- Simple message with repetition

- Use narrative to build emotional connection

## Dismissive (10%):

- Avoid annoying them

## Doubtful (15%):

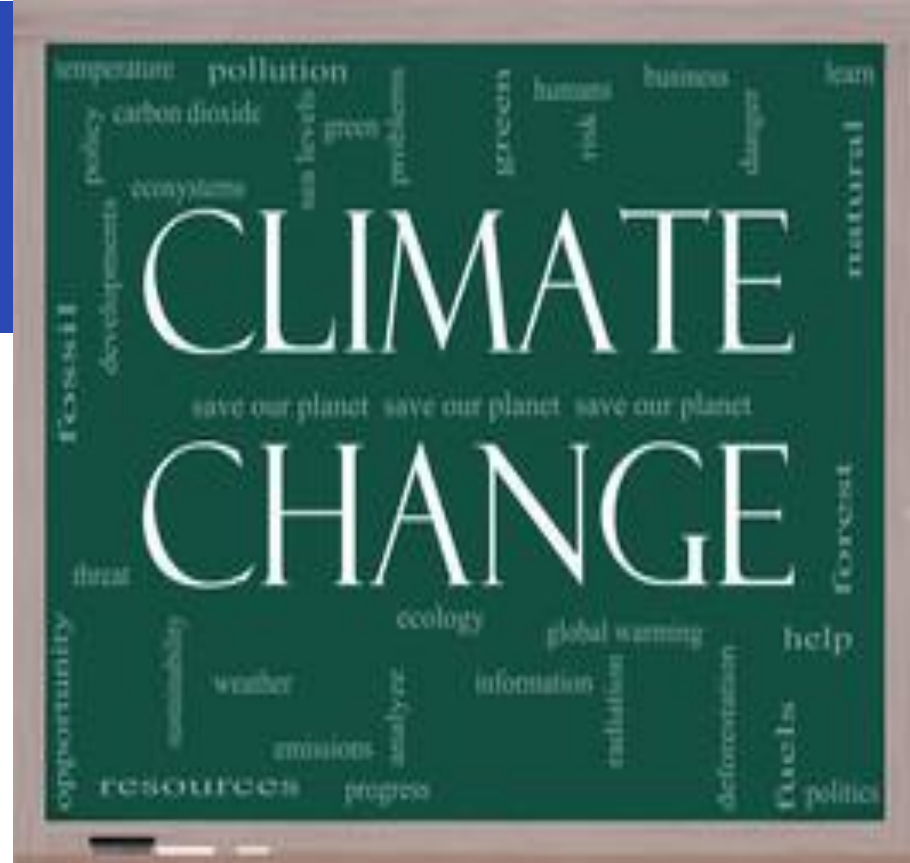
- Use local scientists or physicians

# Significance

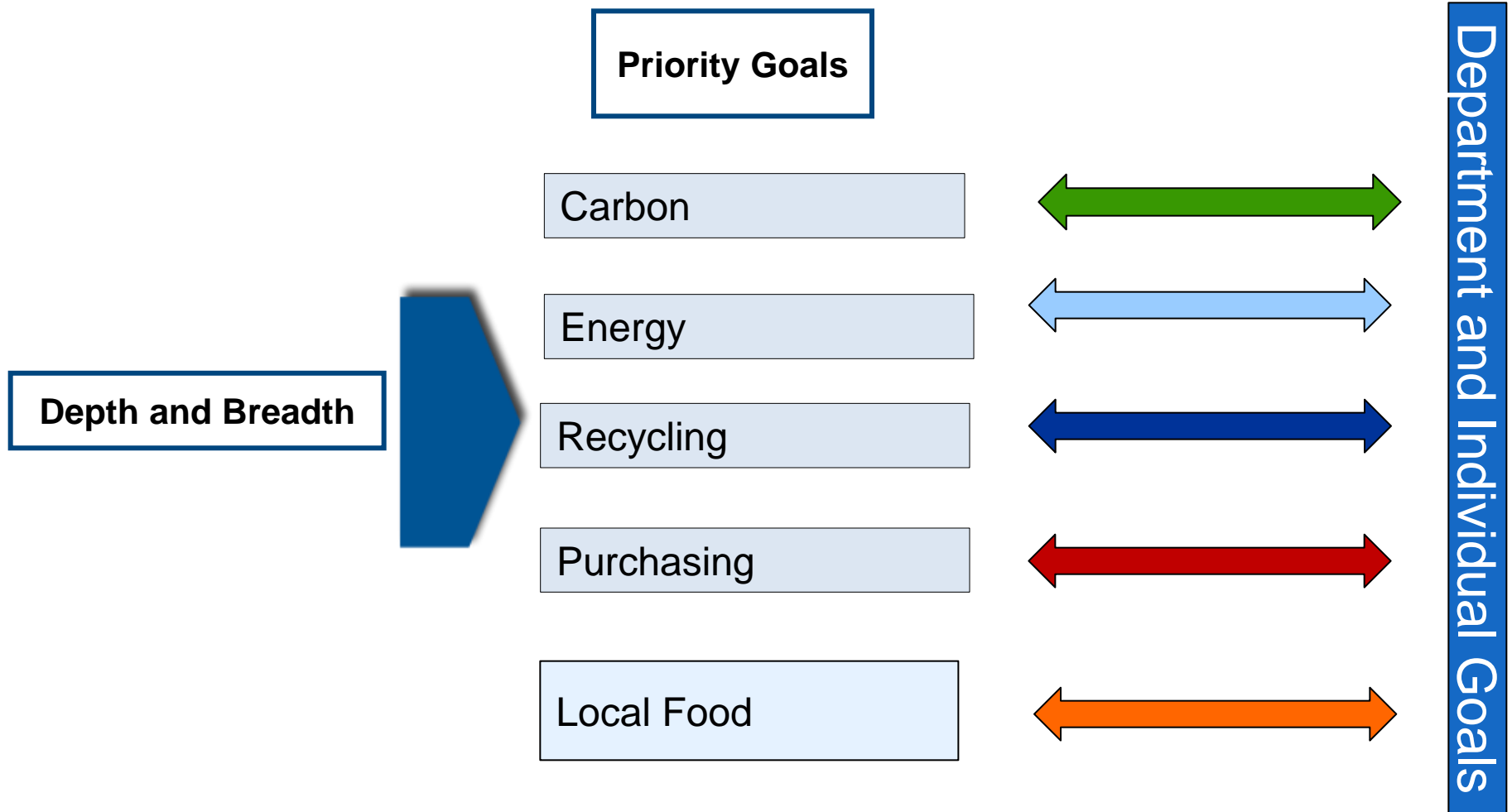
Each of the last three decades have been successively warmer than any of the preceding decades since 1850.

The ocean has absorbed 30% of the anthropogenic carbon dioxide, causing ocean acidification.

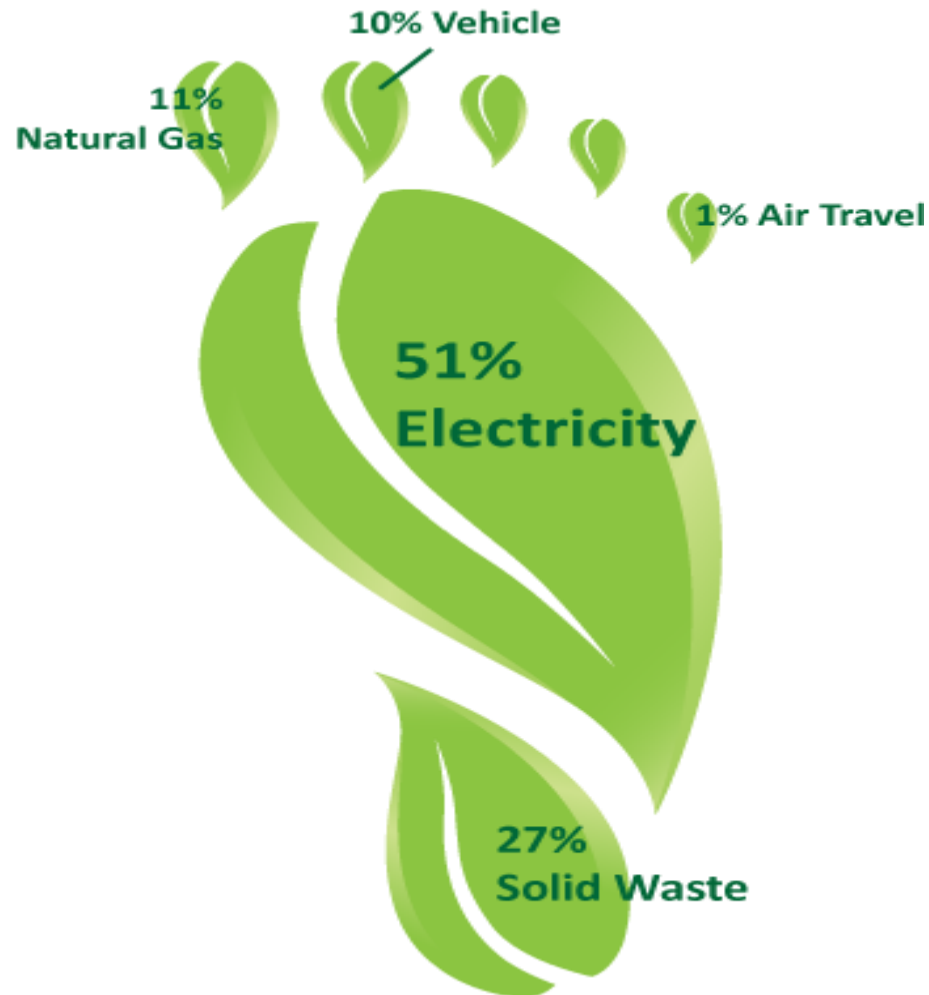
73% of Coloradoans say the issue of global warming is important and 53% want their local governments to do more to address climate change.



# Sustainability Culture



# Set Strategies Based on Emissions Sources



# Carbon Emissions



From 2005 to 2012, carbon emissions dropped by approximately 6.3% (i.e., 4,304 metric tons).

The carbon emissions reductions are equivalent to:

- Annual carbon emissions from 897 passenger vehicles
- CO<sub>2</sub>e emissions from the electricity used by 592 homes for one year or
- Carbon emissions avoided by recycling 1,612 tons of material.

# Energy Goals



- Enable power management features on your computer.
- Use an LED for any desk light.
- Use a power strip for copier and printers.
- De-lamp areas that are too bright.
- Adjust refrigerators.
- Do not use space heaters. Call Operations Services about temperature issues.

# Target Actionable Items

## Recycling –Shredded Paper



You probably think paper is paper, right?

Before shredding paper, decide if there are just a few lines of information you want to keep protected. Tear off the information you consider confidential and shred it. The larger pieces of the paper can go into your curbside bin, and the shredded pieces need to be bagged separately and then placed in recycling bin.

When not shredded, an average paper fiber can be recycled 7-12 times. Plus shred gets caught in recycling equipment.

# Stop Junk Mail



The City has joined forces with Catalog Choice to stop unwanted phone books, coupons and credit card solicitations at the source. More than 80 billion pieces of unsolicited mail are received by Americans each year – and departments foot the bill for waste/recycling collection.

Sign up online – Catalog Choice.

# Purchasing



- Purchase environmentally preferable purchases through a preferred vendor that can assist on data tracking: Office Depot (Green Cart redirects).
- Use sustainability standards in bids and contracts (Samples – available).
- Collaborate to reduce the number of orders that go out (which reduces transport and shipping material volume & costs).
- Purchase local food through LoCo Distribution for sponsored events. LoCo is wholesale & healthy food.



# Leading Change



- Use resources: **new** Environmental Portal – [fcgov.com/enviro](http://fcgov.com/enviro) and **Green It, Mean It** website.
- Acknowledge staff that maintains LEED, ISO or professional credential through CEUs.
- Participate in at least one Sustainability Challenge.
- Review department's diversion, energy and carbon reports.
- Attend one Sustainability training seminar and encourage staff to attend.

# Communicating

Different Audiences



# Technical Operational Initiatives

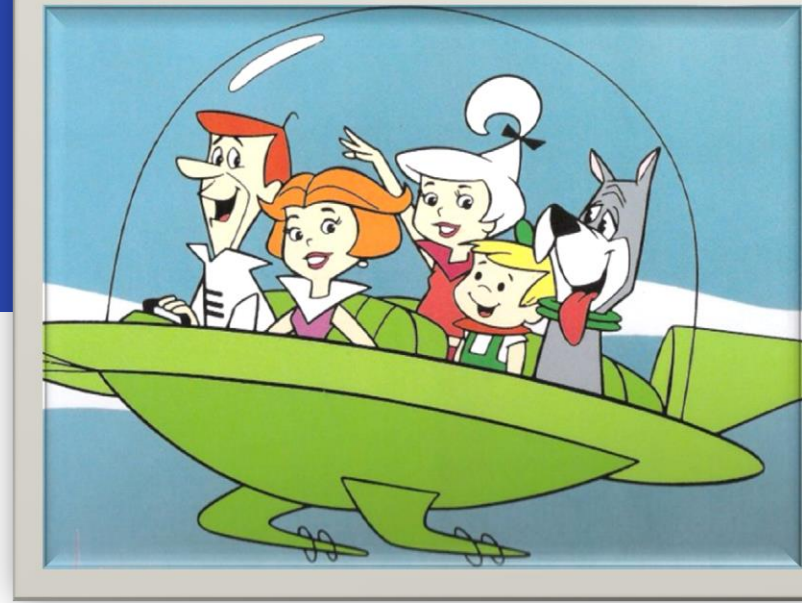
## De - Carbonize



1. Industrial waste recycling
2. Building re-commissioning
3. Managerial accountability – performance goals
4. Launch eco-driving campaign
5. Enter solar power purchase agreement for Energy Star buildings



# Non-Technical Tasks



- Have you verified that department purchases are through the preferred vendors (i.e., Office Depot and Grainger)?
- Do you and your staff have sustainability performance measures?
- Have you used the “Green It, Mean It” web page to check your department’s recycling rates or energy consumption?
- Have you submitted innovative projects for inclusion into the Annual Sustainability Report?

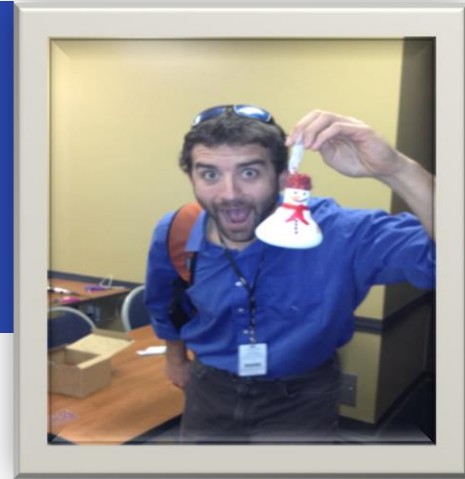
# Cumulative Savings



<b>Municipal Operation Reductions</b>	<b>Financial Savings</b>	<b>CO2e Reduction Metric Tons</b>	<b>Social Benefits</b>
Asphalt, Concrete, & Toilet Recycling	\$265,370	4,239	Rebates to community members and lower cost of City services
Metal Recycling	\$142,077	559	Resource conservation
Monthly Challenges	\$111,057	51	Education and engagement
EPIC high-dive lighting upgrades	\$3,200	36	Lower cost for City services
<b>Totals</b>	<b>\$</b>		

# Data, Dashboards ...

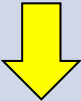










Our story is not just about facts and figures. It is about people, innovations, partnerships and on-going commitment to do more.





# VISUAL THINKING



Priority Areas			Comments
Carbon Emissions			Just under target
Energy Emissions/Use			Using cleaner natural gas but could increase conservation efforts
Alternative Fuel Mix/Use			Using more cleaner fuel but City Council policy to stop using E-85 is increasing emissions. Total fuel use continues to rise.
Amount of Trash/Diversion			Office recycling is only at 20%. Some CW partners are > 90%.
Office Purchasing/Industrial			32% & 6%. Staff needs to use preferred vendors.
Education Outreach/Engagement			Number of events have increased. Some departments have > 90% participation in Challenges

# Industry Comparisons

Fort Collins: 6.3 % below 2005

Austin: 8% below 2007

Dallas: 39% below 1990

New York: 8.4% below 2006

Palo Alto: 53% below 2005

San Francisco: 7% below 2010

Seattle: 77% below 1990

Kyoto Protocol (1990)



# Resources



1. Biz Ed, NCRES, IBE

2. AASHE, USDN

3. Mindful Movies &  
Challenges

4. Fostering Sustainable  
Behavior

V A L U E S

# values

Customer Service OR Sustainability

- Walking the Talk and Resourcing it....



**THOUGHTS?**



- Acknowledge Challenges ...
- Work with other CW partners ...

Thanks...