

Greenhouse Gases

How to track and set reduction goals using the CW Baseline Tool

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Agenda

- Introductions
- Importance of GHG emissions
- What are GHGs and GHG inventories
- Using the ClimateWise GHG Baseline Tool
- GHG Goal setting



Introductions

- Have you done a GHG inventory?
- Will you do an inventory this year?
- What is your BIG PICTURE environmental goal?



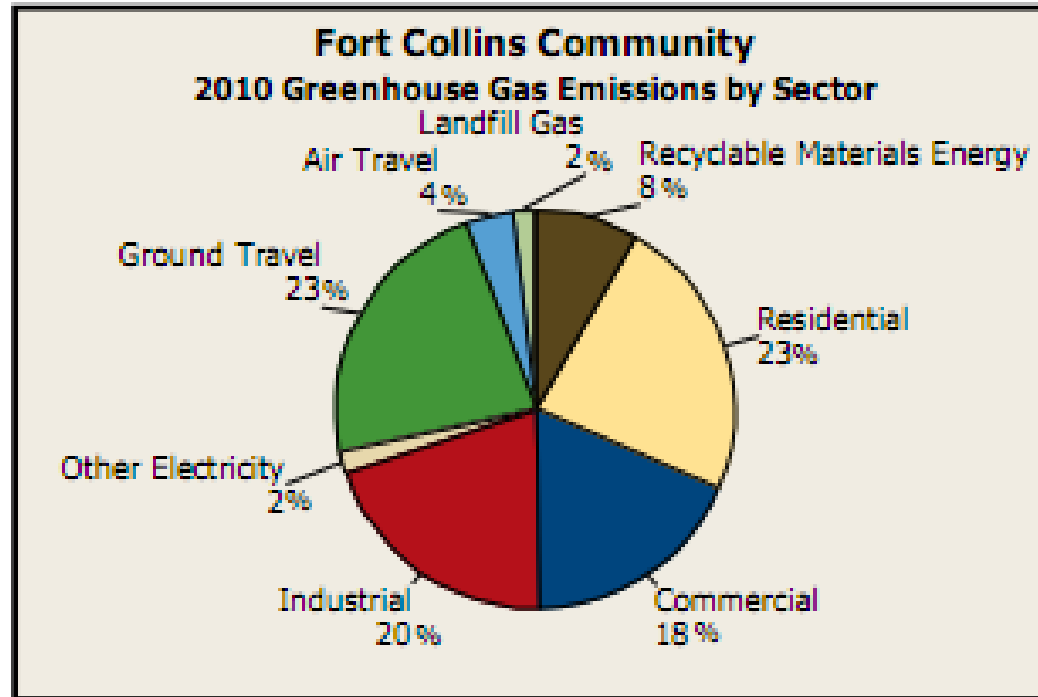
Importance of GHG emissions

- Significant world wide & locally
- Dynamic environment – improvement is achieved when emissions are:

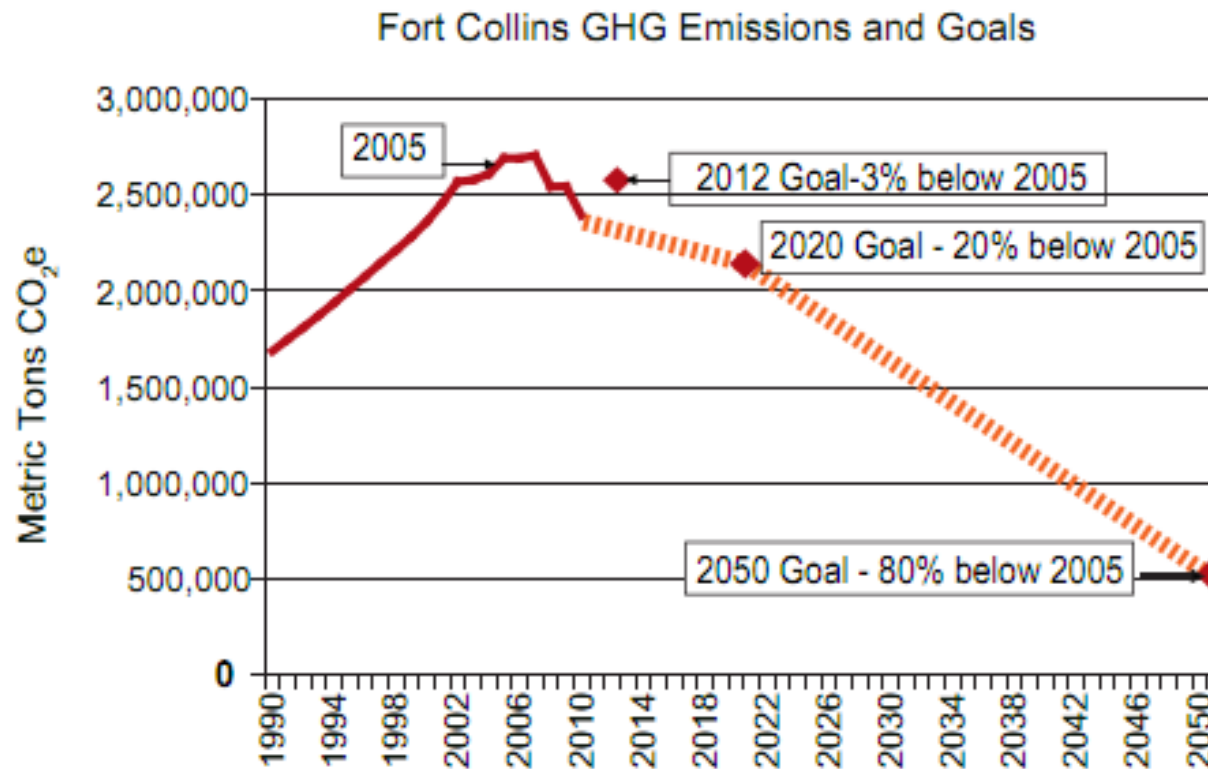
Recorded – Tracked – Communicated



Community Context



Community Goal



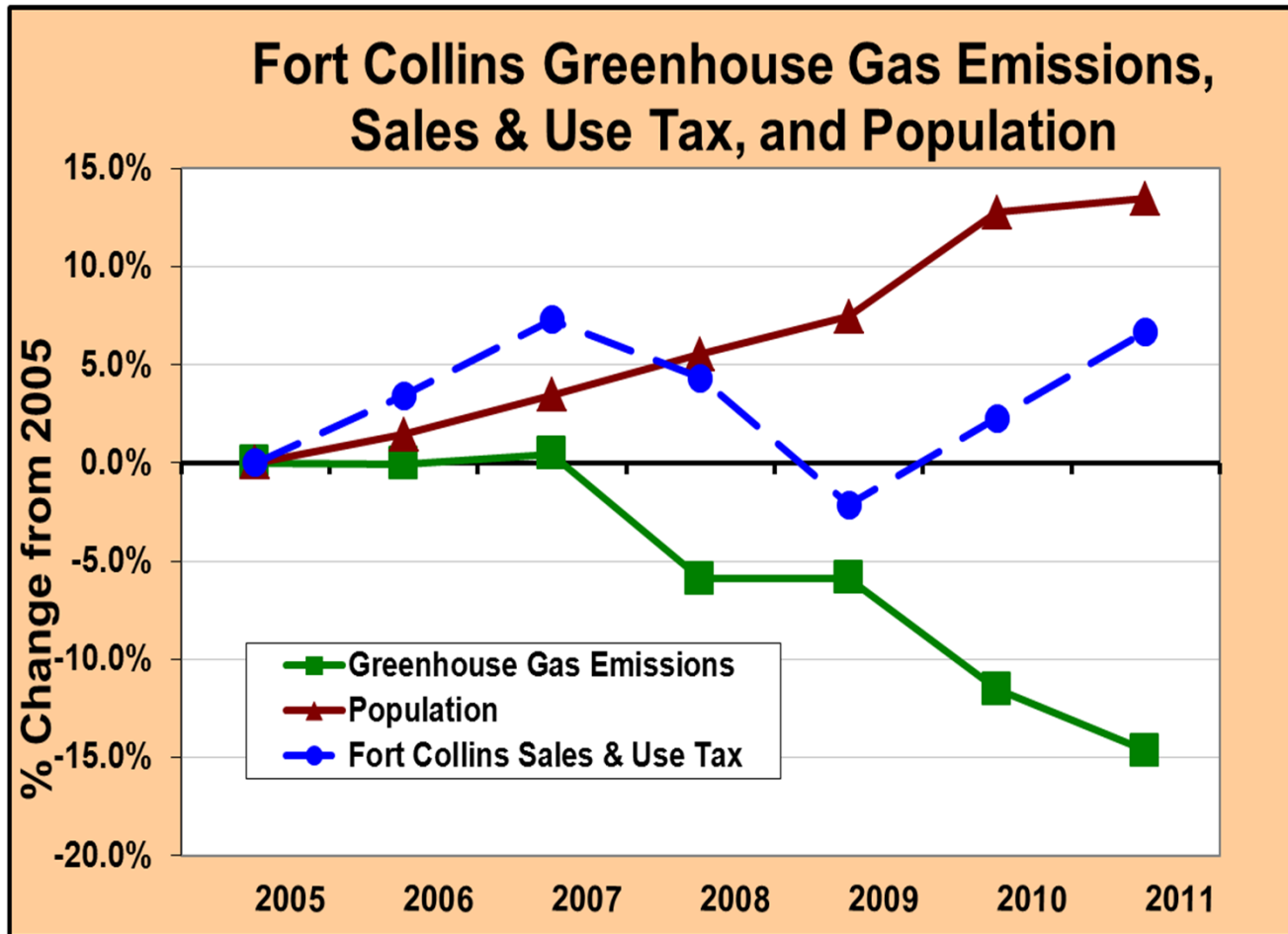
ClimateWise Partners Avoided

163,000

**metric tons carbon dioxide
equivalent in 2012**



Progress Made



Benefits to tracking

- Common unit of measurement allows for countless comparisons
- Aids in determining mitigation and adaptation strategies

Bottom line? Scalable technique for establishing and tracking an important environmental benchmark over time



GHG Terminology

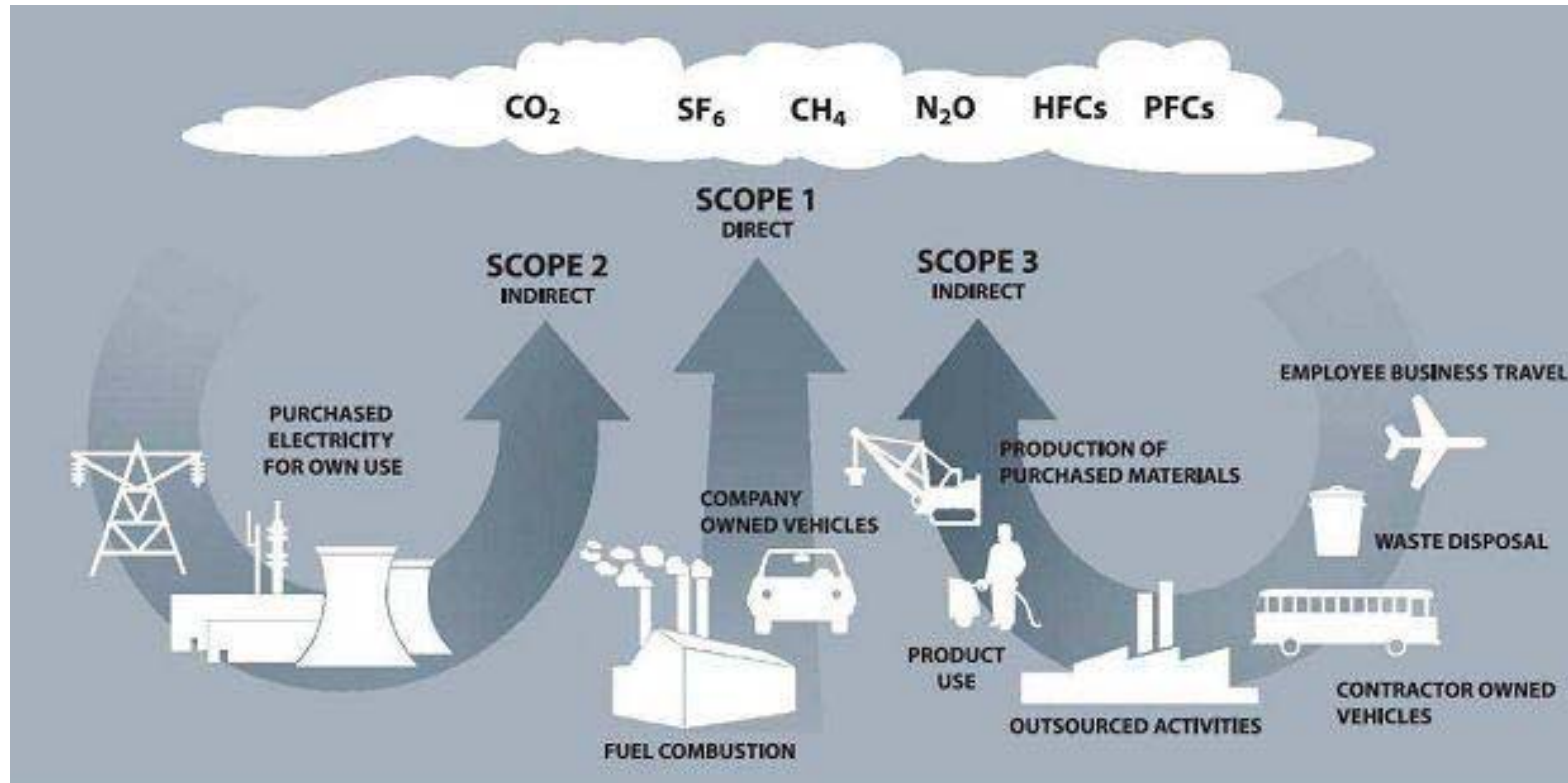
Carbon ≠ Carbon Dioxide ≠ GHGs

Carbon Dioxide = 1 GHG

Equivalents = CO₂e =
GHGs



GHG Inventory



Nexus of Terminology & Inventory

GWP values and lifetimes from 2007 IPCC AR4 p212	Lifetime (years)	GWP time horizon		
		20 years	100 years	500 years
Methane	12	72	25	7.6
Nitrous oxide	114	289	298	153
HFC-23 (hydrofluorocarbon)	270	12,000	14,800	12,200
HFC-134a (hydrofluorocarbon)	14	3,830	1,430	435
Sulfur hexafluoride	3200	16,300	22,800	32,600

Global-warming potential (GWP) is a relative measure of how much heat a greenhouse gas traps in the atmosphere. It compares the amount of heat trapped by a certain mass of the gas in question to the amount of heat trapped by a similar mass of carbon dioxide. A GWP is calculated over a specific time interval, commonly 20, 100 or 500 years.

Table and definition from 2007 IPCC AR4



Inventory Benefits

- Measurement ↔ goal setting
- Address customer requests for emission measurement and reduction
- Industry leadership
- Attracting/maintaining progressive work force
- Tracking the environmental effects of utility, resource, and/or supply decisions
- Achieving goals helps community meet goals



GHG Baseline Tool

- Where to get it?
- What is required to complete it?
- What does the tool do?
- What if I already have an inventory?

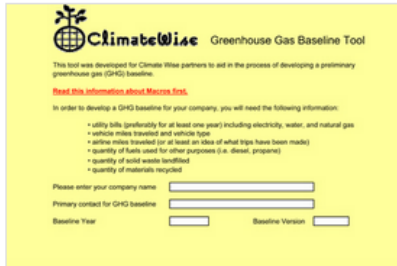


Getting the Tool

Dashboard | My Climate Wise Progress | My Account Details & Contacts | Send Feedback to Climate Wise

BACK TO PROGRESS LIST

REQUIREMENT TITLE	FREQUENCY	YEAR
9 Complete Greenhouse Gas (GHG) Tool	Annually	2012



Use the ClimateWise GHG Baseline Tool to "baseline" or inventory your organization's greenhouse gas emissions. To enter data, you'll need access to the following types of information:

- **Utility bills** – one year of utility records for electricity, natural gas, and water
- **Vehicle use** – one year of records for miles traveled by vehicle type or fuel use in gallons
- **Airline travel** – one year record of airline miles traveled or a list of airline trips (the Tool includes a link to a website that can help determine airline miles between destinations)
- **Solid waste and recycling** – one year record of landfill waste and recycling quantities. If bills do not indicate weight or volume of material, please contact your waste hauler for necessary details. ClimateWise staff can also assistance in estimating the quantity of waste

If you have questions, visit the [ClimateWise GHG Tool page](#) for complete, step-by-step instructions on how to download and complete the tool. Another resource is the [PowerPoint presentation from the GHG Baseline Tool Lunch-n-Learn](#).

If your organization uses an equivalent tool to track GHG emissions you'll need to submit a short description of the tool, upload the tool and its output, or equivalent documentation that data from the previously listed types of information are being tracked.

[Download the GHG Baseline Tool](#) and complete. Once complete click "Add New Submission" and upload, including a description if necessary.

Online GHG Baseline Tool resources:

[Tool use guide](#)

[PowerPoint Lunch-n-Learn](#)



Getting the Tool

Gold and Platinum Reporting Tools

Partners are required to submit several forms to satisfy key Gold and Platinum level requirements. All forms are also available for download from your [myClimateWise](#) page.

- **Greenhouse Gas Baseline Tool (GHG):** Use the Greenhouse Gas Baseline Tool to calculate greenhouse gas emissions and reductions by resource area. Gold and Platinum level partners are required to complete the GHG Baseline Tool annually.
 - [11/22/11 GHG Baseline Tool & Goal Setting Lunch & Learn PPT](#) (PDF)
 - [GHG Baseline Tool](#) (Excel spreadsheet): Please download, complete this form and upload to your [myClimateWise](#) account.
 - [Guide to GHG Baseline Tool](#): Materials needed and instructions on how to complete the tool.
 - [Guide to Goal Setting](#): Partners wishing to become Gold or Platinum level partners are required to develop a reduction goal based on their GHG baseline.

<http://www.fcgov.com/climatewise/annual-reporting-tools.php>

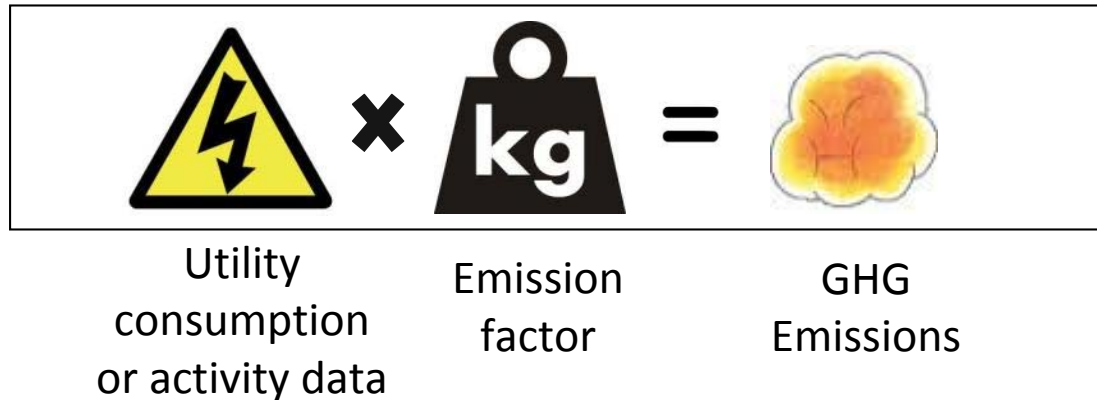


Required Information

One year of each data set	
Data	Source
Utility bills	Accounting, facilities, or utility provider Quantity consumed (kWh, therms, gallons)
Vehicle use	Accounting, fleets Mileage records or records of fuel purchases (gal or \$)
Airline travel	Accounting, travel agent Destinations or dollars spent
Solid waste and recycling	Accounting, facilities, waste hauler Records of weight or volume of waste hauled, can also be calculated by level of service (bin size, frequency)




How the Tool Works

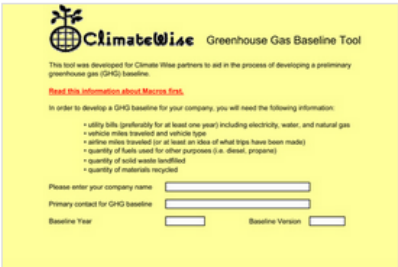


- Emissions factors from accepted sources
- Electricity and solid waste often change year-to-year

Tool Tour

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
1	 ClimateWise Greenhouse Gas Baseline Tool														v 10.10.2012
2															
3															
4															
5															
6															
7															
8															
9															
10	This tool was developed for Climate Wise partners to aid in the process of developing a preliminary greenhouse gas (GHG) baseline.														
11	In order to develop a GHG baseline for your company, you will need the following information:														
12	<ul style="list-style-type: none">• utility bills (preferably for at least one year) including electricity, water, and natural gas• vehicle miles traveled and vehicle type• airline miles traveled (or at least an idea of what trips have been made)• quantity of fuels used for other purposes (i.e. diesel, propane)• quantity of solid waste landfilled• quantity of materials recycled														
13															
14															
15															
16															
17															
18															
19	Please enter your company name <input type="text"/>														
20															
21	Primary contact for GHG baseline <input type="text"/>														
22															
23	Baseline Year <input type="text"/> Baseline Version <input type="text"/>														
24															
25	<input type="button" value="Start Here..."/>														
26	<input type="button" value="Help"/>														
27	<input type="button" value="GHG Baseline"/>														
28															

Upload to myCW

Dashboard My Climate Wise Progress My Account Details & Contacts Send Feedback to Climate Wise		
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Goal Setting

- Requirement 10 in myCW
 - State a target
 - Specific/general
 - Short/long term
 - Quantitative
 - Can be expressed in any unit but must relate to GHG reduction



Preliminary Goal

- Set a goal before all information is in
- Establish intent
- Adjust based on reality of achieving

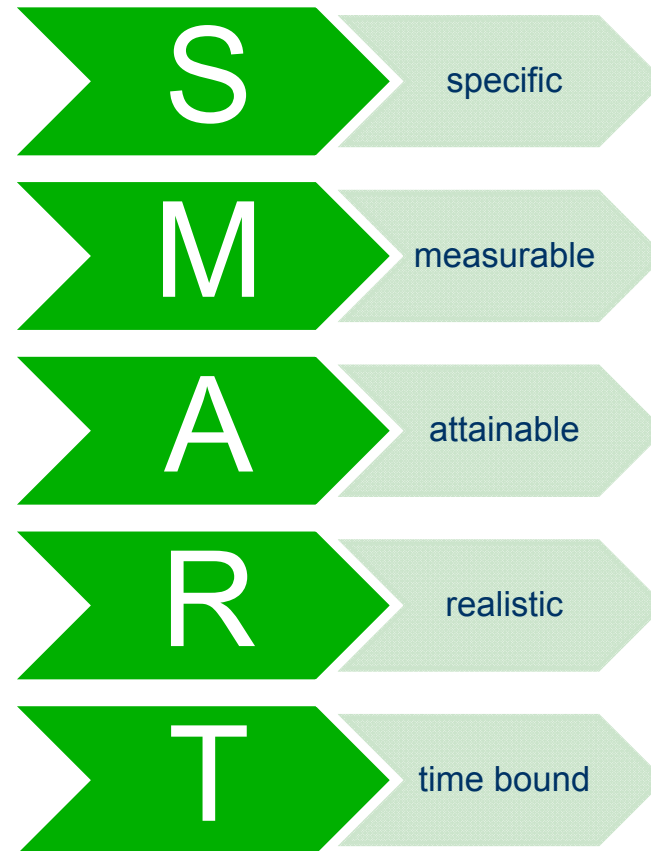


Address Growth!

- Absolute reduction goal
 - *Partner will reduce GHG emissions by 3,000 MTCO₂e.*
- Normalized goals on specific activities
 - *Reduce kWh/employee by 10%*
 - *Reduce therms/production unit by 10%*
- *Set a goal and go for it – emissions can at least be decoupled some from growth*



Suggested Goal Format



S.M.A.R.T. Example

Each department will **reduce overall annual paper purchases** by 10 percent by the **end of 2013**.

Specific

Measurable

Achievable?

Realistic?

Time bound

<http://www.fcgov.com/climatewise/goalsetting.php>



Example Goals

- Energy: Poudre School District – 1.5% yearly consumption reduction over ten year period
- Transportation: Colorado State University – 25% reduction of fleet petroleum use by 2012
- Waste: The Brendle Group – zero waste by 2010
- Water: LEED – 30% annual indoor water use



Goal Setting in myCW



[Req#10](#)



Resources

- ENERGY STAR (www.energystar.gov)
- LEED (www.usgbc.org)
- Fort Collins Utilities Keep Current (www.fcgov.com/utilities/business/conserve/education-tools/keep-current)
- Zero Energy Research Institute (www.zeri.org)
- Colorado WaterWise (coloradowaterwise.org)
- Zero Waste Institute (zerowasteinstitute.org)
- Eco-Cycle (ecocycle.org)
- Other ClimateWise partners
- Yourself!



Questions and Contact

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