Greenhouse Gases

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

Matt Gibbs
Environmental Planner
ClimateWise
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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?
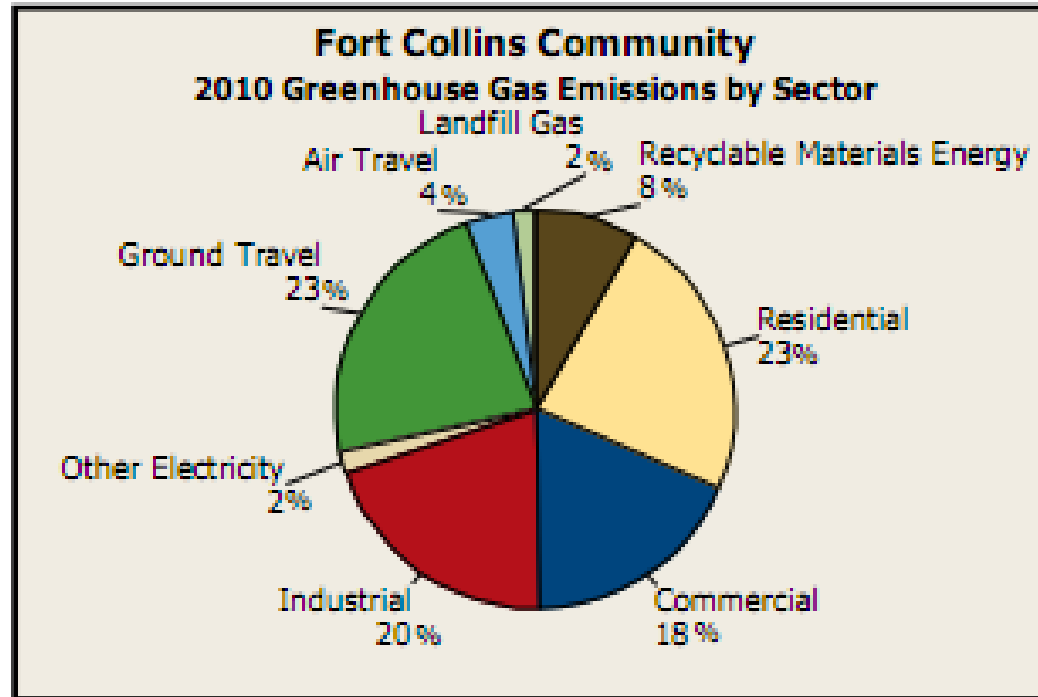
Importance of GHG emissions

- Significant world wide <u>&</u> locally
- Dynamic environment – improvement is achieved when emissions are:
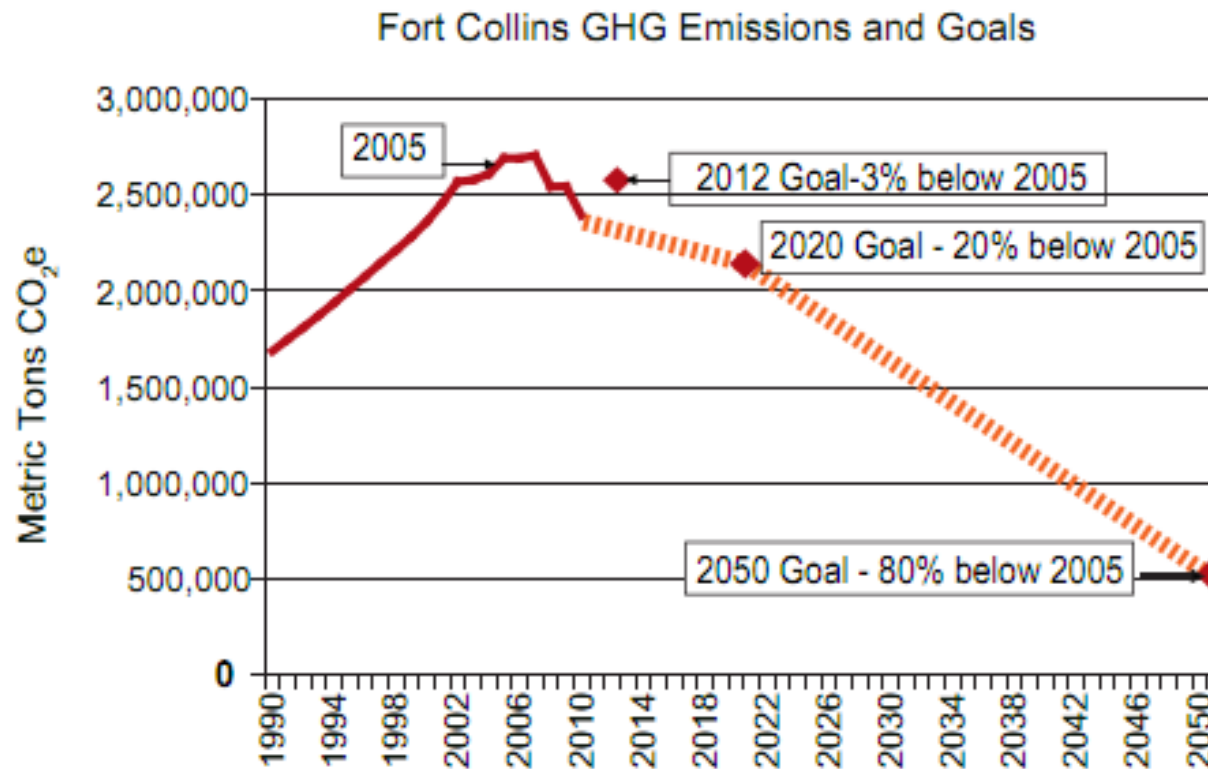
    <u>Recorded</u> – <u>Tracked</u> – <u>Communicated</u>
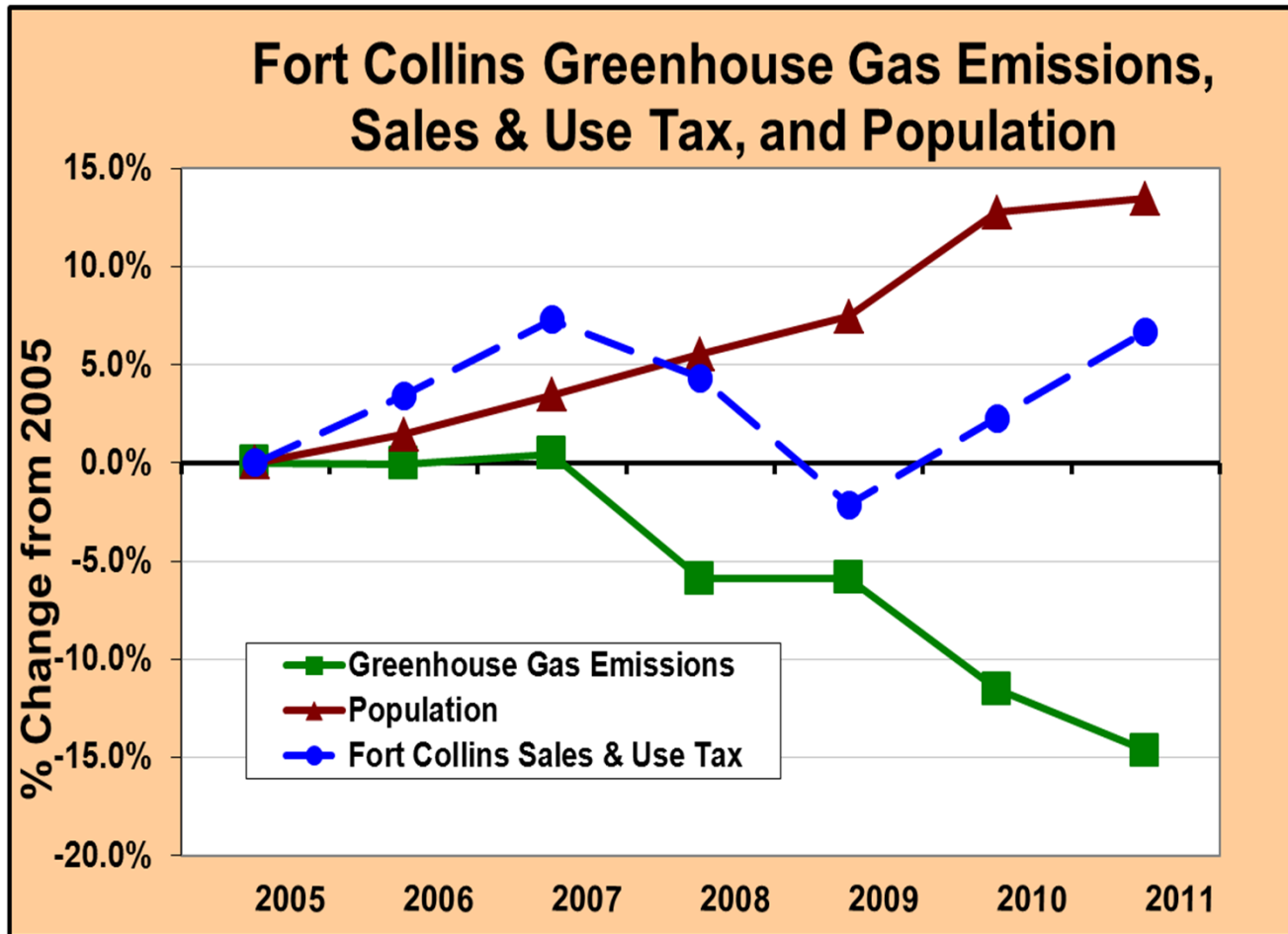
Community Context

Fort Collins Community
2010 Greenhouse Gas Emissions by Sector

Community Goal

Fort Collins GHG Emissions and Goals

ClimateWise Partners Avoided

163,000

metric tons carbon dioxide equivalent in 2012

Progress Made

Fort Collins Greenhouse Gas Emissions, Sales & Use Tax, and Population

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
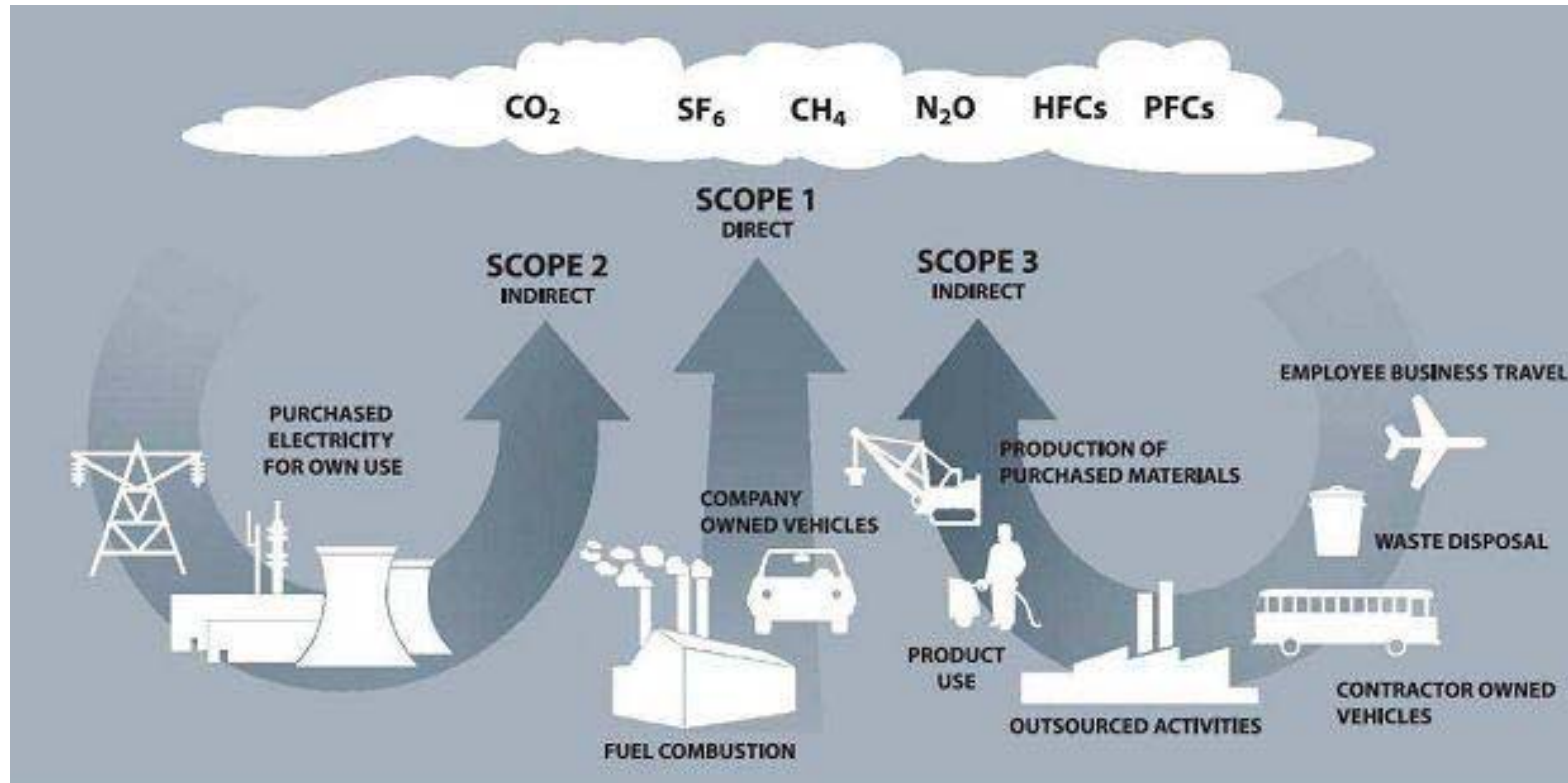
GHG Terminology

Carbon Dioxide Equivalents = CO$_2$e = GHGs

Carbon Dioxide = 1 GHG

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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

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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?

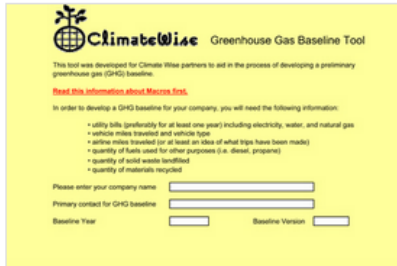- What does the tool do?

- What if I already have an inventory?

Getting the Tool

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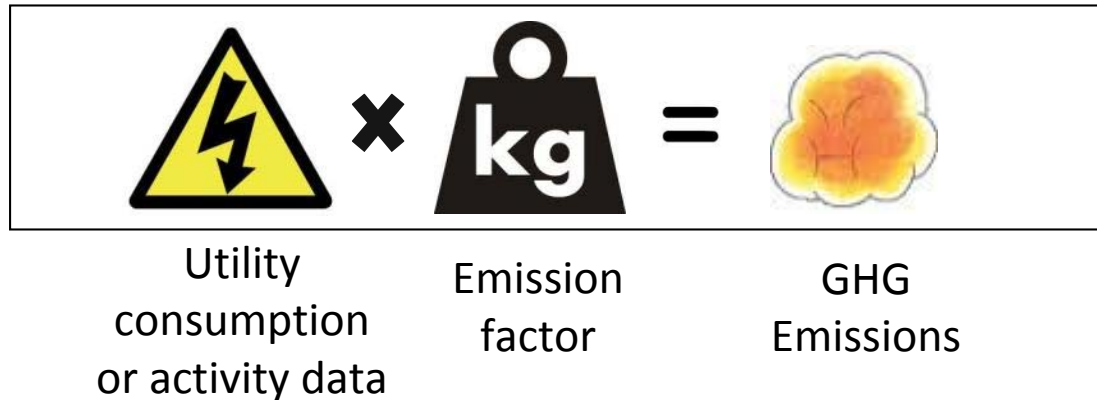
http://www.fcgov.com/climatewise/annual-reporting-tools.php

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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

Utility consumption or activity data	Emission factor	GHG Emissions
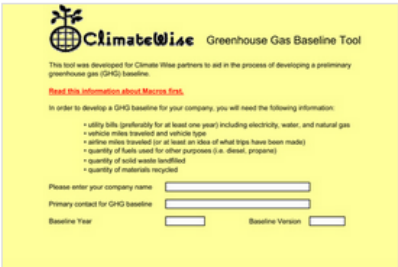
- Emissions factors from accepted sources
- Electricity and solid waste often change year-to-year

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Tool Tour

Upload to myCW

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
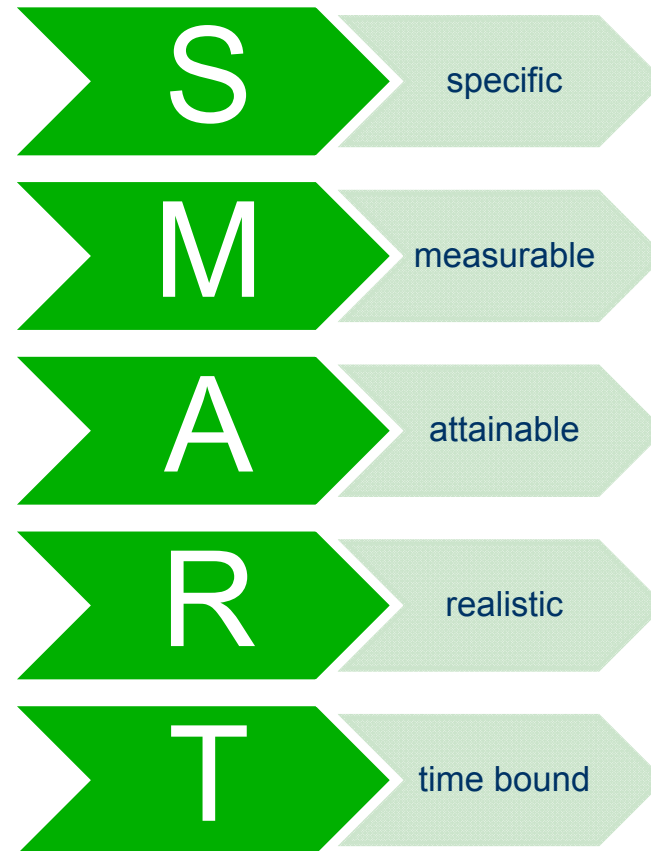
S.M.A.R.T. Example

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

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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

Matt Gibbs

mgibbs@fcgov.com

970-416-2230