

CARBON EMISSIONS REDUCTION GOALS



HAILEY
ENVIRONMENTAL
LEADERSHIP
PROGRAM

HELPING OUR EARTH
HELPING OUR COMMUNITY
HELPING OURSELVES

ICLEI Milestones

The 5 milestones of ICLEI's performance-based campaign model for local governments to reduce their carbon emissions are:

- (1) establish a baseline
- ***(2) set a target***
- (3) develop a local action plan
- (4) implement the local action plan
- (5) measure results



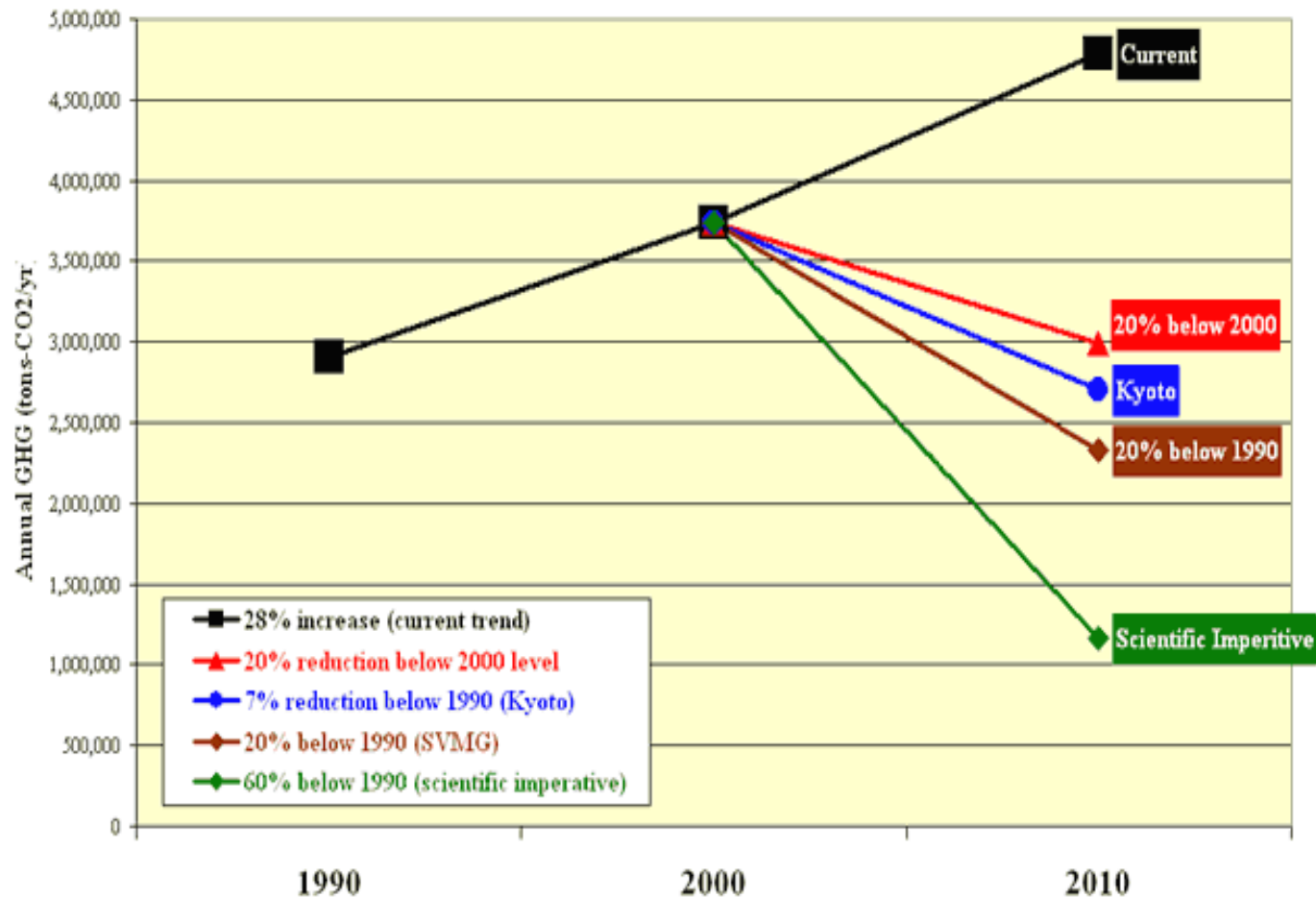
Types of Goals

- ICLEI recommends long-term emissions reduction of at least 15% below baseline year within 15-20 year period
- **Outright Goal**
 - Long-term target: 15-20 year period
 - 50% reduction from 2001 levels by 2050
- **Cumulative Goal**
 - Reduce emissions 2% every year until 1990 levels met
- **Interim Goals**
 - reevaluate every 2-3 years
 - 15% reduction from 2001 levels by 2015
- **Goal will be refined as Hailey continues to develop Local Action Plan**
 - Including annual review of new technologies

Other Municipalities' Goals

- Kyoto Protocol & Mayor's Agreement
 - **Reduce emissions 7% below 1990 levels**
- Salt Lake City, UT
 - **20% of 2000 emissions by 2010 (Realized 31% by 2007)**
 - New Goals: **3% per year for 10 years, 70% by 2040**
- Aspen, CO
 - **30% from 2004 by 2020, 80% by 2050**
- Olympia, WA
 - **2% per year until 1990 levels reached**
- Jackson Hole, WY
 - Community Goal: 10X10 (10% by 2010)
- Bellingham, WA
 - Short term: 64% from 2000 by 2012
 - Long term: 70% from 2000 by 2020

Carbon Reduction Targets: Context



What Should Target % Be?

7% below 1990 levels = Kyoto Protocol & US Mayors Agreement

20 % below 1990 = Figure recommended by ICLEI

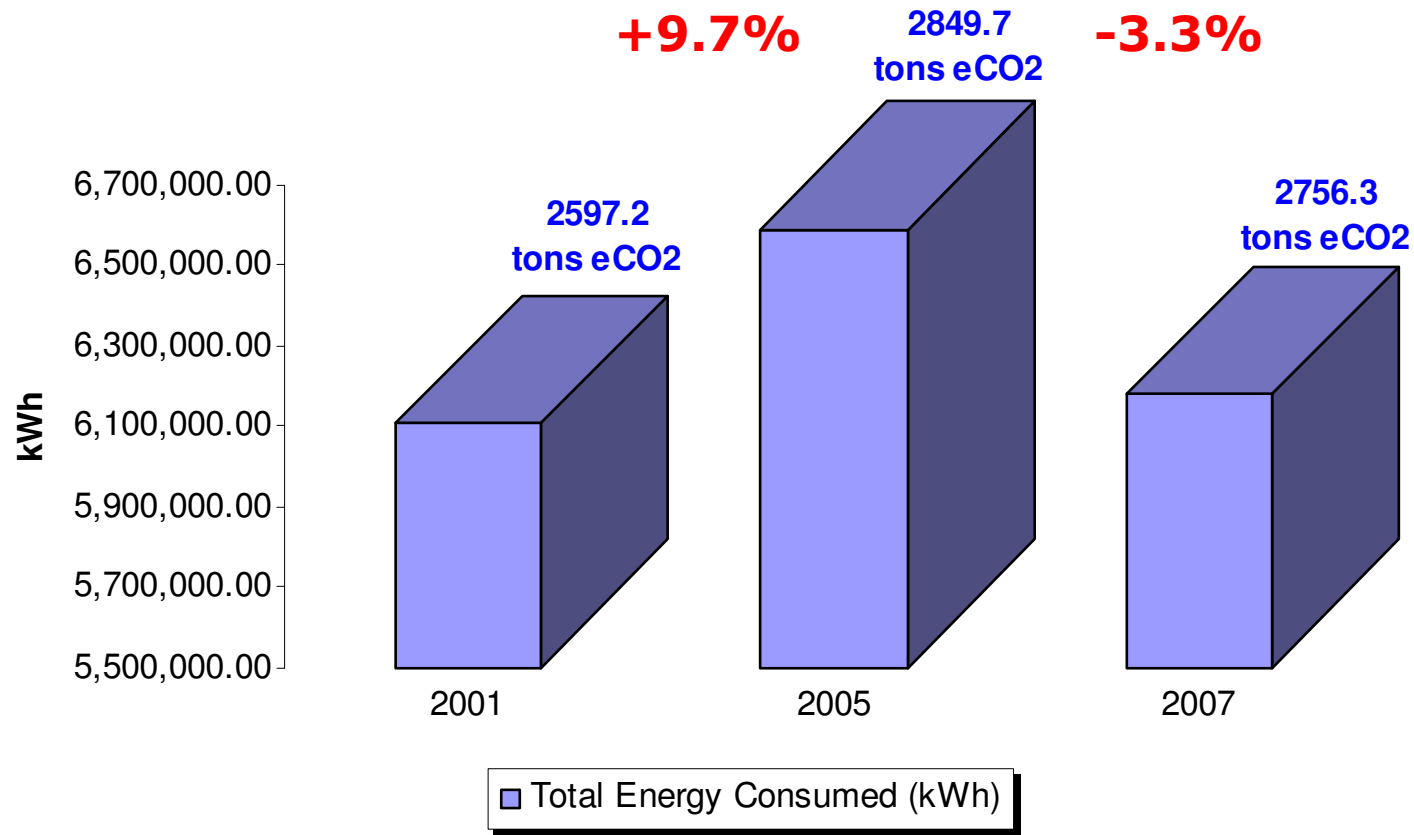
Note the deep cuts needed to meet the Scientific Imperative

Specific Actions for ICLEI Analysis

1. Increase Employee Commute by alternative transportation
2. Reduce Vehicle Fleet fuel consumption
3. Increase City Facilities' energy efficiency

City of Hailey Government Emissions

Total Energy Consumed and eCO2 Emitted

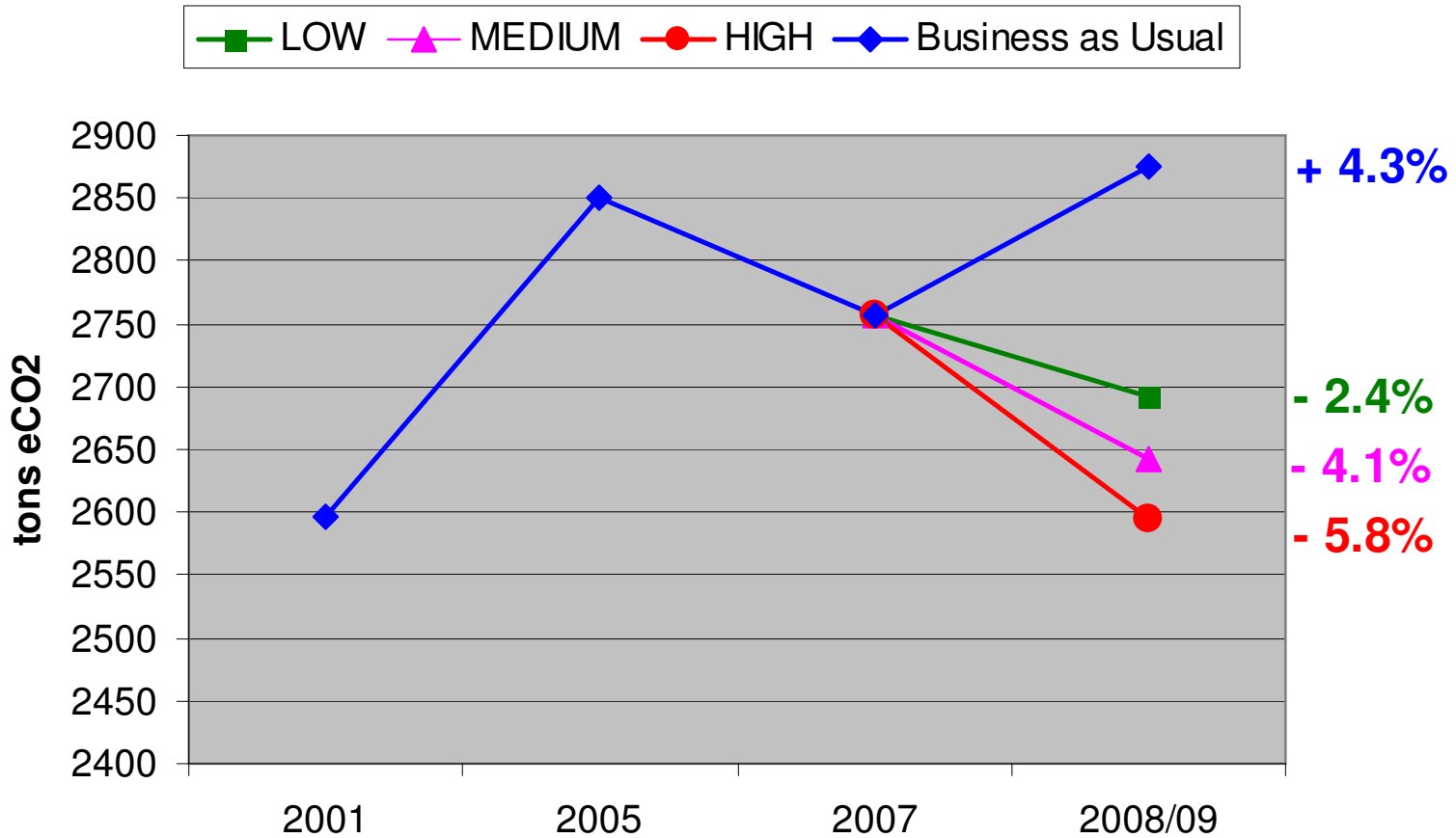


eCO2 = carbon dioxide, methane, nitrous oxide, and fluorinated gases (sulfur hexafluoride, HFCs, and PFCs)

Three Reduction Scenarios

	<i>Measure</i>	<i>% change</i>	<i>eCO2</i>	<i>cost savings</i>
LOW	Facility Energy Efficiency	10	23	\$2,242
	Employee Alt. Trans.	6	15	\$5,444
	Fuel Use Reduction	10	27	\$10,108
			65 tons	\$17,794
MODERATE	Facility Energy Efficiency	15	34	\$3,363
	Employee Alt. Trans.	16	38	\$14,333
	Fuel Use Reduction	15	41	\$15,164
			113 tons	\$32,860
AGGRESSIVE	Facility Energy Efficiency	20	45	\$4,485
	Employee Alt. Trans.	26	62	\$23,244
	Fuel Use Reduction	20	54	\$20,216
			161 tons	\$47,985

Hailey Carbon Emissions w/ Reduction Scenarios



Not enough to expect carbon emissions to decrease on their own (ex. 2005-07)

Employee Alternative Transportation

- **Change in work schedules**
 - **10-hour work days, 4-day work week**
 - Implemented by Street, Water, and Wastewater Dept. (61% of City Employee VMT)
- More benefits for alternative transportation
 - **Continuation of complimentary bus pass program**
 - Bike share program for City employees
 - Employees might be receptive considering gas prices
- Trends from Commute Questionnaires
 - A number of City employees commute alone from the south
 - Lack of carpool opportunities cited several times

Organized Carpooling

- Currently six employees commute alone from south (138,650 VMT annually)
- By offsetting half of their VMT (70,000 mi) via carpooling:
 - Commute by alternative transportation would **increase by 17%**
 - **eCO2 emissions reduction of 37 tons* or 1.4% from 2001 levels**
- Possible partnership with



* Analysis considers carpooling as having zero eCO2 emissions

Vehicle Fleet Fuel Usage

- Reduction in number of vehicles
 - Street Department
 - Police Dept. bicycle patrol
- Responsible vehicle purchasing
 - **Electric Car for Parks Department**
 - Water department as well? (140 mi per week)
 - Hybrid considerations in the future
- Alternative fuels
 - **Biodiesel now offered at Hailey Chevron**
 - Veggie-oil conversion opportunities
 - Any diesel vehicle, partnering with local businesses



Miles Electric Work Truck



Assuming 3600 miles driven per year

07 Chevy Colorado PU

- 18 mpg for City
 - 24 mpg on highway
- At \$4.50 per gallon, cost = **\$0.27 per mile**
- Chevy Price = **\$11,000 used**, \$18,000 new
- Gas Annual Cost = **\$990** (including maintenance)
- Annual eCO₂ = **3 tons**

ZX40ST Work Truck

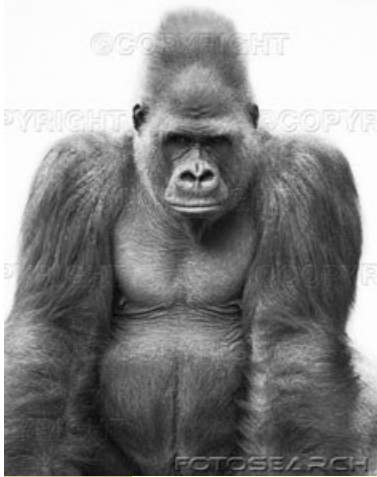
- 60 miles per charge
 - 555 charges per battery
- **\$0.01 per mile**
 - \$0.05 battery cost per mile
- Miles Price = **\$18,400**, \$16,900 w/ discount
- Elec. Annual Cost = **\$216** (including battery cost)
- Annual eCO₂ = **0.11 tons**

Recoup cost in 7-9 years, 2.9 eCO₂ tons saved annually

Facilities' Energy Efficiency

- **CFL retrofit and programmable thermostat energy savings realized in 2008**
- Continuing employee education
 - Turning off electronics, lights etc. at night
- Further options:
 - Solar pre-heating for building water systems
 - **New efficient HVAC (heat ventilation air conditioning) for City Hall**
 - **WWTP alternative energy**
 - *Bio-digester*
 - *Solar*
 - *Wind*





Boulder, CO WWTP

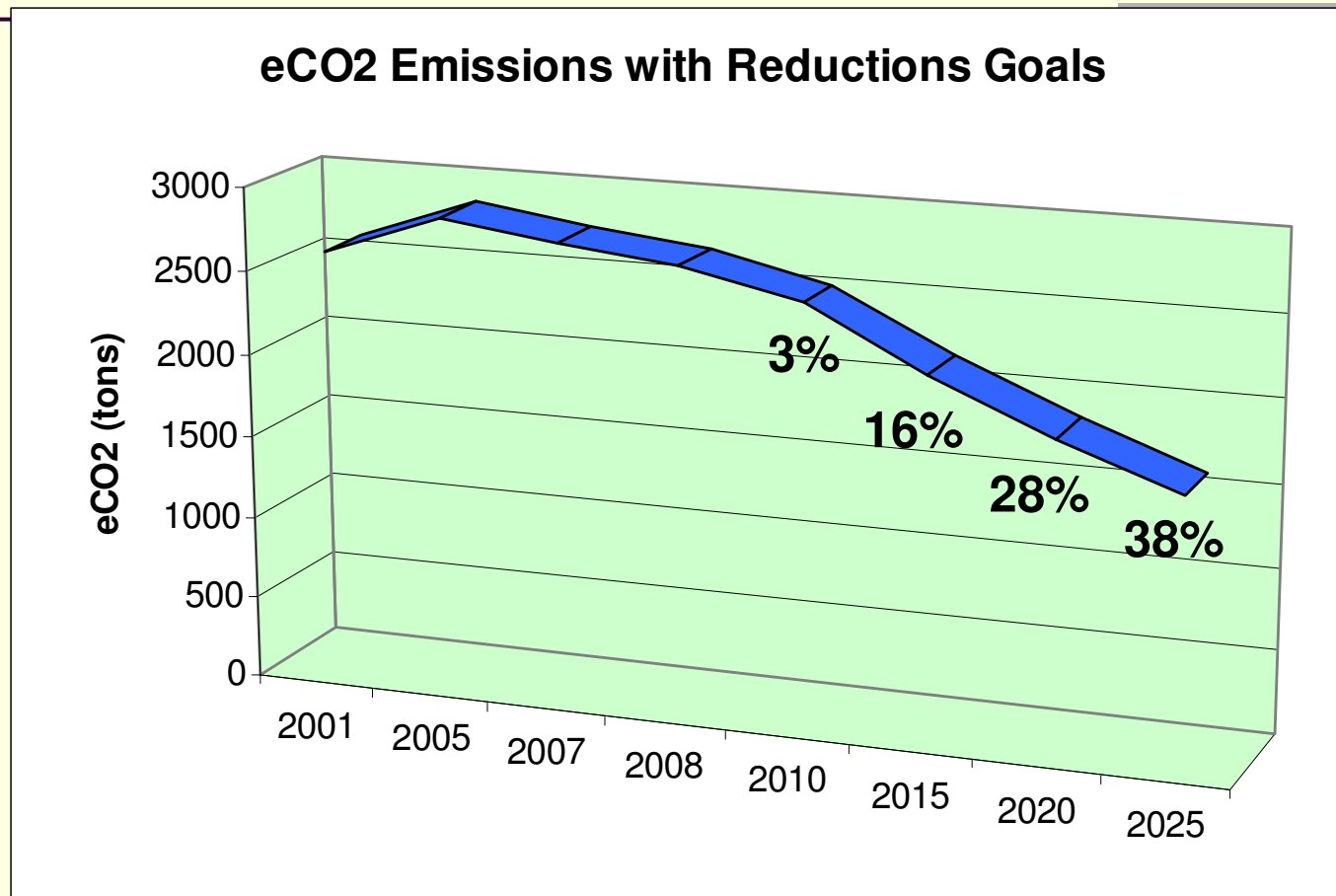
- 1,000,300 Watts of photovoltaic panels in 10 arrays
- The system is comprised of 5,716 Solar panels each with a maximum power output of 175 watts
 - Each panel is approximately 14% efficient
- The system will generate **1,425,000 kWh of power per year**
- Similar solar system for Hailey WWTP would:
 - **Supply 85% of Hailey's WWTP electricity needs**
 - **Reduce Hailey municipal carbon emissions by 27%**
- 2009 Budget: Cost of research and education for Wastewater Dept. about alternative energy options
 - Opportunity for County-wide collaboration
 - Consideration of technological advances

Recommended Goals

The HELP Committee recommends that the City of Hailey adopt the following goals for its municipal operations:

1. Short term: 15% reduction from 2001 baseline by 2015
 - Attainable under **Low/Moderate** reduction scenario
2. Long term Cumulative Goal: 3% reduction per year until 50% from 2001 baseline reached
 - If cumulative goal is met, 50% reduction by 2031
 - Allows for reassessment year by year

Hailey Carbon Emissions



Important Note: Use this information as a lens for future purchases and budget decisions

HELP Committee

To view this presentation, please visit the HELP section of the City of Hailey website

www.haileycityhall.org/finance/ClimateCom.asp

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