



Sustainability Task Force Agenda

A Committee of the Chico City Council
Mayor Ann Schwab, Chair

Meeting of January 10, 2011 – 3:00 p.m. to 5:00 p.m.
Council Chamber Building, 421 Main Street, Conference Room No. 1

1. INTRODUCTION OF NEW TASK FORCE MEMBER

Chair Schwab will introduce new Task Force member Valerie Redderman, who was appointed by Council member Mark Sorensen. Valerie is the founder and president of Greenfeet.com. Jon Luvaas, who was outgoing Council member Nickell's appointee, was reappointed to the Task Force by Council member Walker to replace resigning member Tim Dobbs.

2. CONSIDERATION OF TASK FORCE MEETING DATES AND TIMES

The Task Force will discuss and consider meeting dates and times for the remainder of the 2011 year.

3. UPDATE ON DEVELOPMENT OF THE CLIMATE ACTION PLAN (CAP)

Staff will provide an update on the preparation of the cost/benefit analysis of the Phase II and III measures conducted by the CSU, Chico economics class, and on the draft Climate Action Plan. Copies of the cost/benefit analysis charts are attached t

4. REPORTS AND COMMUNICATIONS

- a. **Report from the PG&E Pilot Innovators Grant Ad-Hoc Committee** - The Committee will report on the implementation status of this grant project.
- b. **Update on Implementation of new Residential Energy Conservation Ordinance (RECO)** - Staff will provide an update on the implementation of the new RECO provisions, which became effective on January 7, 2011.
- c. **New Green Building Code** - The Task Force is being provided information on the new California Green Building Code that became effective on January 1, 2011.

5. BUSINESS FROM THE FLOOR

- a. Members of the public may address the Committee at this time on any matter not already listed on the agenda, with comments being limited to three minutes. The Committee cannot take any action at this meeting on requests made under this section of the agenda.

6. **ADJOURNMENT** – The meeting will adjourn to the date and time of the next meeting determined by the Task Force under Agenda Item 2. above.

ATTACHMENTS:

Green Building Code Information
CAP Cost/Benefit Charts

Distribution available in the office of the City Clerk:

Prepared: 1/7/11
Posted : 1/7/11
Prior to: 3:00 p.m.

Chico City Clerk's Office
411 Main Street, Chico, CA 95928
(530) 896-7250



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Members:

Dwight Aitkens	BT Chapman	Tom DiGiovanni	Trudy Duisenberg	Cliff Friedman
Chris Giampaoli	Ken Grossman	Jon Luvaas	Scott McNall	Jim Pushnik
Valerie Reddemann	Ann Schwab, Chair	Jon Stallman	Jim Stevens	Scott Wolf
				Julian Zener

COST/BENEFIT ANALYSIS OF PHASE I, II and III CLIMATE ACTION PLAN MEASURES - ENERGY STRATEGIES

<u>Energy Strategies</u>		<u>Implementation Unit of Measurement</u>	<u>Annual Emissions Reduction/ Unit</u>	<u>Potential Implementor</u>			<u>Up-Front Costs/ Unit</u>	<u>Internal Simple Payback</u>	<u>Phase I Action</u>	<u>Net Cost/ MteCO2 Mitigated</u>
				<u>City of Chico</u>	<u>Business/ Institution</u>	<u>Resident</u>				
<u>Actions</u>			<u>(MteCO2)</u>				<u>(Years)</u>			
Goal 1: Upgrade and Tune-Up Equipment										
1.1	Energy Efficient Appliances									
1.1.1	Energy Star Vending Machines	# vending machines replaced with energy star units	0.4849	x	x	x	0.0			-\$348
1.1.2	Energy Star Copiers	# copiers replaced with energy star units	0.2196	x	x	x	0.1			-\$375
1.1.3	Energy Star Printers	# printers replaced with energy star units	0.1084	x	x	x	0.2			-\$362
1.1.4	Energy Star Refrigerators	# refrigerators replaced with energy star units	0.1356	v	x	x	0.5			-\$316
1.1.5	Energy Star Computers	# computers replaced with energy star units	0.0588	x	x	x	0.8			-\$323
1.1.6	Energy Star AC	# AC units replaced with energy star units	0.0278	x	x	x	0.9			-\$302
1.1.7	Energy Star Computer Monitors	# computer monitors replaced with energy star units	0.0178	x	x	x	2.7			-\$211
1.1.8	Energy Star Water Coolers	# water coolers replaced with energy star units	0.0596	x	x	x	4.1			-\$186
1.1.9	Energy Star Dishwashers	# dishwashers replaced with energy star units	0.0728	x	x	x	4.2			-\$138
1.1.10	Energy Star Clothes Washers	# clothes washers replaced with energy star units	0.0473	x	x	x	4.4			-\$318
1.1.11	Energy Star Water Heaters	# water heaters replaced with energy star units	0.5993	x	x	x	5.4			-\$131
1.2	PC Power Mgmt Software	# computers installed	0.0816	x	x	x	0.1	x		-\$348
1.3	Retro-commissioning	sqft facilities retro-commissioned	0.0004	x	x		3.5			-\$184
1.4	HVAC Control Retrofits	sqft of facilities retrofitted	0.0006	x	x	x	31.5	x		\$238
1.5	Chiller Retrofits	sqft of facilities retrofitted	0.0021	x	x		19.9	x		\$46
Goal 2: Green Building and Energy Efficiencies										
2.1	Green Building Incentives	sqft 'green' construction	0.0016	x			0.0			-\$192
2.2	Green Building to Code	sqft to code	0.0007		x		6.6			-\$134
2.3	L.I. Weatherization	# homes weatherized	1.0048	x			4.7	x, CAABC		-\$105
2.4	Home Weatherization Retrofit at Sal	# homes weatherized	0.7536	x		x	4.7	x, RECO		-\$105
2.5	Residential Efficiency Campaign	# homes targeted	0.3069	x			1.0	x, Innov		-\$160
2.7	Efficient/ Affordable New Housing	# efficient affordable housing units built	1.4380	x	x		6.4			-\$129
2.8	Plant Trees to Shade Buildings	# trees planted to shade buildings	0.0596		x	x	9.2			-\$135
2.9	Reflective Roofing	sqft reflective roofing installed	0.0002	x	x		8.7			-\$137

COST/BENEFIT ANALYSIS OF PHASE I, II and III CLIMATE ACTION PLAN MEASURES - ENERGY STRATEGIES

<u>Energy Strategies</u>		<u>Implementation Unit of Measurement</u>	<u>Annual Emissions Reduction/ Unit</u>	<u>Potential Implementor</u>			<u>Up-Front Costs/ Unit</u>	<u>Internal Simple Payback</u>	<u>Phase I Action</u>	<u>Net Cost/ MteCO2 Mitigated</u>
				<u>City of Chico</u>	<u>Business/ Institution</u>	<u>Resident</u>				
<u>Actions</u>			<u>(MteCO2)</u>				<u>(Years)</u>			
<u>Goal 3: improve Lighting Efficiency</u>										
3.1	LED Street Lights	# streetlights replaced	0.1402	x				9.0	x	-\$148
3.2	Decrease St. Light Hours (2/ day)	# streetlights	0.0367	x				0.0		-\$260
3.3	Lights Out at Night Policy	sqft with lights out at night policy	0.0007	x	x			0.2		-\$225
3.4	Commercial Lighting Upgrades	sqft of facilities retrofitted	0.0262	x	x			6.9	x, city	-\$167
3.5	Occupancy Sensors	sqft facilities with occupancy sensors	0.0007	x	x	x		0.2		-\$354
3.6	CFL Distribution (Commercial):	# lightbulbs exchanged for CFL	0.0643	x	x			0.1		-\$345
3.7	CFL Distribution (Residential):	# lightbulbs exchanged for CFL	0.0129	x		x		0.5		-\$317
3.8	LED Exit Signs	# exit signs replaced with LED signs	0.0795	x	x			1.7		-\$282
3.9	LED Holiday Lights	# strings of lights replaced with LED lights	0.0044	x	x	x		4.2		-\$167
3.10.0	Torchiere Exchange	# halogen torchieres replaced with fluorescent	0.0479	x	x			2.3		-\$260
3.11	Energy Fitness Program: Lighting	# kWh saved	0.0003		x			7.9	x, RHA	-\$150
<u>Goal 4: Renewable Energy Generation</u>										
4.1	Install Solar PV	capacity size (kW)	0.64	x	x	x		29.7	x	\$207
4.2	Use Wind Energy	capacity size (kW)	0.44	x	x	x		8.4		-\$141
4.3	Solar Hot Water Heaters	# homes installing hot water	0.67		x	x		15.4		\$67
4.4	Renewable Energy Credits	# kWh purchased REC	0.00	x	x	x		N/A		\$34
4.5	Landfill Gas Energy Generation	landfill gas emissions rate		x				4.9	x	-\$193
<u>Goal 5: Green Business Program</u>										
	Green Business Program Participati	# businesses participating	5.42		x			0.1	XXX	-\$172

COST/BENEFIT ANALYSIS OF PHASE I, II and III CLIMATE ACTION PLAN MEASURES - TRANSPORTATION STRATEGIES

<u>Transportation Strategies</u>		<u>Implementation Unit of Measurement</u>	<u>Annual Emissions Reduction/ Unit</u>	<u>Potential Implementor</u>			<u>Up-Front Costs/ Unit</u>	<u>Internal Simple Payback</u>	<u>Phase I Action</u>	<u>Net Cost/ MteCO2 Mitigated</u>
				<u>City of Chico</u>	<u>Business/ Institution</u>	<u>Resident</u>				
<u>Actions</u>			<u>(MteCO2)</u>				<u>(Years)</u>			
Goal 1: Promote Walking										
1.1	Safe Routes to School Program	# students offered	0.07	x				N/A		-\$140.55
1.2	Resident Transportation Ed. (8% VMT reduction)	# residents targeted	0.31	x				No Payback		-\$100.97
Goal 2: Reduce Vehicle Miles Traveled										
2.1	Provide Bikes for Daily Trips	# of bikes available	1.74	x	x			0.5		-\$247.36
2.2	Carshare Program	# of participants	0.54	x	x			1.0		-\$122.31
2.3	Telecommuting (Once a Month)	# of employees offered	0.17	x	x			0.0		-\$163.20
2.4	Parking Cashout Program	# of employees offered	0.45	x	x			0.0		-\$163.20
2.5	Subsidize Employee Bus Ridership	# employees offered	2.15	x	x			0.5		-\$114.76
2.6	Expand Bus Service	# of additional daily riders	2.15	x				0.4	x	-\$115.40
2.7	Flex Scheduling (9/10 days)	# employees offered	0.16	x	x			0.0	x	-\$63.56
4.8	Carpooling Program	# groups of 150 members	28.77	x	x			8.5		-\$18.32
4.9	New Bike Paths	# VMT offset	0.00	x				N/A	x	\$102.53
4.10.0	Franchise Waste Zones	# trucks rerouted	113.79	x				N/A	x	-\$177.99
Goal 3: Expand Alternative Fuel Use										
3.1	B20 Biodiesel Conversion	# vehicles switched	1.36	x	x	x		No Payback		\$180.95
3.2	Electric Vehicle Charging Stations	# stations	1.70	x	x			3.4		-\$145.55
Goal 4: Improve Vehicle Fuel Efficiency										
4.1.1	Hybrid Vehicles, City	# vehicles switched	3.29	x				7.2	x	-\$41.43
4.1.2	Hybrid Vehicles, Community	# vehicles switched	3.29		x	x		7.2	x	-\$41.43
4.2	Electric Vehicles	# vehicles switched	5.75	x	x	x		6.7		-\$34.44
4.3	Compressed Natural Gas Vehicle Conversion	# vehicles switched	1.56	x	x	x		7.9		-\$17.03
4.4	Limit Heavy Truck Idling	# vehicles regulated	2.29	x	x			0.0		-\$177.99
4.5	Limit Transit Bus Idling	# buses regulated	1.14	x				N/A		-\$177.99
4.6	Limit School Bus Idling	# buses regulated	0.86	x				N/A		-\$177.99
4.7	Fuel Efficient (EV) Parking Enforcement	# vehicles switched	5.05	x				5.7		-\$87.70

COST/BENEFIT ANALYSIS OF PHASE I, II and III CLIMATE ACTION PLAN MEASURES - WATER CONSERVATION STRATEGIES

<u>Water Conservation Strategies</u>		<u>Implementation Unit of Measurement</u>	<u>Annual Emissions Reduction/ Unit</u>	<u>Potential Implementor</u>			<u>Up-Front Costs/ Unit</u>	<u>Internal Simple Payback</u>	<u>Phase I Action</u>	<u>Net Cost/ MteCO2 Mitigated</u>
				<u>City of Chico</u>	<u>Business/ Institution</u>	<u>Resident</u>				
<u>Actions</u>			<u>(MteCO2)</u>					<u>(Years)</u>		
<u>Goal 1: Improve Pump, Irrigation Efficiency</u>										
1.1	Central Irrigation Control System	# acres on CIC	0.22	x	x			4.4	x	-\$784
1.2	Water Pump Efficiency	# houses served by pump	0.04	x	x			1.0		-\$300
<u>Goal 2: Water Conservation</u>										
2.1	Low Maintenance Landscaping	# acres of low maintenance landscaping	29.69	x	x	x		0.0		-\$793
<u>Goal 3: Install High Efficiency Water Fixtures</u>										
3.1	Install Low Flow Showerheads	# showerheads replaced	0.11	x	x	x		0.8		-\$251
3.2	Install Low Flow Faucets	# faucets replaced	0.01	x	x	x		2.3		-\$204



The 2010 California Green Building Standards Code

Are you ready?

“SENSIBLE MINIMUM STANDARDS...”

There's a new building code in town. The 2010 California Green Building Standards Code referred to as CALGreen goes into effect in just a matter of days now, on January 1, 2011. If for any reason this information is catching you by surprise, please note that the new mandatory measures set sensible minimum standards that all new structures can realize to minimize significantly the state's overall carbon output. However, it is important to underscore that each local jurisdiction still retains the administrative authority to exceed the new CALGreen standards.

As of January 1, California will now require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. CALGreen's mandatory measures establish a minimum for green construction practices, and incorporate environmentally responsible buildings into the everyday fabric of California cities without significantly driving up construction costs in a slow economy.

CALGreen has approximately 52 nonresidential mandatory measures and an additional 130 provisions that have been placed in the appendix for optional use. Some key mandatory measures for commercial occupancies include specified parking for clean air vehicles, a 20% reduction of potable water use within buildings, a 50% construction waste diversion from landfills, use of building finish materials that emit low levels of volatile organic compounds, and commissioning for new, nonresidential buildings over 10,000 square feet.

“OPTIONAL MEASURES...”

Key optional measures include cool roofs, performance and prescriptive energy measures, increased reduction in landscape potable water irrigation, and building flush out prior to occupancy. Another key component is a two tiered system designed to allow jurisdictions to adopt codes that go beyond the state

mandatory provisions. The nonresidential tiers include increased reduction in energy usage by 15 or 30 percent and increased reduction in potable water use, parking for clean air vehicles, cool roofs, construction waste diversion, use of recycled materials, and use of low-emitting resilient flooring and thermal insulation.

The code addresses the critical issue of compliance verification by utilizing the existing building code enforcement infrastructure; public agencies will incorporate the CALGreen code provisions into their construction field inspections. The mandatory CALGreen measures will be inspected and verified by local building departments, using special inspectors as they determine necessary.

The tiers are designed to become mandatory when adopted by a local jurisdiction. They then fall under the local building department's inspection process. California's building officials are some of the finest professionals in public service. They not only enforce highly technical health and safety standards, but they enforce accessibility standards, energy standards, and typically assist in the inspections of public works and local planning requirements.

In an effort to assist with the implementation of CALGreen, the California Building Standards Commission (CBSC) is taking advantage of existing training programs within the building industry, developing educational materials and program curriculum, and working toward partnerships with stakeholder organizations. CALGreen is currently available online and has been published along with the rest of the California Building Standards Code, Title 24 that was adopted in January of 2010. The effective date for the 2010 California Building Standards Code, which includes CALGreen, is January 1, 2011.

“THE CALGREEN STORY...”

While CALGreen goes into effect in a matter of days it has actually been years in the making. Governor Arnold Schwarzenegger made the greening of California a high priority for his administration. In 2004, Executive Order S-20-04 created the “Green Building Action Team” that established efficiency measures for state-owned buildings, with a goal of reducing grid-based electricity by 20% in the year 2015. Under the guidance of the Green Building Action Team, the Department of General Services (DGS) established green building policies for new and existing state buildings. In 2005, Executive Order S-03-05 established the “Climate Action Team” (CAT) and called for an overall reduction in greenhouse gas emissions in California.

The Governor's environmental measures include his signature on California's landmark bill, AB32, which establishes a comprehensive program of cost effective reductions of greenhouse gases to 1990 levels by 2020. CBSC and the other agencies staff worked with CAT and the California Air Resources Board to

ensure that the green building standards are factored into the program designed to meet the goals of AB32.

In early 2007, Governor Schwarzenegger's administration directed CBSC to initiate a process to develop green building standards for the State of California. Together with the Department of Housing and Community Development (HCD), CBSC developed a plan to accomplish the goal. In October of that year the Governor provided further direction to CBSC to work with specified state agencies on the adoption of green building standards for residential, commercial, and public buildings for the 2010 code adoption cycle. As a result, CBSC made the development of the first statewide green building standards code a priority.

“THE CALGREEN TEAM...”

CBSC worked closely with HCD, DGS- Division of the State Architect (DSA) and the Office of Statewide Health Planning and Development (OSHPD) to accomplish the daunting assignment. The agencies began the process by reviewing existing green building standards, best practices, guidelines, and other published material. The goal was to develop a code that incorporated green building measures that were familiar to the industry rather than “reinventing the wheel”. A critical part of the process was to establish a focus group composed of representatives from various environmental groups, building professionals, code enforcement agencies, industry stakeholders, and other interested parties.

The state agencies collaborated with members of focus groups and their respective advisory boards. Information acquired during these meetings provided the impetus behind the preliminary development and adoption of the 2008 California Green Building Standards Code, which went into effect in August 2009. The 2008 code was composed of voluntary measures that actually became an introduction to what was to come.

The intention of the *optional or voluntary* approach was to allow industry and enforcement agencies to prepare for and adjust to the proposed green building standards before they become mandatory – therefore greatly increasing the chances of a high level of compliance. The code was well received. Several local jurisdictions throughout the state took the leap and adopted the 2008 code as mandatory. As a result we have received very important feedback from the industry, the enforcement community and other stakeholders.

In January, the Governor's vision was realized with the adoption of the 2010 California Green Building Standards Code (CALGreen). This landmark code will achieve significant impacts in greenhouse gas emissions, energy consumption, and water conservation for the state. Along with HCD, DSA and OSHPD, CBSC has been working diligently to make sure that stakeholders statewide are familiar with the new requirements before the January 2011 effective date.

The 2009 code adoption cycle followed the very successful transparent code development process that allowed input from a cross section of stakeholders, subject matter experts, and the collective expertise of state agencies such as the state Air Resources Board, Department of General Services, Integrated Waste Management Board (CalRecycle), Department of Water Resources, and the California Energy Commission.

Looking to the future, CALGreen will continue to evolve by employing the same open-door, transparent process that has proven successful thus far. CBSC looks forward to the opportunity to engage in continued discussions with our stakeholders to modify, enhance, and expand the codes to benefit building owners and the environment.

Finally, the development of the new green code was an incredible team effort and everyone that participated deserves credit for its success. The provisions of the new code are attainable and realistic and based on good practices. CBSC and HCD worked closely with the building industry and other stakeholders to ensure that the mandatory regulations achieved a balance between significant environmental standards and effective practices.

The code is not perfect. However, CALGreen is a fundamental yet vital step in mainstreaming green building design and a tremendous step toward the reduction in the carbon footprint buildings have on the environment in California.

Do you need more information concerning CALGreen? The CALGreen code and Guide are available online at www.bsc.ca.gov. You may also send questions via email to cbstraining@dgs.ca.gov or call the CBSC office, 916-263-0916.