

Staff Report

DATE: October 7, 2008

TO: City Council

FROM: Donna Silva, Director Parks and General Services Department
Mitch Sears, Sustainability Program Manager

SUBJECT: Community Sustainability Program – Program update

Recommendations

1. Receive update.
2. Provide direction on overall schedule for the Climate Action Plan.

Overview

This report provides an update on the actions the City has undertaken in the past nine months related to addressing climate change. In addition, staff is seeking direction on the overall schedule for development of a climate action plan for Davis.

Council Goals

The set of recommended actions address the Council goal of conserving natural resources and protecting the environment. Specifically, the actions begin to implement the Council objective of addressing global warming and reducing the City's carbon footprint.

Fiscal Impact

No costs associated with this update report. Future action plan will include cost estimates for measures and staff time.

Background and Analysis

City actions addressing climate change fall into two categories: (1) City operations and (2) Community. As reported to City Council in April, the greenhouse gas (GHG) inventory conducted by the City showed that roughly 96% of the total local GHG emissions come from the Community category with the remaining amount resulting from City operations. The tables below provide a summary of the individual actions in each category.

Existing actions

As part of the City's efforts to complete its GHG inventory, staff catalogued existing GHG reduction actions that began after 1990 (the baseline year for the inventory). These existing actions are included as Attachment 1.

City operations

While the relative amount of potential GHG emission reductions are small, the City plays an important role in demonstrating effective reduction strategies and educating the community on the need for swift, measurable, and lasting action on local GHG emissions. As part of earlier

decisions, the Council directed staff to pursue actions in this category that can be implemented quickly. This direction has produced results as shown below. However, even “low hanging fruit” takes considerable time to pick. Many of the actions in this category are considered to be in process due to the challenges presented by funding, available staffing, and incorporation of action into an organizational structure attempting to carry out existing priority policies.

Table 1

Initial green house gas reduction actions in process - City Operations

Category	Action	Description	Status and GHG Reductions (est.)/Cost
General	Inventory local GHG emissions	Using the ICLEI methodology, the City completed its initial inventory of local GHG emissions in March 2008. Emissions calculated for both City operations and community sectors. Initial inventory in process of evaluation to address potential gaps in data (see community actions in Table 2 below). Provides foundation for City GHG reduction planning and action.	Status: Completed. In process of updating findings. GHG – The inventory is a GHG reduction planning tool. No direct GHG reductions. \$: Low Costs for materials low. Administrative costs low.
	Join the Climate Action Registry	The Registry is a non-profit public/private partnership that serves as a voluntary greenhouse gas registry to promote early actions to reduce GHG emissions. The Registry provides a verifiable emissions protocol that ensures participants receive appropriate consideration for early actions in the event of any future state, federal or international GHG regulatory scheme.	Status: In process, anticipate completion of inventory and verification of results in early 2009. GHG – The Registry is an inventory and planning tool. No direct GHG reductions. \$: Low Costs for materials low. Administrative costs low.
Transportation	Bike Loan Program	Loan program for the purchase of a commuter bike by City employees from a local bike shop. Loan program similar to the existing city computer loan program.	Status: Completed. More than 10 employees participating. GHG – Moderate potential \$: Low. Opportunity cost of funds on loan that would otherwise be earning interest. Administrative costs expected to be low due to similar loan program for computers.
	Fleet greening	Three tiered strategy to reduce fuel use in City fleet by an average of 2%/yr. 1. Evaluate use and employee education. 2. Purchase higher efficiency vehicles. 3. Develop a green fleet policy and evaluate long-term vehicle use.	Status: In process. City will add 5 hybrids and 3 electric vehicles to fleet this FY. GHG – High potential. \$\$: Moderate

Category	Action	Description	Status and GHG Reductions (est.)/Cost
		Alt fuel vehicles selected for similar functionality. As other types of hybrid vehicles come to market, additional replacement opportunities will occur (e.g. light duty pick-up trucks).	Premium cost for alt fuel vehicles approx \$5,000/vehicle. When fuel cost savings are factored in over the lifetime of the vehicle, the total cost is less than \$5,000. Additional cost offsets are possible with grant funding opportunities through the Yolo/Solano AQMD. AQMD grants this year funded the premium for converting 3 gas vehicles to electric.
Materials Management	100% post consumer waste recycled copy paper purchase.	Purchase 100% recycled content copy paper.	Status: Completed. GHG – Low potential. \$: Low Cost for materials moderate. Administrative costs low.
	Reduce City paper purchases by 25% this FY	Three tiered strategy to reduce paper purchases by City 1. Evaluate use and employee education. 2. Reduce need for printing: e.g.: duplex printers, paperless meetings, etc. 3. Reduce number of printing devices	Status: In process. GHG – Low potential. \$: Low Cost for materials moderate. Administrative costs low.
	Constr. and Demo. recycling ordinance	50% diversion rate required in newly adopted ordinance.	Status: In process. GHG – Moderate potential. \$: Low Cost for materials low. Administrative costs low.
	Bottled water purchase policy	Policy to encourage local sourcing for City functions/events where water may be served. Examples: City worked with Davis Food Co-op to provide free drinking water during the 4 th of July event at Community Park. Partnership w/ Nalgene for water bottles.	Status: Completed GHG – Low \$: Low Material costs low. Administrative costs low.
Energy	Reduce energy use in City facilities	Three tiered strategy to reduce energy use in City facilities by 15%: 1. Evaluate use (energy audits) and	Status: In process. GHG – High potential

Category	Action	Description	Status and GHG Reductions (est.)/Cost
	by 15% this FY	<p>employee education.</p> <p>2. Commission buildings (optimize energy use in existing buildings with existing equipment).</p> <p>3. Implement Energy Management System and efficiency upgrades with short payback periods in key City facilities (based on recommendations from energy audits in step 1).</p> <p>The energy savings goals for this year do not include City pools as upgrades are generally more cost intensive and longer-term.</p>	<p>\$\$: Moderate</p> <p>Material costs moderate. Administrative costs low. Over time, energy cost savings off set initial investment cost and on-going administrative costs. Possible PG&E grant funding opportunity to off set some initial costs.</p>
	LED Streetlight pilot program	<p>Continue pilot program and evaluate expansion.</p> <p>Work with PG&E to develop rate schedule that recognizes reduced energy use of LED street lights.</p>	<p>Status: In process.</p> <p>GHG – High potential</p> <p>\$\$: Moderate</p> <p>Material costs moderate. Administrative costs low. With adjusted PG&E rate schedule energy cost savings off set initial investment cost and on-going administrative/ O&M costs.</p>
	Photo-voltaic system to partially power Waste-water Treatment Plan	Up to 1 megawatt system installed as part of WWTP upgrade.	<p>Status: In process.</p> <p>GHG – High</p> <p>\$ to \$\$\$ - Low to High; dependent on if City owns facility.</p>
Buildings	Green building program	Program for homeowners and builders/contractors.	<p>Status: Completed.</p> <p>GHG – Moderate potential.</p> <p>\$: Low</p> <p>Material costs low. Administrative costs low - requires training for Building staff.</p>

As noted in the introduction to this section, the GHG emission reductions from these measures are relatively small in comparison to the overall GHG emissions of the Davis community. In addition, it is difficult to estimate (with precision) the total GHG savings provided by these early actions. However, as one of the most visible employers in Davis, the City has an important role

to play in demonstrating effective GHG emission reduction strategies for large employers and providing an example for other municipalities.

Community actions

The majority of the City’s recent efforts to address community GHG emissions has been in planning. As shown in Table 2 below, the focus has been on preparing a long-range Climate Action Plan for the Davis community. The exception is the Davis Low Carbon Diet community engagement pilot program that will be launched in early October. While the amount of potential GHG emission reductions from the initial phase of this community engagement program is small, it addresses two areas critical to the long-term success of any local GHG reduction plan: (1) citizen education and (2) direct community engagement in the solution.

Table 2

Initial green house gas reduction actions in process - Community

Category	Action	Description	Status and GHG Reductions (est.)/Cost
General	Form Climate Action Team (CAT)	A 20 member community based advisory group to assist in the development of GHG emission reduction actions and enhance public awareness and participation in GHG reduction planning and actions.	<p>Status: In process. Since forming in March 2008, the group has held 12 public meetings and dozens of small working group meetings focused on four primary GHG categories: (1) Transportation, (2) Energy, (3) Land Use, and (4) Consumption/Waste.</p> <p>Held public forum in June attracting approximately 200 citizens to discuss GHG actions.</p> <p>Plan to complete work in March 2009 – See schedule discussion below.</p>
General	Form Science Advisory Team	A 6 member campus based advisory group to assist in the analysis of potential GHG reduction measures (as identified by the CAT, staff, and the public).	<p>Status: In process. Since forming in May 2008, the group has held 2 public meetings focusing on developing a methodology to analyze GHG reduction actions.</p> <p>Plan to complete work in March 2009 – See Climate Action Plan schedule discussion below.</p>
Land Use	Development of GHG allowance for new residential development	Working with UCD professor, developing carbon allowance for Davis residents based on both the state GHG inventory and the City’s GHG inventory. The allowance is the amount that a Davis resident can emit on an annual basis that will allow the City to meet its (and the State’s) GHG reduction targets. This allowance can be applied to new residential projects to determine necessary GHG mitigations.	<p>Status: In process. Report will be made to the Natural Resources Commission in October with recommendations to the Council in early November.</p> <p>Intended to guide City’s GHG targets and requirements for new residential projects. Non-residential projects will need separate analysis.</p>

Category	Action	Description	Status and GHG Reductions (est.)/Cost
Community Engagement	Davis Low Carbon Diet Challenge	Program to directly engage residents in measurable GHG reductions. Based on workbook used successfully in other communities. Initial pilot program of 100 households set to launch in early October. Long-term objective is to engage 75% of Davis households. Significant potential for GHG reductions at the community scale and forms the foundation for support of long-range community scale GHG reduction actions (e.g. community solar program), that may be included in the Davis Climate Action plan the Council will consider for adoption in 2009.	Status: In process. Pilot program set to launch on October 12th (in conjunction with UCD Centennial event)

In addition to the community actions listed above, staff has been actively engaged in regional, state, and national initiatives and legislation designed to curb GHG emissions. The influence and affect of the City’s participation in these discussions and conferences is difficult to assess. However, there is continuing interest in Davis’ long-running and emerging programs. The City is in consistent contact with other jurisdictions, which has been mutually beneficial in the development of strategies and analysis of potential GHG reduction actions.

Greenhouse Gas Inventory and Reduction Targets

Staff presented the community GHG inventory to the City Council in April 2008. Though it was based on the best available modeling software (ICLEI), the inventory contained clear information gaps that were acknowledged by staff. The most significant gap was GHG emissions related to commuter trips after they left or before they entered the Davis city limits - the modeling software only counted the portion of vehicle trips occurring within the City. Staff has been working with UC Davis Professor Deb Niemeier to eliminate this gap and help the City establish GHG reduction targets that are consistent with the State’s targets. As summarized in Table 2, this work will also allow the City to estimate a carbon “allowance” for new development projects and existing residents that will enable the City to plan for and reach its local GHG emissions reduction targets. To staff’s knowledge, this effort represents the most advanced approach to local GHG emissions assessment and planning.

Staff will be presenting the findings of this study and recommendations for Davis GHG reduction targets to the Natural Resources Commission in late October and to the Council in early November.

Davis Climate Action Plan – schedule update

The schedule for development of the Davis Climate Action Plan was originally drafted to provide the CAT and other advisory bodies with a general timeline. The schedule also included important mile stones – in the development of the plan. Based on the information provided below,

staff is seeking direction from the Council on two modifications to the overall schedule. The updated schedule is included as Attachment 2.

1. Extension. Due to a delay in finalizing the membership, the CAT did not begin meeting until March of 2008. The original schedule anticipated a full year for completion of the CAT's work. This would modify the original schedule to run from March 2008 to March 2009.
2. Analysis phase. The CAT has transitioned from an information gathering stage to an analysis phase. In order to support the work of the CAT, staff has suggested an approach that includes an initial analysis of a set of potential GHG reduction actions by staff. There will be a several month pause of CAT meetings to allow staff to focus efforts on the analysis of the potential action items. This is reflected in the CAT meetings shown on the updated schedule.

Though the CAT has not taken an official position on the updated schedule, the strategy to analyze potential actions is in response to concerns raised by the CAT that its members lacked the time to adequately analyze the potential actions. Staff is seeking confirmation from Council that the updated schedule is acceptable.

Attachments

1. Existing Davis GHG reduction measures since 1990 (attachment to GHG inventory)
2. Updated schedule – Davis Climate Action Plan

Measure ID		Name of Measure	Measure Description	Time Frame	Methodology	Annual eCO2 Savings (tons)
Energy Efficiency						
E1	Energy Conservation & Efficiency	Encourage Energy Conservation in Residences and Businesses (behavior Management, Small-Scale Retrofits)				
E1.1	Davis Energy Efficiency Project (DEEP)	There are four primary goals of the Project: 1) to achieve lasting energy savings; 2) to develop the local infrastructure and networks necessary to facilitate the delivery of energy efficiency services and information; 3) to provide information and education to residents, businesses, and institutions in the City of Davis; and 4) to develop innovative program delivery methods, procedures, and marketing methods that can be adopted by future programs.	Completed	3,398,817 kwh saved	Total: 1,923	
E1.1a	DEEP single-family: Houses Shadescreened	Rebate for installed exterior solar screens on all south, west and east facing windows, and glass doors. Shadescreens (i.e. solar screens or sun screens) can stop the sun's heat and glare before it contacts windows. The screening material is installed on the exterior side of windows. The use of sunscreens can help to reduce air conditioning costs by 30%.	Completed	64,000 kwh saved	34	
E1.1b	DEEP single-family: Duct Repair	DEEP offers a \$200 rebate for Duct Repair service. Service must be done by a DEEP Listed technician, and must include pre- and post-service testing of duct leakage. The repair work must bring measured leakage from above 12% to below 12%.	Completed	22,200 kwh saved	43	
E1.1c	DEEP single-family: Compact Fluorescent Lamp Residential	Offered a 3-pack of free sub-compact fluorescent lamps to Davis residents. CFLs use less than one-third of the energy as incandescent bulbs.	Completed	1,150,000 kwh saved	605	
E1.1d	DEEP single-family: Window-Mnt Evap Cooler	Free installation service for residents. An Evaporative Cooler is different from a regular air conditioner (AC) unit because it uses water to absorb heat in the air. As the water takes in the heat it evaporates, which cools the air. The DEEP Evaporative Cool unit has an 85% cooling ratio, which means if it is 100° outside, you'll have 73° cool air blowing into your home. In addition, this wall or window mounted unit uses a fan that brings the cool delta breezes into your home to allow nature to help cool your home during the summertime. An Evaporative cooler operates on about 25% of the cost of an air conditioner or approximately 5 cents per hour compared to an AC's average of about 20 cents per hour.	Completed	92,600 kwh saved	49	
E1.1e	DEEP single-family: Touchier exchange	Davis residents exchanged inefficient and unsafe halogen torchiere floor lamps for new, energy-efficient, compact fluorescent lamp. Limited supply was given to PG&E costumers at the Davis Farmer's Market.	Completed	26,300 kwh saved	14	
E1.1f	DEEP single-family: HVAC Charge and Airflow	Diagnostic test and basic tune-up service for central air conditioners. DEEP subsidizes the cost of the technician's visit.	Completed	87,290 kwh saved	46	
E1.1g	DEEP Multi-family: Dwellings Shadescreened	Rebate for installed exterior solar screens on all south, west and east facing windows, and glass doors. Shadescreens (i.e. solar screens or sun screens) can stop the sun's heat and glare before it contacts windows. The screening material is installed on the exterior side of windows. The use of sunscreens can help to reduce air conditioning costs by 30%.	Completed	69,400 kwh saved	36	
E1.1h	DEEP Multi-family: Duct Repair	A \$400 rebate for Duct Repair service on apartment duct systems. To qualify for the rebate, the service must be done by a DEEP Listed technician, and must include pre - and postservice testing of duct leakage. The repair work must bring measured leakage from above 12% to below 12%.	Completed	25,400 kwh saved	13	
E1.1i	DEEP Multi-family: Swimming Pool Retrofit Project	Rebates for energy efficient pool pumps	Completed	5,887.5 kwh saved	3	
E1.1j	DEEP Multi-family: Charge and Airflow	Diagnostic test and basic tune-up service for central air conditioners. DEEP subsidizes the cost of the technician's visit.	Completed	127,680 kwh saved	67	
E1.1k	DEEP Multi-family: Cool Roof	ENERGY STAR® cool roof coating. This is applied like a thick white paint. It is a reflective coating that stays 50 to 60°F cooler on hot days. It decreases cooling cost by 20% on average and increases longevity of the roof. DEEP helped apply cool roof coating to the flat roof areas of apartment complexes by offering a rebate of \$0.40 per square foot.	Completed	6,400 kwh saved	3	
E1.1l	DEEP Multi-family: Laundry Retrofit Project	DEEP offers a \$450 rebate for multi-family washing machines. The rebate is for EnergyStar commercial washers. You must purchase or lease (with a minimum 5-year lease) to qualify for the rebate.	Completed	16,440 kwh saved	114	

E1.1m	DEEP: Small Commercial Exit Sign	Offer free LED Exit signs with free installation to replace older, inefficient technology.	Completed	100,200 kwh saved	52
E1.1n	DEEP: Compact Fluorescent Lamp Commercial	Free compact fluorescent lamps for small businesses	Completed	175,000 kwh saved	92
E1.1o	DEEP: Davis Lights	City initiative to help small businesses save money by using less energy. Program helps pay for up to 100% of the cost of installing high quality energy efficient lighting. Replace old-fashioned fluorescent components with 1" diameter T8 tubes and electronic ballasts. Replace incandescent lights with task-appropriate compact fluorescents.	Completed	370,370 kwh saved	195
E1.1p	DEEP: Customized Commercial Projects		Completed	859,649 kwh saved	452
E1.1q	DEEP: City-School Partnership		Completed	200,000 kwh saved	105
E2	Energy Efficient Design	Develop Energy Efficient Housing & Commercial Building Design			
E2.1	Encourage functional windows	Require functional windows on north and south sides of structures to permit "delta breezes" to provide natural cooling effects.	Existing		
E2.2	Place trees on south side of developments	Encourage developers to provide deciduous trees or shade structures on the south side of developments to provide natural relief from summer heat.	Existing		
E2.3	Exceed the State's Title 24 energy requirements	Require exceeding the State's Title 24 energy requirements for new developments by 10%.	Existing		
E2.4	Outdoor lighting control	Limits the amount of lighting on new non-single family residential projects, conserves energy consumption.	Existing		
E3	Municipal Energy Conservation & Efficiency	Energy Conservation & Efficiency in City Operations			
E3.1	Energy Star Copiers	The City purchased 10 Energy Star copiers in 2007.	Existing	125,044 kWh saved	66
E3.2	LED Traffic Lights	Replaced energy intensive red lights with more efficient lights. L.E.D. lights reduce energy consumption by about 66%. Davis reduced its electricity consumption by approximately 277,076 KWh.	Existing	227,076 kWh saved	208
Total					2,197
Renewable Energy					
RE1	Encourage Renewable Energy	Encourage installation of renewable energy			
RE1.1	PV systems	PG&E has 93 residential and 10 business customers who have PV systems. Residential: 262,296 kw. Commercial: 1552,851 kw.	Existing	5,000 kwh produced annually	17
RE1.2	North south oriented subdivisions for PV	Require north south orientation for new subdivisions to maximize PV solar opportunities.	Existing		
RE1.3	Prepare for rooftop PV systems	Keeping roof top equipment to a minimum to increase opportunity for rooftop PV systems.	Existing		
RE2	Renewable Energy for City	Renewable Energy is used to power city facilities			
RE2.1	Solar installations	Physical solar installations include the Veteran's Memorial Center which produces 16.9 kw	Existing		
RE2.2	Solar Energy Purchase	The City purchases solar power credits for select buildings. Six buildings use 828,810 kwh of solar energy.	Existing	828,810 kwh saved	436
Total					453
Transportation and Vehicle Fleet					
T1	Alternative Transportation Design	Encourage development of active and public transportation system			

T.1.1	Bicycle Transportation System	These facilities provide safe, convenient travel for bicyclists throughout the City. The City recognizes the need to encourage bicycle travel for both transportation and recreation. Bicycle use conserves energy, contributes to cleaner air, reduces traffic, reduces the need for automobile parking, and improves personal fitness. Improvements since 1990: 23 bike lanes and 31 miles of bike paths, 16 air stations for tires, increased bicycle parking facilities, Comprehensive Bicycle Plan, Davis Bike Map, bike stop light sensors/push buttons added, etc.	Existing	Adult population (60,000) x percent of trips (15%) x average trip length (1.8 miles) = 64,800 miles/day. 64,800 miles/day x 365 days/year = 23,068,800 auto miles replaced by bike miles	13,815
T.1.2	Unitrans: Increased Ridership	Joint ASUCD/city transit system that serves more than 3 million riders a year on natural gas-fueled buses. Ridership has increased by about 600,000 riders in 1990 to over 3 million in 2007. It is assumed that half of Unitrans rider ship represents a shift from trips made in passenger vehicles to trips taken on bus. Average trip length is estimated to be 3 miles because of Davis' compact design.	Existing	Vehicle miles that would have otherwise been driven by automobile: 4,760,874 vehicle miles	2,134
T.2	Promotion of Alternative Transportation	Promotion/Educational Campaign to Encourage Alternative Transportation: Promoting walking, bicycling, taking public transit, ridesharing, alternative fuel vehicles, telecommuting			
T.2.1	Street Smarts Program	A traffic calming program from the City of Davis Public Works Department. It is designed to make streets safer, to reduce the number of traffic related accidents, injuries, and deaths. 5 video public service announcements including "crosswalk safety," "cyclist safety," and "speed limit safety." Many posters are made for pedestrians, cyclists, and motorists aware of each other and safety. It encourages children to walk and bike to school.	Existing	2,678 students bike to school per day for 178 days a year, savings 1,430,052 vehicle miles	852
T.3	City Fleet Greening				
T.3.1	EV Program	The City owns 27 electric vehicles	Existing	10,800 miles of electric vehicles replaced fossil fuel	3
T.3.2	Low Emissions Acquisition Policy	City policy to cut pollution, fuel use, and cost	Existing		
T.3.3	Senior Center Bus Fueled by CNG	One out of three paratransit buses is fueled by CNG. It replaces gasoline fuel with 3,656 therms of CNG (or travels 20,171 miles).	Existing	20,171 gasoline fuelled vehicle miles are replaced with CNG fuel	39
T.3.4	Hybrid SUV	The City owns one hybrid SUV, a low emissions vehicle. It traveled 1,938 miles in one year	Existing	1,938 miles were traveled on a low emissions vehicle	1
T.3.5	Police on Bikes	Since June 2007, one police officer has patrolled downtown Davis. Many communities have found that police on bicycles provide a higher level of protection in certain areas. Moving police out of their cars and onto bikes reduces municipal fuel usage as well as saving capital costs. It also improves public relations with the police and provides visible evidence that bicycling is a legitimate option for transportation. Furthermore, it promotes officer health. Bicycle police can lead the city in establishing safe roads for cyclists.	Existing	Annually, 15,000 automobile vehicle-miles is replaced by bike	7
T.3.6	Unitrans: Converting buses to CNG	Since 1996, many buses have been converted to compressed natural gas (CNG) which emits less GHG's than diesel. In calendar year 2007, 851,110 miles were traveled by CNG vehicles, which was 93% of the total of 919,151 miles.	Existing	851,110 diesel fuelled miles replaced by CNG	1,455
T.4	City Employee Commute	City Employee Transportation Incentives			
T.4.1	Promote Bicycle Commuting		Existing		
T.4.2	Telecommuting		Existing		
Total					18,306

Waste and Recycling					
Waste Reduction Strategies	The City has a variety of programs that encourage Davis residents to reduce waste and recycle.				
WR1					
WR1.1	Curb-side Recycling	The City of Davis contracts with Davis Waste Removal (DWR) to collect trash, recyclables, yard material and perform street sweeping within the city limits. Curb-side residential garbage and recycling collection is an automated dual cart system. All trash and recyclables must be placed inside the carts. The default sizes are one 95 gallon garbage cart and one 64 gallon split-recycling cart. By request, different size trash containers are available (35 or 65 gallon) and additional trash carts are available for a fee. An additional split-recycling cart is available upon request at no extra charge.	Existing	Paper: 4,544, Plastic: 700, Steel: 62, Aluminum: 157, Cardboard: 15,602 (tons CO2e)	21,324
WR1.2	Apartment Moveout	During the move-out time period (late August), apartment residents were encouraged to bring all reusable items to donation stations. Residents moving in, current residents, apartment staff and non-profits took whatever they wanted from the donation station. The donation station essentially became a swapping station. Davis Waste Removal provided data comparing the amount of material collected in roll-off bins from 2006 to 2007. There was a waste reduction of 6.6 tons of waste.	Existing	178 bags of clothing (estimated to weigh 3,560 lbs) were donated to a local thrift store. 8.4 tons of waste was diverted	22
WR1.3	Bulky item drop-off events	Bulky Items Drop-Off Days are held annually. Materials collected for reuse include: large appliances, refrigerators, freezers, scrap metal, wood scraps, furniture, mattresses, textile, empty cardboard boxes, toilets, sinks, plumbing fixtures, electronics, computer items, microwaves, and TV & computer monitors.	Existing	On average, the annual event diverts approximately 337 tons from the landfill	889
WR1.4	Compost kit for residents	Residents call, request a compost correspondence packet. The packet is mailed to them. They read the info, complete the quiz and mail it back to Public Works. Staff review the quiz, calls resident and notifies them to pick up a compost bin.	Existing		
WR2	Education and Outreach				
WR2.1	Backyard composting workshops	Workshops are offered twice a year for Davis residents to learn about backyard composting	Existing		
WR2.2	RISE: "Recycling is Simply Elementary" Program in schools	Comprehensive recycling and composting program at all elementary schools. The program is run by a district recycling coordinator and parent school-site coordinators - paid for from the cost savings. Program has successfully reduced lunch waste in the schools by 50% since its inception, saved DJUSD over \$43,000 in solid waste costs for elementary schools in 2004-05, decided to expand into junior high schools in 2005-2006	Existing		
WR3	Municipal Waste Reduction				
WR3.1	Electronic submittals and communication	Encouraging/requiring electronic submittals. Distributing communication via electronic vs. paper means. Providing electronic copies of staff reports on the web for public consumption	Existing		
WR3.2	Reuse	Bring reusable plates/cups to staff meetings	Existing		
WR3.3	Bottled water purchase policy	Policy to encourage local sourcing for City functions/events where water may be served	Existing	Estimated 1 ton of recyclables is diverted from landfill	2
Total					22,237
Gross-Cutting					
CC1	Land Use	Smart planning can help reduce Climate Change impacts			
CC1.1	Compact community design through infill development	Provides a tighter mixture of activities that make it possible to work, play, shop, and go to school within walking and bicycling distance.	Existing	Reduced per capita VMT	
CC1.2	Mixed Use	Many new developments in downtown core are mixed use developments. Promotes location of housing in proximity to neighborhood shopping, employment, and transit. This may reduce travel distances. Mixed use residential/commercial developments: 18. Mixed use commercial developments: 18. Examples: Roe Building, The Lofts, Chen Building.	Existing	Reduced per capita VMT	

CC1.3	Slow Growth	From 2007 to 2015, Davis plans to grow 1% per year. In order to estimate the potential greenhouse gas savings the CACP Software is used. It allows one to forecast future growth. By forecasting with different residential growth rates, it is possible to see potential GHG emissions from growth. (Example: With 15% annual growth -- 2007 emissions = 80,000, 2015 emissions = 212,192. The difference in emissions from 2007 to 2015 is 133,000 tons or 8,338 tons annually.) Note: savings depends on what BAU growth. At what percent would the city be growing normally? What is an average U.S. city's growth rate?	Expanded	10% growth = 16,581 tons annually.	16,581
CC2	Green Building	Promote Sustainable Building			
CC2.1	Municipal Green Building Policy	LEED equivalent rating for new city buildings. LEED equivalent for City remodel/retrofits.	Existing	Reduced energy consumption	
CC2.2	Professional training	City staff are currently training on green building practices	Existing		
CC2.3	Development of outreach materials/guidelines	Information on green building is on the city's website.	Existing		
CC3	Green Space				
CC3.1	Agricultural mitigation	Agricultural mitigation required for conversion of agricultural lands to urban uses on a 2 to 1 basis, which saves local farm lands and increases opportunities for local food supply	Existing		
CC3.2	Habitat protection	Biological clearance species and habitat protection. Helps preserve ecologic food chain.	Existing		
CC3.3	Community Forest Plan	The city manages more than 18,000 energy-saving, carbon-absorbing trees. They sequester carbon in the tree's biomass. Providing shade for buildings also reduces energy usage associated with air conditioning during hot months. Each tree sequesters and avoids the emission of approximately 0.17 metric tons of CO2 per year (due to carbon sequestration in the tree's biomass and through reducing the cooling needs of adjacent buildings). (Center for Urban Forest Research, USDA Forest Service, Pacific Southwest Research Station, New York City, New York Municipal Forest Resource Analysis, 2007)	Existing	18,000 trees x 0.17 tons CO2	3,060
CC3.4	Tree Davis	Since 1992, TREE Davis has planted over 8,000 trees in Davis parks, greenbelts, city streets, and local wildlife areas. They provide volunteers, tools, and planting facilitation in partnership with the City of Davis.	Existing		
CC3.5	Demolition clearance	Demolition clearance process fosters the preservation of existing resources such as trees, historical structures, and diverts solid waste from land fill.	Existing		
CC3.6	Parking reserve	Parking reserve held in landscaping encouraged for many new developments, limits hardscape while providing opportunity to expand when needed.	Existing		
CC3.7	Greenbelt	10% greenbelt requirement for new residential subdivision creates native landscaped interconnected bike and pedestrian pathways and greenways for native animals	Existing		
CC3.8	Tree preservation	Tree preservation required for all trees of significance for all new development.	Existing		
CC3.9	50% shading of new construction parking lots	Require 50% shading of new construction parking lots with trees from a City approved list of species.	Existing		
CC4	General Education and Outreach				
CC4.1	Educational events	The City participate in events to connect with residents and businesses. Campaigns include the Street Smarts Program and the Davis Energy Efficiency Project. For example, the City would attend the Farmer's Market.	Existing		
CC4.2	Maintain Sustainability and Climate Change Information on the City Website	Information includes: transportation, natural resources, waste & recycling, green building, what you can do, register your idea, and sustainability events.	Existing		
Total					19,641
Total					62,834

Overall Process/Schedule

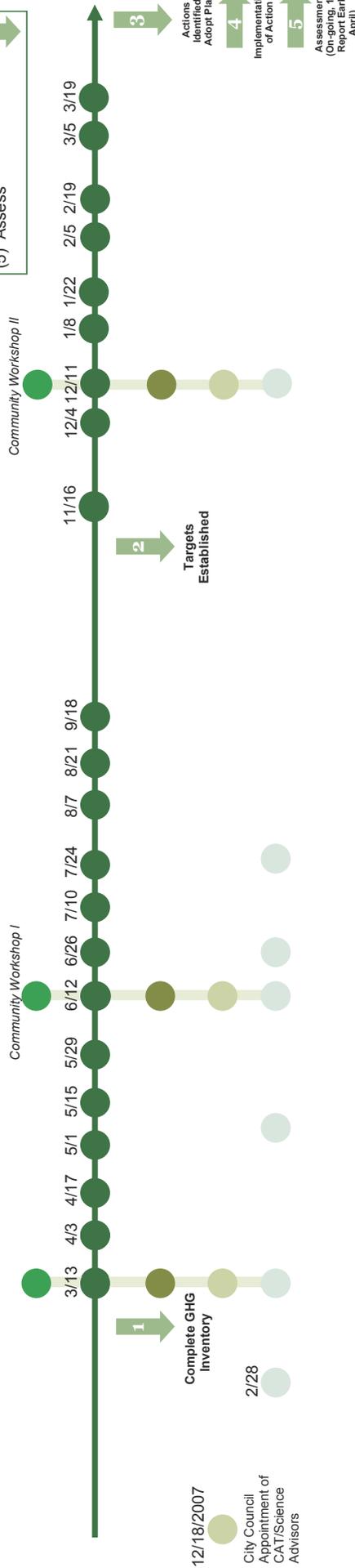


- Joint meeting with Natural Resources Commission (NRC)
- Climate Action Team Meeting (CAT)
- Science Advisory Team (SAT)
- Community Workshop (CW)

GHG Reduction Plan

5 mile stones:

- (1) GHG Inventory
- (2) Establish Reduction Targets
- (3) ID Actions, Adopt Plan
- (4) Implement
- (5) Assess



Phase I

- (1) Establish CAT
- (2) Establish SAT

Phase II

- (1) Evaluate and ID Criteria
- (2) ID Sectors
- (3) Community Workshop
- (4) ID target reductions

Phase III

- (1) Draft actions
- (2) Prepare draft plan
- (3) Community Workshops

Phase IV

- (1) Draft plan review
- (2) Adopt Plan

Phase V

- (1) Annual report to NRC/CC
- (2) Evaluate Actions
- (3) Budget

2008

January

February

March

April

May

June

July

August

September

October

November

December

2009

January

February

March

April

Complete Review and Adopt GHG Reduction Plan

Earth Day April 22, 2008

4th of July

UCD 100th Celebration

Earth Day