TO: HONORABLE CITY COUNCIL

FROM: CITY MANAGER DEPARTMENT: City Manager's Office

DATE: APRIL 19, 2010 CMR: 200:10

SUBJECT: Update on City Sustainability and Environmental Initiatives

Including a Report from the Community Environmental Action Partnership (CEAP)

This is an information report on ongoing environmental initiatives and no Council action is required. The following report updates information brought to Council on April 27, 2009 (CMR 217:09).

DISCUSSION

COMMUNITY ENVIRONMENTAL ACTION PARTNERSHIP

The Community Environmental Action Partnership (CEAP)'s annual report is attached to this document (See Attachment A). More information on CEAP's plans, meetings and discussions is available at www.pa-ceap.org.

CLIMATE PROTECTION PLAN

Staff will present a separate report on progress on Climate Protection Plan Update on April 19, 2010.

GREEN BUILDING AND CONSTRUCTION & DEMOLITION DEBRIS PROGRAM

Staff will present a separate report on progress on Green Building and the Construction & Demolition Program on April 19, 2010.

GREEN PROCUREMENT

Green Procurement, also known as Environmentally Preferred Purchasing, is the purchase of products or services that have a reduced impact on human health and the environment when compared with competing products or services that serve the same purpose. Staff has completed its three-year workplan for greening several City products, services and
operations. In March 2010, the City of Palo Alto’s Green Purchasing Program received the Green California Summit and Exposition Award for Leadership in Green Purchasing. Highlights of accomplishments include green specifications for:

- Fluorescent lights to require low-mercury and highest efficiency lamps
- Out-of-house printing to include reduced packaging, 100% post-consumer recycled content paper for utility bill inserts. The printer (Prodigy Press) is also required to prompt departments to consider recycled-content paper before each print job and must become certified as a green Printshop through the Santa Clara County Green Business Program.
- Pest control and landscape maintenance contract requirements to reduce the toxicity of pest control and move towards organic fertilizers and “Bay Friendly” landscape maintenance techniques. In-house efforts to purchase less-toxic pest control products have also yielded excellent results and are reported on in a separate city manager report.
- Copiers and printers purchased by the City are required to arrive preset for duplexing.
- Computers and monitors must be EPEAT Gold Certified (Electronic Product Environmental Assessment Tool). EPEAT is a third-party organization that certifies laptops, monitors and desktop computers based on reduced toxicity, product longevity, energy conservation, performance, and standards for end-of-life management for products and packaging including no oversea disposal of electronic waste. Increased responsibility placed on manufacturers and contractors for the elimination or take-back of non-recyclable packaging, hazardous waste and “universal wastes” (e.g., fluorescent lights, electronics, etc.).
- Green Business Certification: A statement in several contracts states the City’s preference to work with Bay Area Green Business Certified companies, or companies that are en route to completed certification. This requirement will be added as new contracts and purchase orders are issued.

Green Purchasing also includes greening operations to make the best product decisions and to minimize waste and related costs. Efforts to green purchasing operations include a successful 2009 pilot project offered by the Utilities Department to provide life cycle costing workshops for City staff and Utilities large commercial customers. Utilities will continue to offer one or two workshops each year.

As bids for contracts are returned, individual divisions will need to evaluate the balance of price, performance and environmental/human benefits in deciding whether to pay any increased prices for improved products and services. In some cases price changes may be neutral or may decrease through product use efficiencies.

FY 2010 goals include furthering requirements for packaging and product producer responsibility, continuing to add preferences for vendors to be certified as a Santa Clara County Green Business, increasing requirements for vendor reporting, and greening three-five contracts and goods each year.
OPEN SPACE
Foothills Fire Management Plan.
On May 18, 2009 Palo Alto City Council adopted a Mitigated Negative Declaration and the Foothills Fire Management Plan. This plan is an update to the 1982 and 1997 Foothills Fire Management Plans. The revised plans include fuel treatment strategies for specifically identified sensitive areas within Foothills Park, Pearson Arastradero Preserve and segments of Skyline Boulevard, Page Mill, Arastradero and Los Trancos Road. In addition the Plan includes law enforcement (evacuation, notification/warning [CANS], Block Preparedness Coordinator Program), open space operations (Ranger staff), Utilities (water supply and related infrastructure), Public Works, and other areas. The plans recommend that staff develop a Foothills Emergency Plan and that the City support the formation of a Midpeninsula Foothills Emergency Forum (MFEF), similar to that created in the East Bay following the Oakland Hills Fire of 1991.

The objectives of the plan are:
- Life Safety
- Structure and Infrastructure Protection
- Ignition Prevention
- Fire Containment

Funding is needed for implementation of any new work under the plan. The city is currently seeking grants for implementation and for formation of the Midpeninsula Foothills Emergency Forum.

Baylands Conservation Plan.
Due to the City’s budget shortfall, the completion of the Baylands Conservation Plan is on hold for at least the next year. The first chapter, which considers the vegetation of the Baylands tidal areas, has been completed by a consultant and reviewed by staff. The chapters on hold were to analyze public access and wildlife habitat at the Baylands. The cost of this consulting work, bid at $50,000 for the next phase, was eliminated from the Open Space operating budget in the mid-year budget adjustments (CMR:145:09). This project was chosen for postponement in order to be able to continue vital resource management projects.

In order to continue the development of the comprehensive plan, staff is exploring completion of these chapters as student thesis projects using students from Stanford University or San Jose State University.

PALO ALTO DOWNTOWN FARMSHOP
On March 31st, the Palo Alto downtown FarmShop re-launched at Lytton Plaza following a unanimous approval of council on March 15th, 2010 of a revised FarmShop Plan. (CMR: 160:10) Staff has hired a volunteer FarmShop Market Manager replacing a paid position. The intent of this program was to provide local, organic produce for the
community and City employees, which is in line with the City’s overall goal of sustainability. The FarmShop also has a related CSA program managed by Capay Valley Growers which also provides the opportunity for the community to connect with farmers and with the process of local food production, enabling a better understanding of the many benefits of organic, healthy food.

SUSTAINABLE URBAN FOREST PROGRAM
The Urban Forest Management Plan was funded by Proposition 84 bond fund grant, which was for $66,000. The project lead is Gloria Humble. City projects under this plan are:

1. **Street Tree Inventory Grant $120,000** - Eric Krebs, Project Lead
   Street Tree Inventory, Data Integration and Analysis Contract No. C10135076 was fully executed on March 15, 2010. This is a major component to the Street Tree Management Plan. This fundamental task is underway and will result in a product that can be integrated into the City’s existing tree database and GIS. The project completion date is June 30, 2011.

When completed the tree inventory will provide accurate baseline information about the City’s tree resources which will, in turn, influence subsequent tasks related to the Street Tree Management Plan a major component to the Urban Forest Master Plan. It will also influence PW/Tree Section’s tree maintenance procedures. Currently PW contracts area pruning to satisfy due diligence for the City’s tree care. The inventory will identify work needed by priority. One of the anticipated results will be the redirection of our work priorities and procedures. The Public Works plan is to use in-house and contract crews to catch-up on these priorities prior to returning to area pruning. We will know more when the inventory and analysis is completed on June 30, 2010.

2. **Tree Species Database**:
   This is another fundamental task that is also underway. A subcommittee of the Urban Forest Master Plan team has done considerable work on a tree species database. The team comprises ISA certified arborists Eric Krebs, Steve Scott, Gino Segna and Dave Dockter from the City of Palo Alto and ISA certified arborists Dave Muffly, Roy Leggitt and Sharon Kelly from Canopy. A volunteer database consultant has built and outline database that allows team participants to enter values for more than 40 carefully defined attributes per species online. This database will be initially hosted on the Canopy website as the new “Tree Library” accessible to the public. From the database a number of pre-selected recommended lists will be built, such as: drought-tolerant trees (a priority), trees appropriate under power line, etc.

The scope of this project is unprecedented and when completed will provide an accessible database pertaining specifically to the conditions in Palo Alto and capturing the field knowledge of local professionals with decades of experience.
3. **Block Side Species Replacement List:**
   Public Works staff is working on a list of acceptable replacement species for each block of the City. The list is designed to assign trees for replanting when public trees are removed and replaced.
   
   When completed this task will be an invaluable tool for the procedures section of the Street Tree Management Plan.

4. **Updated Tree-Removal Process:**
   Public Works Operations Division revised the procedures for removing public trees as related to street tree maintenance. Per Council direction, Staff is working closely with Canopy and various City departments to create a public notification process for tree removals and/or replacements. This new process will cover designated trees, protected trees, and City-owned street trees which are impacted by activities from Capital Improvement Projects, Utility projects, and private development. A draft of this process will be presented to Council this summer.

5. **Procedures**
   The following three Procedures subcomponents are in progress:
   
   a. **Development Related Public Tree Removal**
      Public Works Engineering is working with Planning and Public Works on a tree removal procedure for removing public trees relating to CIP, private development and Parks renovations.
   b. **Solar Panel Permitting Process:**
      Dave Dockter has established a protocol for reviewing existing trees as part of the permitting process for solar panels to ensure installations don’t conflict with protected trees.
   C. **Greenhouse Gas Reduction:**
      Dave Dockter, Debra van Duynhoven, the City’s Sustainability Coordinator, and staff from the Utilities Department have met with representatives from pertinent federal agencies and are working to facilitate the City’s adoption of the Urban Forest protocol for reducing greenhouse gasses that was recently approved by the Air Resource Board.

   The following two procedures subcomponents have been identified but are not yet underway.
   
   a. **Update of the Tree Technical Manual**
      The document will be updated to include inter-departmental coordination policies and procedures that are being developed.
   b. **Comprehensive Plan Update**
      The City is in the process of updating its Comprehensive Plan and staff recognized the need to integrate the urban forest master plan in the Comprehensive plan.

**Additional Tasks**
The City has also identified tasks that were not included in the original outline for the master plan.

c. **Global Climate Change**
   This priority is already reflected in the Block-by-Block list of tree species recommendations and will undoubtedly affect other decisions and tasks related to the master plans as Palo Alto begins the process of transitioning from a thirsty forest to a forest adapted to the climate and water accessibility conditions we may face in the next 30-50 years.

d. **Recycled Water Program**
   They City’s program to supply recycled water to commercial customers for irrigating large-scale landscape installations is being reviewed to resolve issues related to the salinity of the water. This topic may be integrated into the master plan.

**TRANSPORTATION**

The overall goal of green transportation-related programs is to reduce the greenhouse gas emissions generated by City employees commuting to and from work as well as those generated by travel during the work day using City vehicles.

Staff initiatives since April 2009 include:

- **Employee commute survey**: More than 500 city employees participated in the second web-based commute survey in April 2009, which showed that 73% of employees drove alone, 10% carpooled, 7% took public transit, 3% came by bike and 2% came in a vanpool. Average round trip commute distance from home to workplace was 39 miles. On average, employees spent 31 minutes getting to work and 37 minutes returning home in the evening. Of particular interest was that more than 30% of solo drivers indicated that they were willing to consider carpooling or taking transit, while 26% were willing to try bicycling and 13% would consider participating in a vanpool.

- **Encouraging alternative commutes**: In May, the Palo Alto Staff Goes Green campaign kicked off by asking employees to reduce their carbon footprint by trying an alternative to driving solo once a week or finding another employee to carpool to work with via a new City-specific link to the 511 Rideshare matching service. This generated a significant increase in employees registered for the alternative commute program, but not to a sustained increase in employees actually participating in the program each month.

- **Changes to incentives for the employee alternative commute program**: Due to the City’s budget challenges, a proposed increase to monthly incentives for employees participating in the alternative commute program was shelved in January. However, staff has identified opportunities to
improve the net benefits received by employees who commute by transit, vanpool or bike without increasing direct costs to the City. These changes would take advantage of recent changes to federal tax law related to qualified transportation fringe benefits, and also streamline the administration of the program for both City staff and employees. In brief:

- Employees who regularly commute by bike will receive $20 per month tax free for qualified bicycle commute expenses (instead of receiving this amount as a taxable addition to salary as has been the case since the City’s commute program began decades ago).
- The existing tax free benefits for transit and vanpool users will change from a flat amount to a more equitable incentive equal to 25% of their monthly costs for transit passes or individual shares of the vanpool lease.
- For the first time, the City will offer a pre-tax salary reduction option which will allow employees using transit or vanpool to pay for the difference between the tax free monthly incentive and their qualified commute expenses (up to $230 per month in 2010) with pre-tax dollars. In most cases, this will mean that their net monthly commute costs are reduced by an additional 26%. The City would also save an estimated 1.45% of payroll taxes on the amounts shifted from taxable income under this option.

Outsourcing the administration of this program to one of the leading providers of commute benefits is needed to ensure compliance with IRS regulations and will result in administrative savings for the City. The current system of paper monthly forms will be replaced by use of the outside provider’s secure website (available 24/7 and easy to use). Employees will also receive transit passes or vanpool vouchers ordered via this website by mail in time for the new month – a significant increase in convenience for employees.

Additional transportation related activities that staff has initiated are:

- **City Fleet** - The Equipment Management Division of the Public Works Department continues to aggressively but prudently pursue alternative fuel/clean air vehicle strategies in procurement of new City vehicles, particularly in market segments where these vehicles are available directly from the vehicle manufacturer equipment is available, such as passenger vehicles and light trucks. The City’s emphasis continues to be primarily on CNG-fueled vehicles, given the reduced carbon footprint, lower fuel cost, and operational advantages provided by virtue of the City gas utility. Additionally, public access to CNG fueling on a contract basis will become available in the summer of 2010 at the City Municipal Service Center when construction of the new fueling facility is completed.

- **EV parking spots** – Staff has received $12,000 in grant funding from the Bay Area Air Quality Management District (BAAQMD) for a pilot program to install 6 EV charging stations at City Hall. Although staff is waiting funding
from California Energy Commission (CEC) to be able to complete the project. The City of Palo Alto partnered with Association of Bay Area Governments (ABAG) to apply for the CEC funding in conjunction with the Bay Area EV Corridor Project. Complete project costs were estimated to be $39,220, of which approximately 1/3 was applied for to CEC, 1/3 will be covered by BAAQMD and the remainder to be in-kind services by the city and its staff. The project will not proceed unless CEC funding will be received.

- **Zipcar** – Staff has been working with Stanford to have 2 parking spots dedicated for Zipcars. Stanford approached staff as there was a desire by the students to have the ability to use a Zipcar from the Caltrain Station. The city manages and sells permits to lot X, which is behind the Sheraton. Recently the city has not sold out of permits for this lot, so it was determined that it would be a good use of resources to dedicate 2 parking spot for Zipcars. Although this arrangement is under the Stanford agreement with Zipcar, any Zipcar member can use these cars and Staff will be receiving usage data, which will help in determining and future car-share installations.

- **Bike Share** – Staff launched a city employee Bike Share program with the bikes that were used at the Senior Games last summer. The program includes approximately 40 bikes distributed throughout all city facilities. The program launched in November with a bike rally with about 30 participants including the Mayor and the City Manager.

**UTILITIES RENEWABLE ENERGY SUPPLY**
Electric supply from renewable resources reached 19% during 2009, up from 17% the prior year, and is expected to reach 21% by year 2012. Due to the high competition for renewable resource supply, the progress in meeting the City’s short term renewable electric supply goals has lagged behind Council goals. Staff has been striving to meet the long term renewable energy supply goal of 33% by 2015 ahead of the rush by the rest of the state trying to reach the same target in 2020. However, staff will return to the Utilities Advisory Commission in August 2010 and to the Council in the fall of 2010 to re-examine appropriate renewables target percentages, target timing and allowable rate impact.

**UTILITIES CONSERVATION-RELATED PROGRAMS**
Renewable, efficiency, and conservation activities in the City of Palo Alto Utilities (CPAU) Department as of the end of Fiscal Year 2008-2009 were reported to the City Council in an informational memo on January 11, 2010. An update to program achievements during the first half of Fiscal Year 2009-2010 is below:

*Renewable Energy Programs*

**PaloAltoGreen**
As of the end of the calendar year in December 2009, PaloAltoGreen had 6,110 members or just over a 21.4% participation rate. Participation continues its slow trend upward.
Solar Water Heating Program
The rebate program to provide rebates for residential and commercial solar water heating systems has paid out 18 rebates through the end of December 2009 for a total of just under $22,000.

Solar Photovoltaic (PV Partners) Program
The PV Partners Rebate Program continues to increase numbers of customers with installed PV systems in Palo Alto. Program involvement is shown in the table below. As can be seen, the program continues to exceed annual goals and is 28% toward the 10 year state (SB1) goal for installations.

<table>
<thead>
<tr>
<th>Year</th>
<th>Application Count</th>
<th>kW</th>
<th>Rebate Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>4</td>
<td>16</td>
<td>$93,008</td>
</tr>
<tr>
<td>2000</td>
<td>6</td>
<td>16</td>
<td>$83,383</td>
</tr>
<tr>
<td>2001</td>
<td>27</td>
<td>100</td>
<td>$391,714</td>
</tr>
<tr>
<td>2002</td>
<td>22</td>
<td>73</td>
<td>$168,506</td>
</tr>
<tr>
<td>2003</td>
<td>16</td>
<td>40</td>
<td>$113,377</td>
</tr>
<tr>
<td>2004</td>
<td>17</td>
<td>45</td>
<td>$173,982</td>
</tr>
<tr>
<td>2005</td>
<td>20</td>
<td>74</td>
<td>$223,356</td>
</tr>
<tr>
<td>2006</td>
<td>53</td>
<td>209</td>
<td>$549,072</td>
</tr>
</tbody>
</table>

PreSB1 Subtotal 165 574 $1,796,397

<table>
<thead>
<tr>
<th>Year</th>
<th>Application Count</th>
<th>kW</th>
<th>Rebate Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>77</td>
<td>213</td>
<td>$627,398</td>
</tr>
<tr>
<td>2008</td>
<td>85</td>
<td>1,347</td>
<td>$2,059,317</td>
</tr>
<tr>
<td>2009</td>
<td>40</td>
<td>270</td>
<td>$663,725</td>
</tr>
</tbody>
</table>

SB1 Subtotal 202 1,831 $3,350,439
SB1 Goal N.A. 6,500 $13,000,000
% of SB1 Goal N.A. 28% 26%

Grand TOTAL 367 2,404 $5,146,836
pending 48 1,243 $2,268,659.00

Grand Total 415 3,647 $7,415,495

Residential and Commercial Efficiency Programs
Water Conservation
Water conservation programs through the Santa Clara Valley Water District (SCVWD) continue to be productive. In the fiscal year through December 31, 2009, the following rebates and/or water audits were completed:

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>7/1/09 to 12/31/09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Wise House Call (Res. Audits)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single Family Completed</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Weather Based (ET) Controller Rebate</td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td>0</td>
</tr>
<tr>
<td>Small Commercial</td>
<td>2</td>
</tr>
<tr>
<td>Program Expenditures $ (grant funded)</td>
<td></td>
</tr>
<tr>
<td>Water Savings (CCF)</td>
<td></td>
</tr>
<tr>
<td>Resi High Efficient Toilet (HET) Rebate</td>
<td></td>
</tr>
<tr>
<td>Single Family Rebates</td>
<td></td>
</tr>
<tr>
<td>Program Expenditures $</td>
<td></td>
</tr>
<tr>
<td>Water Savings (CCF)</td>
<td></td>
</tr>
<tr>
<td>Irrigation Audits (ITAP)</td>
<td></td>
</tr>
<tr>
<td>Irrigation Audits Performed</td>
<td></td>
</tr>
<tr>
<td>Program Expenditures $</td>
<td></td>
</tr>
<tr>
<td>Water Savings (CCF)</td>
<td></td>
</tr>
<tr>
<td>CHI &amp; MF High Efficient Toilet Installation</td>
<td></td>
</tr>
<tr>
<td>Commercial II HET Installations</td>
<td></td>
</tr>
<tr>
<td>Multi-Family HET installations</td>
<td></td>
</tr>
<tr>
<td>Program Expenditures $</td>
<td></td>
</tr>
<tr>
<td>Water Savings (CCF)</td>
<td></td>
</tr>
<tr>
<td>CHI Clothes Washer Rebate</td>
<td></td>
</tr>
<tr>
<td>Total Commercial Washers Installed</td>
<td></td>
</tr>
<tr>
<td>Program Expenditures $</td>
<td></td>
</tr>
<tr>
<td>Water Savings (CCF)</td>
<td></td>
</tr>
<tr>
<td>Resi Clothes Washer Rebate</td>
<td></td>
</tr>
<tr>
<td>Total Installed</td>
<td>184</td>
</tr>
<tr>
<td>Program Expenditures $</td>
<td></td>
</tr>
<tr>
<td>Water Savings (CCF)</td>
<td></td>
</tr>
<tr>
<td>Indoor Water Audits</td>
<td></td>
</tr>
<tr>
<td>Total Commercial Industrial Inst. Audits</td>
<td></td>
</tr>
<tr>
<td>Program Expenditures $</td>
<td></td>
</tr>
<tr>
<td>Water Savings (CCF)</td>
<td></td>
</tr>
<tr>
<td>Pre Rinse Spray Valve (CPA only; not SCVWD)</td>
<td></td>
</tr>
<tr>
<td>Total Installed</td>
<td>3</td>
</tr>
<tr>
<td>Program Expenditures $</td>
<td></td>
</tr>
<tr>
<td>Water Savings (CCF)</td>
<td></td>
</tr>
<tr>
<td>Water Efficient Landscape Rebate</td>
<td></td>
</tr>
<tr>
<td>Number of Landscape Retrofits</td>
<td>47</td>
</tr>
<tr>
<td>Expenditures $</td>
<td></td>
</tr>
<tr>
<td>Square feet of turf (lawn) removed</td>
<td></td>
</tr>
</tbody>
</table>

The City cost sharing with SCVWD on the timely Landscape Rebate Program (aka, 'cash for grass') is offered for replacing irrigated turf grass (lawn) with low-water using plants.
and/or permeable area. Palo Alto residents can receive a rebate of $1.50 per sq. ft. with a maximum of $3000, with commercial area incentives as well.

Staff presented the new state Water Efficiency Landscape Ordinance and a draft Palo Alto specific version to the UAC in January 2010 and to a variety of community groups in January and February. Based on input received, the City will remain under the statewide Ordinance until the statewide Green Building Code (CalGreen) goes into effect in 2011, at which time many of the efficiency measures will be included in the building code. The Planning Department is coordinating a city-wide team to work on this update and will present it to City Council in mid-2010.

The Residential and Business New Construction Rebates
The rebate programs for both Residential and Business New Construction Programs have been developed and are being promoted to customers. One rebate under each program (for a total of two) has been paid. In the queue are three residential, three multifamily and one commercial rebate.

Residential Energy Efficiency Programs

A summary of residential energy efficiency programs is listed below:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>Amount</th>
<th>kWh Saved</th>
<th>Therms Est.</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 1, 2009 through February 12, 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attic Insulation R-30</td>
<td>32</td>
<td>$4,650.00</td>
<td>12,075</td>
<td>4,297</td>
</tr>
<tr>
<td>Attic Insulation R-38</td>
<td>7</td>
<td>$1,400.00</td>
<td>2,686</td>
<td>965</td>
</tr>
<tr>
<td>Boiler</td>
<td>9</td>
<td>$3,000.00</td>
<td></td>
<td>1,800</td>
</tr>
<tr>
<td>Cent/AC SEER 14</td>
<td>1</td>
<td>$200.00</td>
<td>339</td>
<td></td>
</tr>
<tr>
<td>Cent/AC SEER 15</td>
<td>5</td>
<td>$900.00</td>
<td>2,085</td>
<td></td>
</tr>
<tr>
<td>Clothes Washer Tier 2</td>
<td>30</td>
<td>$1,015.00</td>
<td>4,410</td>
<td>510</td>
</tr>
<tr>
<td>Clothes Washer Tier 3</td>
<td>24</td>
<td>$18,075.00</td>
<td>40,488</td>
<td>4,579</td>
</tr>
<tr>
<td>Dishwasher</td>
<td>36</td>
<td>$1,700.00</td>
<td>1,584</td>
<td>144</td>
</tr>
<tr>
<td>Dishwasher - CEE Tier 1</td>
<td>9</td>
<td>$270.00</td>
<td>297</td>
<td></td>
</tr>
<tr>
<td>Dishwasher - CEE Tier 2</td>
<td>106</td>
<td>$5,250.00</td>
<td>4,240</td>
<td></td>
</tr>
<tr>
<td>Flat Roof Insulation - R19</td>
<td>3</td>
<td>$450.00</td>
<td>510</td>
<td>267</td>
</tr>
<tr>
<td>Gas Furnace</td>
<td>50</td>
<td>$10,800.00</td>
<td></td>
<td>4,200</td>
</tr>
<tr>
<td>LED Holiday Lights</td>
<td>731</td>
<td>$0.00</td>
<td>17,544</td>
<td></td>
</tr>
<tr>
<td>Pool Pump</td>
<td>5</td>
<td>$1,000.00</td>
<td>7,000</td>
<td></td>
</tr>
<tr>
<td>REAP - Attic Access Install</td>
<td>2</td>
<td>$200.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REAP - Attic Insulation (units sq. ft.)</td>
<td>4,429</td>
<td>$0.00</td>
<td>1,238</td>
<td>663</td>
</tr>
<tr>
<td>REAP - Caulking MFR Windows etc.</td>
<td>24</td>
<td>$1,267.68</td>
<td>46</td>
<td>24</td>
</tr>
<tr>
<td>REAP - CFL Replacement</td>
<td>215</td>
<td>$2,150.00</td>
<td>15,050</td>
<td></td>
</tr>
<tr>
<td>REAP - Door Weather-Stripping</td>
<td>37</td>
<td>$2,279.20</td>
<td>111</td>
<td>148</td>
</tr>
<tr>
<td>REAP - Faucet Aerator</td>
<td>87</td>
<td>$513.30</td>
<td></td>
<td>261</td>
</tr>
<tr>
<td>REAP - Hardwire Interior Lights</td>
<td>108</td>
<td>$6,971.40</td>
<td>12,096</td>
<td></td>
</tr>
<tr>
<td>REAP - Hardwire Porch Light</td>
<td>9</td>
<td>$580.95</td>
<td>1,962</td>
<td></td>
</tr>
<tr>
<td>REAP - Low Flow Showerhead</td>
<td>41</td>
<td>$1,408.76</td>
<td></td>
<td>287</td>
</tr>
<tr>
<td>REAP - TB Delamp Conversion</td>
<td>91</td>
<td>$4,004.00</td>
<td>50,214</td>
<td></td>
</tr>
<tr>
<td>Refrigerator</td>
<td>168</td>
<td>$9,950.00</td>
<td>14,112</td>
<td></td>
</tr>
</tbody>
</table>
### Smart Energy

The Smart Energy Program continues to be well received by customers with 1,430 rebates having been paid fiscal year 2009-2010 through December 31, 2009. LED Holiday lights were distributed in exchange for old incandescent light bulb strings to 731 residents in December 2009. Clothes washers (271) and refrigerators (168) have the largest number of rebate applications in the program.

### Residential Refrigerator Recycling Program

The recycling program implementer (JACO) is currently a partner of the EPA Responsible Appliance Disposal Program (RAD). The program picked up and recycled 95 running refrigerators and freezers during the first half of FY 2010.

### Low Income Program (REAP)

The Residential Energy Assistance Program (REAP) provides efficiency upgrades and equipment replacement for low income residents. Residents receive new lighting, get weatherizing installations, and can have refrigerators and furnaces repaired and/or replaced. The third party contractor worked in 60 homes, 45 at California Park Apartments and 15 single family residents, between July 1, 2009 and February 2010. A total of 423 lights have been upgraded, and 4,420 square feet of insulation was added to these homes.

### Acterra Green@Home Energy Audit

Acterra’s Green@Home energy audit program is in place. During the period July 1, 2009 to December 31, 2009, 41 House Calls (including 55 Compact Fluorescent Light giveaways) were completed for Palo Alto residents. Since the program began in August, 2008, a total of 141 House Calls have been completed in Palo Alto. Acterra was closed for the Thanksgiving and Christmas holidays, so the volunteers were not conducting House Calls during those times. Out of the total 41 Palo Alto House Calls made since the beginning of the fiscal year, 35 residents have been successfully contacted by phone afterwards for a program review.

Acterra is continually improving processes and database. Here are some of the areas where they have made major changes:

- Based on focus group results, Green@Home changed the data worksheets used by the volunteers to make them easier to use and more instructive.
- The Checklist given to residents was modified to combine both habits and upgrades in the appropriate section (e.g., lighting, heating and cooling, kitchen, and so on). The items were also sorted by cost of implementing that energy saving change. A cover letter was added to the front of the checklist to help explain what
was in the report. An additional sheet was added to better record post House Call recommendations for the resident.

- The CO2 reports sent to residents soon after the House Call now include a reminder of the commitments that the resident agreed to.
- During this period, Green@Home set up an online registration process for residents to apply for a House Call through Acterra’s website.

**Street Lighting Pilot Project**

Phase One of the LED/Induction streetlight pilot project has been completed. For the pilot, seven Light Emitting Diode (LED) and three induction streetlight fixtures were installed on the residential streets of Colorado and Amarillo Avenues in the first week of July 2009. Additionally, two LED and two induction fixtures equipped with communication hardware that allows remote monitoring and dimming were installed outside City Hall.

Measurement results from the pilot project show that LED fixtures produce light output that are more uniform than that of existing High Pressure Sodium (HPS) and induction fixtures. LED fixtures also have much better cut-off on the curbside of the streetlight fixture, resulting in significantly reduced light trespass over residents’ property.

The pilot also demonstrates that the LED fixtures offer higher energy savings than induction fixtures based on similar light output. The combined energy and maintenance savings from LED luminaires results in favorable economics for LED. The simple payback for replacing a 70 watt (nominal) HPS with an LED luminaire with output illuminance comparable to that of the HPS luminaire is around 12 years. As LED technology continues to improve and luminaire cost decrease over time, one can expect the economics of LED streetlights to continue to improve. By comparison, the simple payback for induction fixtures is around 17 years.

Community feedback shows that LEDs are generally preferred over HPS and induction streetlights. The biggest drawback of the LED fixtures tested in the pilot is the color of the light output. Compared to the yellowish glow of the HPS streetlights, the light output from LEDs tested appears too bluish white. The LED luminaires tested in the demonstration have a correlated color temperature (CCT) of 6,000 Kelvin (a very bluish light); by comparison, the CCT was 5,000 Kelvin (bright white) and 2,100 Kelvin (similar to an incandescent light in color) for the induction and HPS streetlights respectively.

The remote monitoring/dimming system performed as anticipated. However, based on the current cost of the technology, it is not economical to deploy the remote monitoring/dimming system with LED fixtures. For the pilot scenario of retrofitting a 150 watt HPS with an LED fixture, deploying a remote monitoring system with a daily schedule of dimming the fixture by 25% for five hours, increases the simple payback by over three years.
The LED/Induction Streetlight Pilot Project final report is expected to be jointly issued with the Department of Energy in April. Engineering is currently planning to test additional LED fixtures with lower color temperatures for light that appears less bluish. Based on the result of this Phase 2 pilot testing, the Utilities Engineering Division will develop a set of specifications for LED streetlight fixtures and will issue an RFP for LED fixtures funded by the DOE's Energy Efficiency and Conservation Block Grant.

Electric Efficiency Financing for Businesses Program
On August 3, 2009, Council approved the recommendation that a financing program for small business customers to install electric efficiency items would be implemented by a third party program consultant. The UAC recommended to Council that this program be funded from the Calaveras Reserve and Council approved this on December 7, 2009. A Request for Proposals was sent out in January 2010. Responses from three potential vendors were received in March 2010 and are currently being evaluated.

Third Party Efficiency Programs for Businesses
During the fiscal year, third party programs to help business customers were expanded. The Right Lights+ program for smaller customers was expanded beyond lighting to include a wide variety of efficiency measures for commercial kitchens. Council approved additional funds for this contract on December 14, 2010. The first rebate was just issued under the contract with National Resource Management. A new program for large customers to implement natural gas and electric equipment (Commercial and Industrial Energy Efficiency Program) was implemented with Enovity. Fifteen customers have signed preliminary agreements and have completed investigations.

Key and Major Accounts
The Utility Marketing Services staff is working to develop a marketing and communication campaign for smaller businesses to help them become more involved in efficiency efforts. The first postcard to small businesses was sent in early December 2009. A mailing to restaurants was sent in November 2009 and again in January 2010. Key Account customers responded very positively to the information they received from representatives during the day-long outage on February 17, 2010. An email survey was sent to Key Accounts in the week after the outage, and nearly all customers said that they were well informed by their representatives. Utility Marketing Services is changing processes to ensure that those few customers who did not receive sufficient information will do so in any future events.

Program Delivery and Reporting
Third Party Measurement and Verification
State law requires an independent evaluation of efficiency and conservation programs each year. The second annual report was completed in mid-March 2010 and was delivered to the Northern California Power Agency for informational purposes and for inclusion in a statewide publicly owned utility report to the California Energy
Commission (CEC). An informational report detailing the results of the study were sent to the Utilities Advisory Commission (UAC) in April 2010.

**Utility Efficiency and Conservation Reporting**
Updated information report on annual energy efficiency results is completed and was provided to the UAC and City Council in January 2010. Results were delivered to the CEC, as required by law, in March 2010. A copy of this report, including a summary of Palo Alto’s evaluation report for FY 2008-2009 (delivered to the UAC in April 2010) and efficiency results for the same time period (delivered to the UAC in January 2010) are all available to download at [http://www.cityofpaloalto.org/depts/utl/residential/default.asp](http://www.cityofpaloalto.org/depts/utl/residential/default.asp)

**ZERO WASTE**
Staff will present a separate report on progress on Climate Protection on April 19, 2010.

**RESOURCE IMPACT**
Most of the programs discussed in this report are funded in the adopted 2009-10 budget. In cases where staff work on the above and related programs will require additional funding, staff will request the needed funds via the upcoming budget approval process.

**POLICY IMPLICATIONS**
All of the above programs are in line with the City’s Sustainability Policy, Council’s adoption of the Climate Protection Plan, and other existing City policies.

**ENVIRONMENTAL REVIEW**
This report is informational in nature. As such, no review of the report is required under the California Environmental Quality Act (CEQA). However, certain activities and programmatic elements discussed in the report may undergo or have already undergone environmental review as part of a separate approval process.

**PREPARED BY:**
DAREN ANDERSON  
KATHY DURHAM  
DAVE DOCKTER  
LESTER HODGINS  
JOYCE KINNEAR  
TOM KABAT  
KEITH LAHAIE  
KRISTIN PARINEH  
JULIE WEISS  
DEBRA VAN DUYNHOVEN

**CITY MANAGER APPROVAL:**

[Signature]

JAMES KEENE
City Manager

ATTACHMENTS:
Attachment A: Community Environmental Action Partnership 2009 Annual Report
2009 ANNUAL REPORT
(March 5, 2009 thru February 28th, 2010)
CEAP

The City of Palo Alto and community groups came together in 2008 to create the Community Environmental Action Partnership (CEAP), dedicated to improving the collaboration on important environmental issues. In particular, CEAP was created to help the community reach the goals in the 2007 Palo Alto Climate Protection Plan.

In our inaugural meeting on March 5th, 2008, community members collaboratively defined CEAP's mission and goals.

**CEAP Mission:**
To bring the various segments of our community together to share knowledge, build mutual understanding, leverage resources, and both create and implement innovative environmental solutions.

**Goals:**
- Identify and implement top-priority environmental initiatives with measurable objectives.
- Educate and engage each segment of the community in environmental initiatives that fit their needs.
- Create a vehicle for communication, education and awareness among the City and all segments of the community.
- Leverage resources and actions among segments by aligning and coordinating efforts.
- Connect with expertise, input and initiatives from the community and beyond to inform, improve and inspire innovative ideas and programs.
- Track and report progress toward objectives to the community.
Organization

The community is divided into eight “Segments (see below), and a “Liaison” is appointed to each. The Liaisons, which serve as an Executive Committee, meet monthly, but the goal is to have much of the work done by the Segments.

The Segments and Liaisons are as follows:

<table>
<thead>
<tr>
<th>Segment</th>
<th>Liaison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neighborhoods</td>
<td>Lisa Altieri</td>
</tr>
<tr>
<td>Faith Community</td>
<td>Ben Hammett</td>
</tr>
<tr>
<td>Schools</td>
<td>Walt Hays</td>
</tr>
<tr>
<td>Business</td>
<td>Mark Sabin</td>
</tr>
<tr>
<td>Medical Community</td>
<td>Krisanne Hanson</td>
</tr>
<tr>
<td>Government</td>
<td>Wendy Hediger</td>
</tr>
<tr>
<td>Stanford</td>
<td>Lucy Wicks</td>
</tr>
<tr>
<td>Non-Profit Organizations</td>
<td>Jose Gordon</td>
</tr>
</tbody>
</table>
SUMMARY OF EXCOM ACTIONS:

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>Carroll Harrington produced a display of CEAP activities, which was posted for several weeks in the hall leading to Council Chambers.</td>
</tr>
<tr>
<td>June</td>
<td>Nico Procos, Senior resource manager, PA utilities, and Josh Wallace, Key Account Rep, PA Utilities, presented a program on the use of water in California and the importance of conserving it.</td>
</tr>
</tbody>
</table>

Highlights:

- The Hetch-Hetchy system serves 2.5 million people, and that number is increasing. The system is old and vulnerable to a severe earthquake, which could halt water supply for 30 days or more. Repair will cost $4.4 billion, but earthquake damage to the current system could cost $17-30 billion. The repairs will increase the cost of water 2-3 times.

- The distribution and treatment of water in CA constitutes 19% of our total electricity use and 30% of gas, as well as 88 billion gallons of diesel/year.

- The effects of climate change will include 25% less snowpack, with resulting floods in winter and drought in summer, salt intrusion in the Delta, and negative impacts on fish through warming water.

- For all the above reasons, it is important to save water, and the presentation gave examples of what to do, including eating less meat; e.g., it takes 1,232 gallons of water to produce one steak.

July  | Mayor Peter Drekmeyer presented a program on the Tuolumne River as the source of the City's water, noting that Palo Alto, with its big gardens and lawns, used more water per capita than every other city in the Hetch-Hetchy system except a few with even bigger gardens, like Los Altos Hills.

October  | Participated in an international campaign to dramatize the number 350, as representing the maximum parts per million of CO2 the atmosphere can hold without severe consequences, putting on three events:
- Recruiting 10 local congregations to ring their bells 35 times at 11 A.M. on 10/24.
- Bringing a fire engine to the downtown farmer's market, inviting children to ring its bell, and passing out flyers.

November  | Decided to join with Menlo Park and other cities in promoting the Drive Less Challenge, a web-based friendly competition that rewards...
participants for reducing their car miles, as an Earth-Day related activity.

Held a session on Strategic Planning, with the following results:
• Accepted Debra van Duynhoven as Vice-Chair, replacing Bryan Long.
• Decided to invite speakers to the CEAP Excom meetings periodically, but limit large public meetings on one/year.

January
Heard a presentation by Valerie Gardner, recognized as a "Climate Hero" by Acterra, for her work on the GreenSTART Program in Atherton, which engaged large numbers of parents and students in reducing emissions.

March
Held a public meeting to hear former Mayor Peter Drekmeier speak on "Adapting to Climate Change." Approximately 80 people attended.

Accomplishments
Detailed reports from each Segment are attached. Here are some highlights.

Schools
• Solar: We're finally getting PV on the SRC (a subject that's been on the Sustainable Schools agenda for two years)! Translation: Photovoltaics on the Science Resource Center. There will also be a solar interactive display to go along with it. The District is also exploring installing PV on all schools, through a Power-Purchase Agreement, under which investors would pay for installation and sell the energy to the District as 5% less than current City rates.
• Conferences: The Sustainable Schools Committee held conferences for green teams to share best practices and learn what each school has accomplished.
• District-wide recycling/composting: Thanks to Palo Alto's Zero Waste department, Greenwaste, and PAUSD, we now have a district-wide recycling program for the schools. After a successful pilot program at three schools, recycling and composting are now being implemented district-wide.

Neighborhoods
• Launched green teams in Barron Park and College Terrace. They hope to continue launching the program in two or more neighborhoods each year. Projects: Low Carbon Diet Class, Weatherization Projects, Garden Sharing, etc. The segment also organized two 350.org events on Oct 24 and Dec 11.

Business
Wave One has been working with businesses in a 43-block area of downtown Palo Alto to help them get certified under Santa Clara County's Green Business Certification Program. They use Right Lights for energy audits and Green Waste to educate employees on composting and recycling.
The Next Step (Wave Two) will help businesses shift to Energy Star appliances,
HVAC, and lighting. They also hope to implement real-time metering and water conservation.

**Government**
Palo Alto Staff Goes Green, a 6-month awareness campaign, was their major effort. 152 employees participated.
- First month: Transportation
- Second month: Zero Waste
- Third month: Energy reduction
- Fourth month: Water efficiency

One example, PASGG conducted a reusable mug campaign using peer pressure, signage, etc. They also sent out a monthly green tip via email. The group conducted surveys to see if the staff made habit changes.

**Faith Groups**
The Faith Segment is a sub-group of the California Interfaith Power and Light South Bay Working Group of congregations that have signed a covenant to assume a stewardship role, a spiritual commitment and responsibility, to educate and engage the congregations in environmental initiatives. Toward this effort, the Palo Alto member congregations of the South Bay Working Group have each engaged to a varying degree in the following actions prescribed by the Covenant:
- **Action 1** Conduct an energy audit
- **Action 2** Engage in an ongoing process of education
- **Action 3** Analyze, reduce, and offset our greenhouse gas emissions,
- **Action 4** Safeguard public health,
- **Action 5** Protect the earth’s ecosystems,
- **Action 6** Promotion of energy conservation, energy efficiency, renewable energy, and
- **Action 7** Support public policies that contribute to our goals.

There were 10 teams or task forces: 1) Clergy Education - quarterly luncheon, with a speaker, 2) Getting Started - providing materials, guides and referrals to help congregations organize for action, 3) Renewable energy and energy efficiency, 4) Water, 5) Waste reduction and recycling, 6) Political action/lobbying, 7) Sustainable food, 8) Transportation, 9) Take action on Earth Day, and 10) Outreach and Philosophy. Each month, meetings were held with a different congregation as host and included a guest speaker on one of the above actions. In addition, various churches and synagogues hosted weekend conferences and interfaith retreats, and held many speaker events on their own, such as climate change science and the methodologies of alternative energy and energy conservation. Some examples of the many and varied individual congregational actions listed in the attached Faith Segment report included the following: Joint programs with Acterra in Eco-Task Forces, Cool Campaigns, and the formation of Green Teams, plus other campaigns and pledges to lower carbon footprints; sent lobby groups to Sacramento for the clean water bill, wrote legislators supporting the energy bill, took part in 350.org CO2 reduction worldwide project, and converted to
energy efficient lighting and appliances, the use of recyclable materials in congregational buildings and offices, and other actions listed in the attached Faith Segment report.

Medical
Liaison Kris Hanson is working with a subcommittee of Walt Hays, Dr. Cindy Russell (chair of the Santa Clara County Medical Association's Environment committee) and Maria Biggs, a volunteer from Acterra's "Be The Change" Program, to plan a conference for doctors and their office managers on how to go green.

Stanford
Stanford has been making a substantial effort to green up many aspects of the campus and campus life. You can visit the Sustainable Stanford website (http://sustainablestanford.stanford.edu) to see the incredible diversity of efforts in energy, water, transportation, research, waste, purchasing, etc. In the last survey of colleges and universities, the College Sustainability Report Card (www.greenreportcard.org) awarded Stanford an A- for its significant achievements and the University was listed as one of the top 10 sustainable schools. One highlight: Stanford Dining now sources 40 percent of food items locally. A Sustainable Working Group composed of 90 students, faculty, and staff are working in teams on focused topic areas of sustainability. The teams meet monthly. One significant accomplishment in 2009 was the publication of Stanford University's long-term Energy and Climate Plan. (http://sustainablestanford.stanford.edu/climate_action)
Introduction
The Neighborhood segment of the Community Environmental Action Partnership (CEAP) was formed to educate and engage the members of our segment in environmental initiatives. Towards this effort, the Neighborhoods segment has worked on the following actions over the last year, since CEAP’s inception in March 2008:

1) Green Teams in Palo Alto Neighborhoods! In order to address the environmental challenges we face, like Global Warming, it will require action and lifestyle changes for all of us. These types of changes are fostered by communication and support among neighbors. So the primary project of the Neighborhoods Segment is to launch Green Teams in Palo Alto Neighborhoods to begin to create dialog, awareness and support in the community for positive environmental change.

2) Palo Alto Neighborhood Action Events: We have also worked on creating events for the whole City that focus on raising awareness and taking action on Global Warming.

1) Green Teams!
We have launched two Green Teams in the last year, Barron Park and College Terrace. We had our first Green Team launch in Barron Park in early 2009. The Barron Park Green Team is going great and accomplished a number of projects in 2009:

- Developing the group goals and mission
- Taking the Low Carbon Diet class and lowering our carbon footprint
- An infrared imaging demonstration
- A weatherization party where participants learned how to lower their carbon footprint and weatherize their homes through caulking, weather stripping and other simple low cost methods.
- A talk on Global Warming policy, specifically Cap and Trade Policy and the Waxman Markey Bill
- Start of a Garden Survey project to find interest and connect neighbors for garden sharing, educational activities, etc.

In October 2009 we launched our second Green Team in College Terrace and it is also going great! We have a group of very enthusiastic members with many ideas on great projects for the team. They are currently going through the Low Carbon Diet together and have many great projects planned for 2010.

2) Palo Alto Neighborhood Action Events:
The Barron Park Green Team and the CEAP Neighborhoods Group co-sponsored two citywide events with 350.org, where we joined others from around the world and gathered to send a message to our leaders that it is time to pass strong legislation addressing Global Warming. The two events were:

- October 24th, at the Gunn High football field where we spelled out the number 350
• December 11th, in front of City Hall where we marched to deliver a letter to our Congresswoman, Anna Eshoo to urge strong action on Global Warming policy.

For both of these events we posted photos of our group on the 350.org website where they were included with photos from around the world and delivered to decision makers at the Copenhagen Conference.

Future Plans
We are planning to launch a new Green Team in Midtown in Spring 2010. We are also working on setting up a website to help the Green Teams organize and provide information on reducing carbon footprint to the neighborhoods. For Citywide events, we are planning to keep in contact with 350.org and join in to future 350 events.

The Barron Park and College Terrace Green Teams also have great plans for the upcoming year:

The Barron Park Green Team has a number of projects planned for 2010:

• A Green Home Tour
• Speaker Events
• Weatherization Parties
• Low Carbon Diet Classes
• A Neighborhood Tree Planting
• Complete our Garden Survey Project

The College Terrace Green Team projects for 2010 include:

• Project to provide a cooperative purchase program for solar to the College Terrace neighborhood
• Weatherization parties and workshops
• Low Carbon Diet classes
• Booths at Neighborhood Events
• Eco-habit of the Month
• Working to get more organic food at JJ&F Grocery store

Submitted by Lisa Altieri, CEAP Neighborhoods Segment Liaison
CEAP Annual Report 2009

Faith Segment Summary Report

Introduction

The Faiths segment of the Palo Alto Community Environmental Action Partnership (PA-CEAP) is the Palo Alto portion of the California Interfaith Power and Light South Bay Working Group of the nationwide Interfaith Power and Light (Regeneration Project). The primary work of the Working Group is accomplished by the Action Teams - small groups of people who self-select based on the topics they desire to pursue:

1) Clergy Education – quarterly luncheon with speaker and time for sharing questions, ideas, encouragement. (The first lunch featured the founder of The Regeneration Project, Rev. Sally Bingham.)
2) Getting Started (providing materials, guides and referrals to help congregations organize for action).
3) Renewable Energy and Energy Efficiency
4) Water
5) Waste Reduction and Recycling
6) Political Action/Lobbying.
7) Sustainable Food
8) Transportation
9) Take Action on Earth Day.
10) Outreach and Philosophy

Each month, meetings were held with a different congregation as host and included a guest speaker who focused upon on one of the above areas.

Discussions within the Working Group by way of a private membership listserv, CIPL_PenSBay@yahoo.com, have been governed by guidelines, such As: The purpose of this group is to share ideas on how to deal with human-produced climate change.

The primary work of the Working Group is to educate and engage the members of our Palo Alto Faiths Segment in environmental initiatives. Toward this effort, the member congregations of the Faiths segment, implementing their Covenant with their nationwide organization: Interfaith Power and Light (Regeneration Project, have conducted activities in varying selected combinations from the seven areas of action listed in the Covenant. Examples now follow for each of these areas of action:

Action 1 Conduct an energy audit of our buildings, make energy efficiency improvements to our congregation's buildings and utilize renewable energy.

The Unitarian Universalist Church of Palo Alto (UUCPA) conducted an energy audit, interviewed solar companies to explore the feasibility of installing photovoltaic panels, installed several energy saving furnaces and a dishwasher, replaced incandescent bulbs with CFL’s, installed recycle bins, used recycled paper, recycled ink cartridges as a lucrative fundraiser, and
purchased Palo Alto Green electric power. The First United Methodist Church performed an energy audit, replaced their old boiler/heaters with more efficient units, purchased Palo Alto Green electricity, recycled ink cartridges, installed recycling and compost bins, declared itself a Styrofoam Free Zone, purchased recyclable or compostable food service items, purchased Fair Trade coffee, replaced lights throughout the church and education buildings with CFL and lower energy bulbs, reduced the number of garbage collections each week, and purchased a copy machine that prints on both sides of paper.

Action 2 Engage in an ongoing process of education with our congregants concerning environmental stewardship, energy production and usage in relation to global warming.

The Palo Alto Society of Friends, Earthlight, Acterra, and the CIPL SBWG sponsored an interfaith weekend retreat on Care for Creation, Walking Lightly on the Earth.

The First Congregational Church of Palo Alto formed The ECO Task Force which focuses on raising awareness among the congregation and wider community of the ever important stewardship and care of the environment, and led a campaign with Acterra to unify the church community in a fight against global warming. The Congregational Cool Campaign was developed as a six-month campaign to educate the congregation about ways to reduce energy use and took monthly surveys about their activities. The Unitarian Universalist Church of Palo Alto sponsored a talk on accelerating the transition to Smart Energy. The church maintains an extensive Green Sanctuary library collection, with a strong focus on climate change.

Congregation Kol Emeth sponsored an evening presentation on Solar Power Financing and Ethical Banking. Although located in Los Gatos, Shir Hadash hosted the Feb. 23, 2009 regular monthly meeting of the CIPL SBWG and many folks from Palo Alto congregations attended. The Topics included Earth Day planning (April 22) and Energy Efficiency. The First United Methodist Church publishes a Green column in their monthly newsletter reminding members of the congregation of ways to be self-aware of their impact on the earth and on ways to conserve and to reduce pollution. The Women's Group at Congregation Etz Chayim of Palo Alto hosted an event "Health Begins at Home!" which addressed Green Living and the advantages of going green on building, remodeling and toxins, The Oshman Family JCC in Palo Alto (OFJCC) hosted an event: "Holiday Gifts Go Green!" which presented alternatives to gift buying.

Action 3 Analyze, reduce, and offset our greenhouse gas emissions with the goal of becoming a non-polluting congregation.

The First Presbyterian Church, in partnership with Acterra, wrapped up a Cool Campaign. It was very successful with most households in the congregation signing a pledge to lower their carbon footprint over a period of 6 months. Etz Chayim hosted a CIPL South Bay Working Group meeting on Transportation. The First Presbyterian Church of Palo Alto, Cool Planet Working Group, participated in a Christmas Fair with gifts and suggestions for a "Sustainable" Christmas. At the Unitarian Universalist Church of Palo Alto the congregation posts leaves on tree, each leaf pledging an action that specifies with it a numerical carbon footprint reduction action. Their total carbon dioxide reduced since October 24th is 73,000 pounds.

Action 4 Safeguard public health.

The Unitarian Universalist Church of Palo Alto and CIPL-SBWG Water Team hosted a presentation on Water Justice and the Human Right to Water Bill of Assemblyman Ira Ruskin. Members of the church accompanied the UU Legislative Ministry Climate Change/Water Justice
Team’s trip to the CA Legislature to lobby in committee sessions and in legislators offices in favor of Ruskin Bill.

**Action 5 Protect the earth's ecosystems.**
The Unitarian Universalist Church of Palo Alto Green Sanctuary Committee and CIPL-SBWG Team #4- Water hosted a presentation on saving the Tuolumne River ecosystem by Peter Drekmeyer, Mayor of Palo Alto. The national United Methodist Church has many Resolutions regarding the protection of earth's resources, and is seeking to implement these Resolutions through education, and through outreach programs.

**Action 6 Promotion of energy conservation, energy efficiency, renewable energy and ensure sufficient, sustainable energy for all.**
The First Presbyterian Church of Palo Alto provided letter writing tables to encourage people to write to their legislators to support the energy bill.
The First Congregational Church held an Interfaith Clergy Climate Luncheon for clergy/religious leaders of all faiths on Climate Change Science and the Role of Clergy and resources for clergy for: addressing the spiritual and practical sides of climate change, scope and urgency of the climate crisis, how to address the spiritual and humanitarian challenges of a planet in peril, and presented doable actions that clergy can integrate into their work, including tools for lay-led green teams. The Unitarian Universalist Church of Palo Alto Green Sanctuary Committee provided a table at a retirement home’s Community Day, for a demonstration of UUCP Green Sanctuary actions. The First United Methodist Church congregation has wholeheartedly supported the new composting program available through the city.

**Action 7 Support public policies that contribute to our goals.**
Seven Palo Alto congregations supported the worldwide 350.org movement On October 24th by ringing their bells 35 times: St. Thomas Aquinas (Catholic), St. Albert the Great (Catholic), All Saints (Episcopal), Unity Palo Alto, Unitarian Universalist, Grace Lutheran, and First Lutheran. The Unitarian Universalist Church of Palo Alto posted a banner advocating worldwide atmospheric CO2 reduction to 350 ppm and announcing that UUCPA would Ring its Bell 35 Times. The church advocated in behalf of mitigating the Impact of global warming on native peoples and raised public and congressional awareness of the serious erosional effects of climate change on Alaskan barrier island villages. Petitions from the church, including letters from the Sunday school children, advocated to Congress for legislation including adaptation funds to help the village move to the mainland. The trip to the village by a representative from the Palo Alto church was written up, including photos from several years of UUCPA Sunday school water tub simulations of the plight of the villagers. The write-up is posted on an Anchorage website:

Introduction
The School Segment of the Community Environmental Action Partnership (CEAP, pronounced “keep”), formed in 2008, was formed to educate and engage the members of our segment in environmental initiatives. Toward this end, working through the Sustainable Schools Committee, formed in 2003, we have taken the following actions over the last year:

Action 1
With help from a consultant hired the City Public Works, formed “sustainable” green teams in all schools in the PAUSD, plus several private schools.

Action 2
Held two conferences for green teams, with inspirational talks, sharing of activities, and advice on rolling out food composting (see Action 3).

Action 3
Working with District staff, Wendy Hediger of Public Works, Zea Luce of Greenwaste, and green team leaders from select schools, planned and organized the roll out of food composting to all schools. Pilot schools achieved substantial savings in waste disposal. Also met with District staff in charge of food ordering to encourage shift to healthier foods where economically feasible and to eliminate non-recyclable containers.

Action 4
Worked with the PAUSD in contracting to install a photovoltaic (PV) system on the Science Resource Center, together with an interactive solar display to demonstrate to students how PV works. Also working with District on plans for PV at all schools.

Action 5
Worked with District staff, Canopy and select principals to plant more trees on two campuses, and to draft a proposed Tree Policy calling for similar action at all schools.

Action 6
Worked with Acterra and District staff to develop a demonstration garden of drought-resistant plants, to explore the possibility of saving water by substituting such gardens for lawns (in non playfield areas).

Action 7
Worked with the District and City Utilities to do water and energy audits and encourage reduced usage.

Action 8
Persuaded District staff to begin monitoring use of electricity, gas and water at all schools and to use that information to encourage reduced usage.

**Action 9**
Began work with District and Paly staff to explore rainwater recapture.

**Future Plans**
1. Continue semi-annual green team conferences to share activities.
2. Complete installation of Interactive Solar Display.
3. Finalize plans and contracting for PV at all schools.
4. Persuade District Board to adopt and implement Tree Policy.
5. Complete demonstration garden and approach principals on switching from lawns.
6. Pursue all efforts to save funds by reducing resource use.
Introduction
The Wave One Palo Alto segment of the Community Environmental Action Partnership (CEAP) was formed to educate and engage the members of our segment in environmental initiatives. Toward this effort, the Wave One Palo Alto segment has worked on the following actions over the last year, since CEAP’s inception in March 2008:

- **Action 1** Work with County of Santa Clara Certified Green Program to Green Certify small business in Palo Alto.
- **Action 2** Work with Right Lights to set up lighting efficiency audits for small and medium sized business and use Right Lights to perform lighting retrofits to reduce energy consumption.
- **Action 3** Work with City of Palo Alto and GreenWaste to educate business on how to reduce, reuse and recycle to minimize waste sent to the landfill.
- **Action 4** Create a database of structures and businesses within the 43 contiguous blocks of Downtown Palo Alto

**Action 1**
Enrolled a total of 75 small Palo Alto Businesses in County Certified Green Business program. This resulted in 18 businesses becoming fully Certified and 57 businesses in the process of completing certification.

**Action 2**
Worked with Right Lights to enroll 75 businesses in lighting efficiency audits. Eight businesses were found not to need retrofits, 14 completed their retrofits and the remaining 53 are awaiting work or final approval by the business for retrofit work.

**Action 3**
Worked with The City of Palo Alto and GreenWaste to schedule meetings with 48 businesses to educate them on how to save money by reducing their waste-stream through reduction, reuse and recycling.

**Action 4**
Created a database of the buildings, businesses and exterior lighting within the 43 contiguous blocks of downtown Palo Alto.

**Future Plans**
Wave One Palo Alto is a community based program that focuses on a consolidated group of small businesses with the purpose of creating (I) market transformation for the effective delivery of energy efficiency services to small businesses and (II) a Green Job Training Center for Labor and Community College students.

1 Small Business Conservation Research Center
In late 2008, the City joined with Wave One to form Wave One Palo Alto to implement the goals and strategies for the retrofit of commercial sector buildings as set forth in the September 2008 CPUC Strategic Plan for Energy Efficiency. To achieve these goals, Wave One Center consolidates businesses within the 43 contiguous blocks of Downtown Palo Alto (Downtown), consisting of 380 buildings totaling 3.5M+ sf, 1,050 small businesses, 10,500 employees, annual taxable sales of $275,000,000 and more than 150,000 weekly visitors.

Wave One Palo Alto goals are consistent with and accelerate the CPUC Plan goals of 40% energy and water reduction by 2012, Zero Waste by 2015 and Net Zero Energy by 2020. By achieving these goals in advance of CPUC Plan dates, Wave One Center becomes a pioneer, demonstrating that CPUC Plan goals are achievable by small businesses. Wave One Palo Alto will not only lead the way, it will publish its methodologies and results in order to teach other small businesses. Wave One Palo Alto is a scalable program that can be brought to any community or urban center.

Wave One Palo Alto accomplishes these outcomes by targeting 75% market penetration equivalent to no fewer than 500 businesses occupying 2.5M+ square feet in Downtown. Wave One Palo Alto Constitutes the largest sampling of small businesses ever assembled anywhere in the United States.

II Creating Quality Green Jobs as a Research and Training Center

Wave One Palo Alto works with Working Partnerships USA and San Benito County Trade Council and has committed to hire only members of the construction trade council. Wave One Palo Alto team members include Local Union 332 International Brotherhood of Electrical Workers, United Association of Plumbers and Steamfitters & Refrigeration Local 339. Wave One Palo Alto has an on-the-job paid intern program that will be supervised as an academic program by the Kirsch Center for Environmental Studies at De Anza Community College. Wave One Palo Alto will work with NOVA, a Santa Clara County local workforce investment agency to assist with hiring new employees.

The purpose of Wave One Palo Alto is to create a market transformation within the most crucial and most difficult to reach segment of the commercial sector – small businesses. Wave One Palo Alto invests in and involves leaders from labor, education, community colleges, media and communications, finance, government and construction.

Because Wave One Palo Alto is a training and research center determined to achieve a market transformation for small businesses, Wave One Palo Alto has and will continue to invest extensively in the one-on-one contact with small businesses necessary to engage and educate its employees.
CEAP Medical Community Annual Report

Membership includes:
- Stanford University Medical Center
- Palo Alto Medical Foundation
- And new introductions from the VA Medical Center

Activities include primary focus on:

Energy and Water Conservation
- SUMC received their baseline energy audit in partnership with the CPAU programs.
- Based on report, prioritizing projects for investment and conservation are underway.
- SUMC has joined the EPA Energy Star® program and completed the initial application of baseline energy consumption data for benchmarking.
- SUMC received their baseline water use audit in partnership with SCVWD.
- Based on report, prioritizing projects for investment and conservation are underway.

Waste Reduction
- All three organizations have benefited from the resources, partnership and knowledge derived from Greenwaste’s customer support team.
- Greenwaste has been a key participant in several waste reduction projects underway at all three organizations.
- Biodegradable serviceware has been integrated into operations at PAMF and SUMC. In addition, composting programs will be applied in the Cafeteria settings at SUMC.
- Teams attended series of public comment opportunities related to Zero Waste ordinance.

Building Foundations
- Teams continue to focus on designing new buildings with LEED® and green building ordinances at the forefront of the planning process.
- SUMC has applied for participation in the Pilot Project of Green Guide for Healthcare’s, Greening Operations, v.2.0 rollout and are waiting confirmation.

Education and Outreach
- Teams continued to participate in regional education through Sustainable Silicon Valley and the Northern California Chapter of H2E.
- SUMC has joined Practice Greenhealth, an organization dedicated to providing hospitals with information, education and benchmarking resources for sustainable operations improvements.
- SUMC has received their first award from Practice Greenhealth in the annual application cycle with a “Partners for Change” award designation. A team will attend the annual CleanMed Conference in May to receive the award.
- CEAP is co-sponsoring the planning and execution of an outreach conference to engage and educate owners and managers of the small to medium-sized medical practice setting, on improving sustainability in their operations. The conference is also co-sponsored by Santa Clara County Medical Association (SCCMA) and SUMC. It will be held on June 1, 2010, at Stanford University.
Introduction
The Government segment of the Community Environmental Action Partnership (CEAP) was formed to educate and engage City of Palo Alto employees in environmental initiatives. Toward this effort, the Government segment formed a Green Team, a forum for employees interested in environmental protection to share ideas for improving the organization’s environmental performance and to create and implement projects that make these improvements a reality. The Green Team worked on the following projects in 2009:

- Palo Alto Staff Goes Green
- Reusable Mug Campaign
- Monthly Green Tips

Palo Alto Staff Goes Green (PASGG)
A green awareness campaign, PASGG was a 6-month campaign targeting all City staff. It increased staff awareness about their environmental impact and encouraged action to reduce it. The campaign focused on 4 themes: alternative transportation, Zero Waste, energy and water. Participation was open to all City employees and 152 participated in the campaign. Their combined efforts resulted in:

- 15 employees adjusting their irrigation schedules at home to reduce water
- 150 gallons of water being saved every day from employees taking shorter showers
- 47 employees attending local farmers markets
- 9 tons of carbon dioxide (CO2) being reduced through alternative commutes
- 30 employees making significant energy use reductions including turning off lights and computers daily, unplugging major equipment and reducing plug loads
- 191 employees gained a greater understanding of what waste can be composted, recycled and reused at work
- 13,160 kwh were saved by employees changing out incandescent light bulbs with compact fluorescents (CFL’s).
- 25 employees specifically stating that they plan to sustain their new behaviors after the campaign

Reusable Mug
The Reusable Mug campaign is currently running and is intended to increase reusable mug use by employees through the use of prompts. Various prompts such as signs at exits and break areas, informational/remind email, signs in elevators and a loop notice have been used to remind employees to bring their reusable mugs if they are going for coffee/tea.
Monthly Green Tips
The monthly green tips project is ongoing awareness-raising and behavior-changing effort. City employees are e-mailed tips each month to encourage them to green their work areas and/or their personal lives.

Future Plans
Plans for the coming year, include the following:

• Roll out the Zero Waste New Services to all City facilities
• Landscaping irrigation upgrades work party
• Drive-less challenge

Introduction

Stanford University has been a member segment of the Palo Alto Community Environmental Action Partnership (CEAP) since CEAP’s inception in March 2008.

In pursuing its academic mission, Stanford University is committed to being a leader in the research, teaching and institutional practice of environmental sustainability. The university is therefore committed to following core sustainability principles in all facets of planning and operations so that Stanford can lessen its environmental impact, ensure a healthy community and contribute to global solutions.

Structure of Sustainability and Energy Management (SEM)

Sustainability is a core value at Stanford – demonstrated in academics, operations, communications, and events. Central to the academic endeavor is the Initiative on the Environment and Sustainability, supporting interdisciplinary research and teaching in all seven of Stanford’s schools, as well as in centers, institutes and programs across campus. Sustainability and Energy Management (SEM), is the operational and programmatic undertaking in this field.

Founded in 2007, SEM brings together campus utilities, building operations, parking & transportation, business services, and Office of Sustainability/sustainability programs under one administrative roof in the greater operational department of Land Building and Real Estate (LBRE). SEM leads sustainability initiatives in campus infrastructure and programs in the areas of energy & climate, water, transportation, waste, green buildings programs, sustainable information technology, and many more. This organization of over 90 professionals are programatically convened and connected through the Office of Sustainability, under the moniker Sustainable Stanford - a campus-wide initiative to steer, connect, support and streamline sustainability efforts to fulfill President Hennessy’s belief that “Sustainability must become a core value in everything we do.”

Sustainable Stanford is also the central coordination and strategic hub for the interdisciplinary Sustainability Working Group convened in 2006 and the various Sustainability Working Teams (SWTs) that formed in 2008. SWTs bring together campus operations leaders, faculty with related subject matter expertise, and students to advance progress in each of the major elements of Sustainable Stanford, including: Energy & Atmosphere, Green Buildings, Transportation, Water, Waste Minimization, Green Procurement and Food Supply, Communications & Campus Community Relations, Evaluation & Reporting, and Green Funds for students. Complementary to operational efficiency measures being undertaken by campus facilities managers, distinct and education-oriented programmatic initiatives are underway to make sustainability more actionable and visible to campus community. Major support for these efforts are provided by various operational units within LBRE, University Communications, Government and Community Relations, Woods Institute, Precourt Institute, Stanford Recycling Center run by Peninsula Sanitary Services Inc, Residential and Dining

1 <http://lbre.stanford.edu/sem/>
2 <http://sustainable.stanford.edu/working_group_and_teams>
Enterprises; School of Medicine; Graduate School of Business, School of Earth Sciences, Alumni Association; and many others. Our website is http://sustainable.stanford.edu, with quarterly newsletters at <http://sustainable.stanford.edu/newsletter.

2009 Sustainability Overview

Stanford took a bold step in 2009 to tackle the threat of global climate change by developing an ambitious, long-range, $250 million program to reduce its energy consumption and greenhouse gas emissions.

The new Energy and Climate Plan could reduce the campus carbon impact by as much as 20 percent below 1990 levels by 2020, far exceeding the goals of California’s landmark AB 32 Global Warming Solutions Act.

The Energy and Climate Plan is one among many accomplishments that place the university among the nation’s top colleges and universities in terms of sustainability efforts. In 2009, the Sustainable Endowments Institute recognized Stanford among 26 colleges and universities for leadership in sustainability.

During 2009, the university also made significant progress in:

- Water conservation through development of a new recycled water treatment plant;
- Transportation-related emissions reductions to 1990 levels through the Transportation Demand Management program; and
- Energy-use reduction through retrofits to two Stauffer laboratory buildings.

The Energy and Climate Plan, in particular, will further Stanford’s leadership position in sustainability nationwide. While the initial phases of the plan rely on energy conservation and changes to the campus heating and cooling scheme, even more greenhouse gas reductions may be possible through the use of renewable electricity and other energy management technologies still being explored.

The plan, one of the most ambitious at any major U.S. university, includes higher-than-required energy standards for new buildings, retrofitting of existing buildings, transformation of the campus energy plant, and programs to teach the university community how to reduce energy use.

A team of faculty and facilities experts, headed by Joseph Stagner, executive director of sustainability and energy management, worked on the plan for two years. After studying campus energy use, they discovered that over half the university’s heating demands could be met with heat that is already being removed from buildings by the campus cooling system. Such a reuse of energy would cut the amount of natural gas burned for heating purposes and thereby reduce energy costs, as well as emissions of greenhouse gases.

Specifically, campus cooling systems do their job by using chilled water to remove unwanted heat from buildings. For years, that unwanted heat has been piped away from the buildings in the form of warm water, only to be discharged into the air through evaporative cooling towers at the central plant.

But Stagner and his team believe that 70 percent of that lost heat could be recovered and

---

reused to heat buildings. Such a system is possible where campus buildings are being cooled and heated at the same time—a common occurrence given Stanford's temperate climate.

Capturing and distributing the heat will require construction across campus. Most buildings are now heated by steam; for the new system to work, the steam will be replaced with hot water, requiring the replacement of underground pipes over the next 10 years or so.

The project also will bring changes to the university power grid. Stanford's Cardinal Cogeneration plant, which burns natural gas both to create steam heat and generate electricity for the campus, will shut down in a few years. Instead, electricity will be purchased from PG&E or, if state regulators allow, other providers.

**Other Actions**

The attached "Year in Review" highlights some of the other notable achievements of Sustainable Stanford over last year. To see the full description of these actions, please see the attached document covering the past academic year, or visit <http://sustainable.stanford.edu/sites/sem.stanford.edu/files/documents/Stanford_year_in_review.pdf>.

**Future Plans and Ongoing Actions**

The Sustainability Working Group and Working Teams will continue to develop and implement actions key to creating a sustainable campus. Our website (http://sustainablestanford.stanford.edu/) continues to be the best resource for up to date actions and results.

Stanford, through the Office of Government and Community Relations will continue to participate as a segment of the Community Environmental Action Partnership. We are committed to continuing to reach beyond our campus borders to support actions aimed at creating a healthy environment for all.

For further information on the wide range of activities related to Stanford University's commitment to sustainability please visit http://sustainablestanford.stanford.edu/.

For more information on Stanford's role as a segment of the Palo Alto Community Environment Action Partnership (CEAP), please contact Lucy Wicks, Assistant Director of Community Relations, Office of Government and Community Relations, at lwicks@stanford.edu or 650-725-3339.
Introduction
The Nonprofit segment of the Community Environmental Action Partnership (CEAP) was formed to educate and engage the members of our segment in environmental initiatives. Toward this effort, the Nonprofit segment has worked on the following actions over the last year, since CEAP’s inception in March 2008:

Action 1
In 2009, instated a new Nonprofit liaison

Action 2
Established a Nonprofit distribution list

Action 3
Explored ways in which Wave One and the Business Segment could partner with the Nonprofit Segment.

Action 4
Established connection between the City of Palo Alto’s environmental programs and Rebuilding Together Peninsula’s environment program.

Action 5
Worked with Abilities United, a local nonprofit, to encourage facilitating resource-saving improvements through use of free audits and rebates (see attachment).

Future Plans
➢ Continue to meet with Wave One
➢ Identify and add agencies to distribution list
➢ Identify resources to help nonprofits participate in environmental change
➢ Encourage other nonprofits to take actions similar to Abilities United.