TO: HONORABLE CITY COUNCIL

FROM: CITY MANAGER          DEPARTMENT: City Manager’s Office

DATE: APRIL 28, 2008          CMR:  216:08

SUBJECT: UPDATE ON RECYCLING, URBAN FOREST MASTER PLAN, UTILITIES’ CONSERVATION-RELATED PROGRAMS, CLEAN RENEWABLE ENERGY BONDS AND CLIMATE PROTECTION PLAN

This is an informational report, and no Council action is required. As part of the Earth Day presentation to Council, the following updates on City sustainability programs are included: Recycling, Urban Forest Master Plan, Utilities Conservation Programs, Clean Renewable Energy Bonds, and Climate Protection. Due to time limitations, staff’s presentation at the Council study session will focus on Green Building, Environmentally Preferred Purchasing and the Community Environmental Action Partnership (CEAP). However, staff familiar with the issues in this report will also be available at the study session to respond to Council questions.

DISCUSSION

RECYCLING
The Recycling Program has been working on a variety of projects and collaborative efforts to implement the City’s Zero Waste Operational Plan. This report provides details on the Green Business Program; Palo Alto landfill restrictions; school green team facilitation; Bay-Friendly Regional Coalition, product stewardship and extended producer responsibility; and a summary of the third year results of the Construction and Demolition Debris Diversion Program. A more detailed report of Recycling Program activities can be found in the Recycling Program’s annual report.

Green Business Program
The City of Palo Alto is a partner of the Bay Area Green Business Program which rewards local businesses for taking actions to conserve resources, prevent pollution, and minimize waste. The number of Palo Alto businesses certified by the Bay Area Green Business Program has increased dramatically since 2007, from 12 last year to 32 this year, with additional businesses enrolled in the Program. Upon certification, a one-page Green Business Profile is created for the business and posted to the City’s web site, highlighting the business’s accomplishments. City staff actively promotes the program and was asked to deliver a waste reduction presentation to 200 attendees of the 2008
Santa Clara County Annual Green Business Conference. City staff also collaborates with the Palo Alto Chamber of Commerce on its Palo Alto Business Goes Green initiative to increase the number of businesses certified by the Green Business Program.

School Green Teams
The Recycling Program is working with the Palo Alto Unified School District and interested Palo Alto schools to establish sustained, site-based, multi-stakeholder, action-oriented Green Teams. Public and private elementary, middle and high schools are all included. The City has hired a contractor to help facilitate the creation of the Green Teams in concert with school administration, teachers, students, and parent volunteers. The Green Teams will develop environmental programs/actions that are cost-efficient, are adapted to site needs, incorporate action-oriented research methods, and include social marketing techniques when applicable.

Twelve Green Teams will be developed in calendar year 2008. Schools have been selected according to their interest level. In addition, the contractor will support the five Green Teams already developed through efforts funded by the Palo Alto Unified School District.

Bay-Friendly Regional Coalition
Public Works and Utilities are taking an active role in the formation of the Bay-Friendly Regional Coalition, a membership organization comprised of individuals representing public agencies, businesses and non-profit organizations from all of the nine Bay Area counties, working together to promote Bay-Friendly landscaping and gardening.

Bay-Friendly landscaping and gardening is a whole systems approach to the design, construction and maintenance of landscape that works in harmony with the natural conditions of the San Francisco Bay watershed. It is based on seven principles for sustainable landscaping: Landscape locally; landscape for less to the landfill; nurture the soil; conserve water; conserve energy; protect air and water quality; and create wildlife habitat. Bay-Friendly practices foster soil health and conserve water and other valuable resources while reducing waste and preventing pollution.

The Bay-Friendly Regional Coalition builds on work done previously by StopWaste.Org. The Bay-Friendly program provides resources such as trainings, workshops and publications for the both public and private sector landscape professionals and the home gardener. The Bay-Friendly educational materials were developed with guidance from public and private landscape architects and designers, contractors, representatives from Alameda County public agencies and staff of StopWaste.Org. The Coalition is now working to provide these resources regionally.

In January, the City of Palo Alto signed the Bay Friendly Coalition’s Declaration of Support of the Seven Bay-Friendly Principles, becoming one of the charter signatories.

Product Stewardship and Extended Producer Responsibility
The Principles of Extended Producer Responsibility (EPR), also known as Product Stewardship, are being applied by City of Palo Alto Public Works Refuse and
Environmental Compliance Divisions to reduce the amount and toxicity of waste generated. EPR is a policy approach, officially adopted by the State in 2007, holding producers liable for the costs of responsibly managing products at the end of their useful lives. Producer responsibility from “cradle to cradle” is expected to drive green product design, reducing the burden on local governments which have neither the capacity nor funding to deal with toxic, disposable spent products. The goal of EPR is to shift responsibility for the growing group of products banned from landfills, such as fluorescent lamps, alkaline batteries, electronics and sharps (e.g., needles), local governments to the producers of those products. EPR is an essential component of achieving Palo Alto’s zero waste goal.

In 2006, to advance EPR, the City joined other local governments to form the California Product Stewardship Council (CPSC). City staff was instrumental in the formation of this organization, initially serving on its Steering Committee, and serving on the Education and Policy Advisory Committee since it became a 501(c)(3) organization in 2007. Activities of the CPSC to date include:

- Meetings with staff of Senator Joe Simitian and Assemblyman Ira Ruskin, key political consultants to the State Senate, and members of the Natural Resources Committee to provide education on EPR and an introduction to the CPSC
- Delivery of presentations at conferences and working groups of local, regional and State water quality and solid waste agencies, educating local businesses, and discussing opportunities for advancing EPR and zero waste
- Providing input at California Integrated Waste Management Board Policy Committee Meetings to indicate the City of Palo Alto’s support for EPR
- Signing and submitting a Pledge of Support to the CPSC, indicating support of the mission and function of the CPSC
- Sending letters to the State legislature in favor of or opposition to bills, based on inclusion in the bills of EPR language
- Working interdepartmentally to include EPR in City purchasing policies and practices

Landfill Restrictions
Landfill restrictions to help reduce waste disposed of in the Palo Alto landfill are currently under development, with an anticipated effective date of July 1, 2008. Proposed restrictions would target residents and businesses self-hauling waste to the landfill, and tentatively include restricting disposal of:

- Recyclables that are accepted at Palo Alto Recycling Center
- Construction and demolition debris
- Large “clean-out” type loads, instead referring them to the SMaRT Station for sorting and recovery of recyclables

Third Year Results of the Construction and Demolition Debris Diversion Program
In May 2004, City Council adopted an ordinance, Requirement to Divert Construction and Demolition Waste from Landfill, which added Chapter 5.24 to the Palo Alto Municipal Code. In November 2004 the program was fully implemented with the primary goal of diverting construction and demolition debris from local landfills. November 1, 2007 marked the completion of the third year of the program.

The program directly handles the debris generated from every demolition permit as well as all building permits with a valuation greater than $75,000. The third year of the program included review and approval of 531 projects participating in the program—a 9% increase from the previous year (483 projects). The total number of tons diverted from the landfill increased from 21,710 tons in the previous year to nearly 63,000 tons in 2006-07. The number of projects completing salvage increased from 11% to 16%. The number of finished jobs that complied with the requirements of the program increased from 33% to 44%. (See Attachment A for complete details.)

The most common material diverted from the landfill was concrete, representing 46% of all material diverted. Mixed C&D material (e.g., wood, metal, gypsum board, concrete) was the second most common material diverted from the landfill, representing 15% of all material diverted. Asphalt, ceramic tile and metal were the other materials most often diverted from the landfill.

Additional program results include:
- Commercial demolition projects generated 79% of all debris diverted from the landfill
- 73% of all C&D related projects were residential:
  - 75% were building permits
  - 25% were demolition permits
- 62% of all C&D debris generated was concrete
- Steven’s Creek Quarry accepted the largest amount of C&D debris of any approved recycling facility, accepting 16% of debris diverted from the landfill
- 41 projects received compliance letters for not complying with the program requirements

Upon evaluation of the third year, the following adjustments to the program are planned to enhance the overall results:
- Placing more focus on salvage as a viable option for diversion. Options include:
  - Researching the possibility of developing a Resource Recovery Center for building materials that still have reusable value.
  - Bringing in outside personnel to conduct site audits to help the applicant identify what items are salvageable prior to the demolition phase of the project. (This idea was discussed after the second year of the program and is still being explored as a possible option.)
  - Exploring incentives to help increase salvage efforts.
- Developing a comprehensive web page as a resource for citizens to list materials that are available for reuse, and to increase overall awareness of salvage
URBAN FOREST MASTER PLAN
The State (Cal-Fire) notified the City in early February that the City’s two grant applications for urban forestry projects were successful. The total funding award is $180,000. Of this, the City will use $120,000 to update its tree inventory and enhance the availability of this information in the GIS system. The other $60,000 will be used for a consultant to assist in the development of the City’s Urban Forest Master Plan, a comprehensive strategy and planning document targeted at urban forestry issues in Palo Alto. The two projects are complementary, with the inventory work gathering the data necessary to formulate goals and strategies for continued management and expansion of Palo Alto’s urban forest through the master plan.

The State required the completion of additional documentation prior to initiation of the grant projects. Staff submitted this paperwork in mid-March. Once the City receives final approval from the State, work will begin in earnest on the inventory. The current timeline for completion of the inventory and integration into the GIS system is April/May 2009. A cross-departmental team, which also includes representatives from CANOPY, has already begun work on the master plan development. However, the majority of the plan development work will occur after completion of the inventory, with anticipated Council adoption of the plan in spring or summer of 2009. The grant requires that work on the projects be completed by March 2010.

Staff plans to provide the Council with periodic status reports as the work progresses.

UTILITIES’ CONSERVATION-RELATED PROGRAMS
Over the last year (2006-07), the results of the City of Palo Alto Utilities (CPAU)’s efficiency and conservation programs have included:

- The Electric Utility has implemented demand-side efficiency programs and large long-term supply-side efficiency improvements, and installed over 200 PV systems. Plans for 2008-09 include third-party conservation programs and required measurement and verification of the Utility’s efficiency program results. Achievements of the demand side programs include a reduction in peak demand by 1,100 kW; first year energy savings of 4,700 MWh; and lifecycle energy savings of 49,000 MWh, at a saved energy cost below the market cost of procured energy. Major savings in demand-side programs come from industrial cooling, low-income efficiency replacements, CFL rebates, and the Right Lights small business programs. Large long-term supply-side efficiency improvements come from a Shasta turbine upgrade (3,000 MWh/yr) and distribution system conversions (300 MWh/yr).

- The Gas Utility implemented a Low Income Efficiency Program that replaced 12 furnaces and weather stripped/caulked leaks in 54 homes in 2007, saving a total of 9,600 therms. A Research and Development program with ground source heat pumps (GSHP) has been installed with ongoing comparisons made between
traditional air conditioning and GSHP in two locations. The Utility is also
developing a new solar water heating incentive program.

- The Water and Wastewater Utilities have partnered with SCVWD to reduce
residential and business water use; signed a new 3-year contract with SCVWD to
continue cost sharing of efficiency and water conservation programs; and
implemented programs including Water Wise House Calls, High Efficiency
Toilet (HET) Rebate and Replacement, Washing Machine Rebates, and Outdoor
Irrigation Rebates. A total of 99 acre feet of water and 66,000 therms of gas were
saved in water/gas efficiency programs in FY 06/07. Current year programs
emphasize outdoor water reduction programs and the use of Bay-Friendly plants.

CLEAN RENEWABLE ENERGY BONDS
The Administrative Services Department worked with Utilities to issue $1.5 million in
Clean Renewable Energy Bonds to help finance solar panels on three City properties:
Baylands Interpretive Center, Cubberley Community Center, and the Municipal Services
Center. The bonds were issued in November 2007.

Clean Renewable Energy Bonds (CREBs) are interest-free financing instruments (in lieu
of receiving interest, lenders receive a tax credit against Federal income taxes) that can be
used for wind, closed and open-loop biomass, geothermal, solar energy, small irrigation
power, landfill gas, and other qualifying facilities. Congress authorized up to $800
million of these bonds with the passage of the Energy Tax Incentives Act of 2005. The
City applied for the CREBs in late April 2006, and received approval in November 2006
from the Internal Revenue Service on its application for $1.5 million in CREBs.

These bonds were approved specifically for use on the Photovoltaic Solar Panel Project
(PE-05001) which placed solar panels at the three sites indicated above. The remaining
project expenses were funded by the Electric Utility’s public benefit funds. Palo Alto was
one of the first jurisdictions in the nation to issue these bonds.

CLIMATE PROTECTION PLAN
The Council approval of the CPP on December 3 2007 (CMR: 435:07) included
recommendations for the City to reduce greenhouse gas emissions from municipal
operations by 5% (3,266 tons of CO2) by 2009 and by 15% (10,000 tons) by 2015.
Additionally the Council directed the City Manager to produce an annual report that
details the actions leading to emissions reductions and the impacts of those actions.

Since that approval, staff has been working to implement the recommendations of the
Council regarding the CPP. These efforts have focused on:

1. Obtaining feedback from the public on the CPP. Staff has worked with a variety
   of public groups to solicit comments, suggestions and other feedback on the CPP.
   Staff has made many of the changes suggested by this feedback, and a revised
   version of the CPP is now on the City’s website.
2. Reducing City emissions in 2009. Staff has analyzed the emissions profiles of each City department and developed emission reduction goals for each. These departmental goals range from a low of 4 tons required reduction for the City Auditor, to a high of 1,381 tons reduction for Public Works. Staff has met with department heads to present these reduction goals and initiate a dialog on how to develop a strategy for each department to meet its goals. The proposed reductions for each department are presented in Table 1.

3. Developing long term strategies for reducing emissions by 15% by 2015. The City has retained URS, a well respected Bay Area environmental consulting firm, to work with City staff to enhance the cost benefit assessments of the 120 suggested actions contained in the CPP. Additionally, the City is working with a group of Stanford undergraduates to analyze sustainability efforts related to Environmental Purchasing. Finally, staff is working with the Rocky Mountain Institute to develop an overarching methodology to ensure that all areas being examined (transportation, waste, purchasing, energy, green building) follow a uniform analytical approach. These three groups of outside experts are working collectively with staff to develop a comprehensive and robust assessment of options for the City to accelerate its carbon emission reduction plan, and to do so in the most cost-effective manner possible.

Staff expects to issue a final report on the cost benefit analyses in June 2008.
Table 1. Estimated greenhouse gas emissions by Department and 5% reduction requirements

<table>
<thead>
<tr>
<th>Department</th>
<th>Emissions As Reported in the Climate Protection Plan</th>
<th>Reductions Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non Fuel Emissions = Electricity + Gas + Travel + Office Products</td>
<td>Fuels = Mobile + Stationary and Off Road</td>
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<tr>
<td>ASD</td>
<td>2,099</td>
<td>19</td>
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<td>Auditor</td>
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<td>City Attorney</td>
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<tr>
<td>City Clerk</td>
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<td>City Manager</td>
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<td>59</td>
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<td>Community Services</td>
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<td>Fire</td>
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<td>Library</td>
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<td>Planning</td>
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<td>PWD</td>
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<td>Utilities</td>
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<td>Total</td>
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<td>2,172</td>
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</tbody>
</table>

**RESOURCE IMPACT**

All of the programs discussed in this report, except for Recycling’s landfill restrictions, are covered under existing program budget and staffing. The landfill restrictions resource impact and policy implications will be discussed in a future report to Council.
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
The actions described in this report are exempt from the California Environmental Quality Act (CEQA), pursuant to California Code of Regulations, Title 14 §15061(b)(3), because it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment.

PREPARED BY: WENDY HEDIGER
JOYCE KINNEAR
KELLY MORARIU
NANCY NAGEL
JASON NORTZ
ANNETTE PUSKARICH
KARL VAN ORSDOL

CITY MANAGER APPROVAL: EMILY HARRISON
Assistant City Manager

ATTACHMENT
Attachment A: City of Palo Alto Construction and Demolition Diversion Program Year Three Review