Environmentally Preferable Purchasing Program (EP^3)

THE CITY OF SAN DIEGO

FY2009 Annual Report

The City of San Diego

Prepared by:

Environmental Services Department
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Report produced by the Environmental Services Department (ESD), Waste Reduction and Disposal Division. For a copy online, go to www.sandiego.gov/environmental-services.

I. Introduction

This report documents the achievements of the City of San Diego in implementing the Environmentally Preferable Purchasing Program (EP^3) for the period of July 1, 2008 through June 30, 2009, also referred to as Fiscal Year 2009 (FY09).

The City of San Diego is committed to finding ways to reduce workplace hazards and protect environmental resources by reviewing the products purchased by City departments and directing funds toward more environmentally responsible alternatives that are cost effective. This is accomplished through the Environmentally Preferable Purchasing Program (EP^3) under the guidance of the Environmental Services Department (ESD) and the Purchasing & Contracting Department (P&C). The success of the program is proportional to the participation by all City employees as they realize the benefit of new opportunities offered by vendors and manufacturers that are increasingly embracing green technologies, products, and practices.

"Environmentally Preferable" (EP) means having a lesser or reduced effect on human health and the environment when compared with competing products that serve the same purpose. EP products or services minimize the consumption of resources, energy and water; prevent or minimize the creation of solid waste, air pollution or water pollution; minimize the use of materials or processes which compromise the environment; and/or promote the use of less or non-toxic substances, and avoid toxic materials or processes.

Due to significant advances in the quantity and quality of EP products and services, as well as increased awareness of the benefits these products and services have on human health and the environment, ESD collaborated with the P&C Department and other City departments to develop an Administrative Regulation (AR) that serves as a framework for existing and future purchasing practices within the City organization. Its purpose is to balance multiple environmental attributes with price and performance considerations.

By developing the EP^3 AR and putting it into practice as illustrated in this report, the City is leading the way for businesses and other organizations to reduce our impact on the environment. In FY09, ESD staff helped to advance the message about green purchasing by participating in local panel discussions and national green procurement outreach efforts coordinated by the United States Environmental Protection Agency (US EPA).

II. Environmentally Preferable Purchasing

Administrative Regulation 35.80

AR 35.80, Environmentally Preferable Purchasing, became effective April 4, 2007 with the purpose of establishing guidelines and procedures for purchases of environmentally preferable products and services. The AR requires City departments to purchase EP products and services whenever practicable and expands the commitment of the City to purchase products with recycled content, lower toxicity, and greater conservation of energy, water, and other resources.

AR 35.80 states that "City departments shall purchase Environmentally Preferable Products or non-professional services whenever possible by taking into consideration appropriate environmental attributes or benefits along with price and performance standards." The AR identifies twelve basic environmentally preferable characteristics, or attributes to be used in evaluating whether a given product or non-professional service is environmentally preferable. These include:

- Alternative Energy Source
- Bio-based
- Biodegradable
- Compostable
- High Recycled Content
- Low Toxicity
- Low Volatile Organic Compound (VOC)
- Pollution (air, water, solid waste) Reduction
- Recyclable
- Repairable
- Resource Efficient (water conserving and/or energy efficient)
- Reusable

An Environmentally Preferable Purchasing Evaluation Checklist (Attachment 1) is available to City employees to assist with the evaluation of products and non-professional services. If an environmentally preferable product or service is not selected for use, employees must submit a Procurement Justification Form (Attachment 2) along with their purchase request.

All City departments are required to follow the procedures outlined in AR 35.80. EP^3 is specifically geared toward employees who:

- Identify or specify products or services for purchase by their department or division
- Write bid specifications for products, equipment or services
- Draft contracts for products or services
- Use City Standard Purchase Orders, Citywide Open Blanket Purchase Orders, petty cash, City credit card, or other City purchasing methods

Program Goals

The primary goal of EP^3 is to promote the purchase of EP products and services throughout City departments for the purpose of fostering the practice of responsible purchasing choices that are cost effective and reduce the impact of such purchases on public health and the environment.

To accomplish this, the following goals have been established for EP^3:

- Increase purchases of EP products and services through expanded access to citywide contracts
- Educate City employees on the benefits and opportunities associated with EP products and services
- Institutionalize EP procurement activities among City personnel
- Improve tracking and reporting of EP purchases
- Provide outreach to vendors and service providers on the City's EP^3

Program Implementation

EP^3 is designed to implement and document changes in procurement practices of City employees, which can only be successful with the full participation of those employees responsible for purchasing decisions. With a $3.1 billion budget in FY09, it is evident the City has a unique opportunity to impact sustainable purchasing practices in the region. ESD and P&C have identified the following EP^3 program roles and guidelines:

<u>ESD's role includes:</u>

- Administer the EP^3 program to help City departments increase their purchase of EP products and services, with the City's Central Stores in close partnership
- Research recycled and other environmentally preferable products, applications, and service providers

- Communicate appropriate information to department contacts to enable them to incorporate environmental considerations when making purchasing decisions
- Produce an e-mail bulletin to provide users with information about EP^3 products and services
- Develop and maintain an internet website which:
    - provides resources and tools to facilitate internal implementation of this policy
    - demonstrates the City's leadership in providing a resource for other agencies and organizations in the region
- Review EP^3 requirements with City departments and monitor the status of policy implementation
- Prepare an annual report on the status and progress of EP^3 to the Mayor

P&C's role includes:

- Ensure that City bid specifications and contracts require recycled and other EP components whenever feasible and that contractors provide appropriate certification of this content
- Work with product and service contractors to track and report EP purchases made by City departments
- Assemble and disseminate evaluation results and reports of environmental purchases by departments
- Coordinate development and implementation of procurement guidelines and recommend revisions to City policy

In FY09, the following progress was made toward implementation of the program:

ESD:

- Researched environmentally preferable products and services
- Updated and maintained the EP^3 website
- Prepared the second annual report of citywide EP^3 purchases
- Prepared the second edition of the EP^3 Newsletter for city employees and the public, which is posted on the EP^3 website.
- Staff gave presentations and participated in discussions with other organizations and jurisdictions to support the development and implementation of green procurement programs.
- ESD and Custodial Services staff met with Waxie Sanitary Supply for a green cleaning product presentation in April 2008 as part of the Business Process Re-engineering program. Facility maintenance staff began trying some of the products in FY09 at the City Administration Building and Development Review Center.
- ESD began attending regular meetings with other departments (Engineering & Capital Projects, Green Cities team) to extend outreach.
- In October 2008, ESD hosted a workshop on environmental preferable purchasing with training provided by the Green Purchasing Institute.

- In April 2009, ESD hosted and co-sponsored a workshop on recycled products in highway construction, which was organized and led by the Rubber Manufacturers Association.

- In May 2009, ESD participated in a panel discussion for the City of Carlsbad Chamber of Commerce Green Business Certification Program.

ESD and P&C:

- Reviewed and revised several bid documents for EP^3 requirements.
- Began work on developing EP^3 criteria for a comprehensive bid for maintenance, repair and operational supplies.
- Had several meetings with Staples to discuss environmental initiatives and increasing the purchase of recycled products. Staples began to automatically substitute EP3 products for certain items on orders.

Future Challenges & Opportunities

As with any new undertaking, there are several challenges that must be faced in the City's efforts to increase environmental purchasing:

- Due to unfamiliarity with the many types of recycled and other environmentally preferable products, staff and contractors may be reluctant to specify these products because of uncertainty about how they might be effectively substituted for more familiar products.
- New and emerging companies that develop and provide environmentally preferable products must first develop successful track records, including establishing the production, marketing, and distribution capacity to meet the needs of their customers.
- EP products and services must be cost effective when taking into account the lifecycle cost and the environmental benefit.
- Obtaining appropriate and pertinent information on environmental products often places unfamiliar demands on participants, which may cause resistance to the program.
- Many products purchased by the City must meet rigorous quality and performance standards, many of which did not originally take into consideration environmental attributes or impacts. Modification of these standards can be a slow process and many environmentally preferable standards and specifications are a work in progress as demand grows and new product offerings are made.
- Potential false claims ("greenwashing") by vendors increase the need for due diligence and verifying claims and certifications.
- Employees responsible for developing specifications and/or securing purchases must learn to balance competing claims of environmental preferability. These employees must decide how much weight to give recycled content, how much to give low toxicity, how to balance recyclability against energy efficiency and how to prioritize the many other elements of environmental preferability.
- In order to document and monitor the program's progress, employees must track and communicate to ESD and P&C accurate information about purchases. ESD and P&C staff must have some understanding of the operations and procurement needs of other departments to effectively assist them with implementation and data collection.

ESD and P&C staff will address these challenges by:

- Maintaining liaisons between City departments and ESD and P&C to facilitate program implementation, purchases, and data collection
- Researching new applications for recycled and other EP products and encouraging supply and contract managers to specify them whenever possible
- Providing departments on-going training, information and assistance in developing specifications and contracts for EP products and services
- Maintaining links to the most comprehensive and authoritative databases to assist in the use of product specification language and specific products and vendors, including those that are third-party certified
- Helping product suppliers obtain feedback from various end users to assist them in refining product development and helping them understand the City's procurement processes
- Working with vendors to report their EP product sales to the City
- Continuing to network with other agencies and organizations to share information and successful implementation strategies

III. Citywide Purchases

Purchase Summary

As seen in the range of products and services purchased, City employees continued to build on successes in prior years. By purchasing almost $34.4 million of "green" goods and services in FY09, and also realizing savings and revenue of approximately $5.6 million as a result, the City has become a leader in green procurement in the region. The following tables summarize environmentally preferable product purchases and savings for the FY09 reporting year (July 1, 2008 – June 30, 2009). Despite extensive outreach, this likely does not represent all green purchases made by the City.

Citywide FY09 EP^3 Purchases [(1)]	FY09 Amount
Paper & Office Products	
Recycled copy/printing paper[(2)]	$ 592,728
Soy-based printing ink	$ 1,500
Office products[(3)]	$ 466,084
Multi-function copiers/printers[(4)]	$ 1,900,000
Computers, monitors, printers	$ 1,916,190
Computer equipment recycling	$ 21,911
Technotrash recycling	$ 2,844
Subtotal	**$ 4,901,258**
Vehicles & Vehicle Maintenance	
Hybrid vehicles	$ 122,000
Recycled antifreeze (1,773 gallons)	$ 3,679
Re-refined oil	$ 97,572
Water-based parts cleaners	$ 76,881
Steel wheel weights	$ 2,250
Retreaded tires	$ 487,578
Subtotal	**$ 789,960**
Building and Construction Materials	
Slurry seal[(5)]	$ 5,800,000

Overlay[5]	$ 13,185,285
Asphalt	$ 2,308,569
Aggregate road base	$ 146,520
Asphalt crack sealer[5]	$ 515,303
Plastic manholes	$ 16,000
Recycled plastic traffic cones	$ 25,382
Subtotal	**$ 21,997,059**
Facility Maintenance, Supplies & Energy	
Janitorial supplies (cleaners, bag liners, bath tissue, paper towel, rags)	$ 369,772
Compost and mulch (63,042 cy)	$ 23,933
Park & Rec equipment/supplies	$ 235,829
Energy efficiency building upgrades (lighting and HVAC)	$ 1,288,651
LED "Walk/Don't Walk" signals	$ 50,000
Green power purchase (methane and photovoltaic)	$ 2,231,711
Subtotal	**$ 4,199,897**
Other	
Reclaimed water (1,453,685,191 gallons)	$ 1,554,744
Rain barrels	$ 40,000
Trash and recycling carts/bins	$ 973,472
Recycled glass awards	$ 3,000
Subtotal	**$ 2,571,216**
Total Citywide EP³ Purchases	**$ 34,459,390**

(1) Not a complete listing.
(2) Purchased by City Print Shop. Includes in-house and outsourced jobs. Outsourced jobs include other costs such as printing, finishing, binding, etc.
(3) Includes recycled content copy paper purchased from Staples for office use.
(4) Contract is for equipment lease and includes maintenance and imaging charges.
(5) Price includes labor and material.

FY09 Savings / Revenue from EP³ Purchases[1]	Amount
Energy efficiency savings	$ 228,280
Reclaimed water savings	$ 4,096,749
Retreaded tires savings	$ 268,917
Renewable energy sales revenue	$ 1,026,200
Recycling of old or damaged blue and black bins revenue	$ 29,872
Total Citywide Savings / Revenue from EP³ Purchases	**$ 5,650,018**

(1) Not a complete listing.

Purchase Detail

City departments purchased a variety of EP products and services, including recycled paper, energy efficient products, green power, recycled pavement products, re-refined antifreeze and motor oil, tire-retreading services, reclaimed water, and hybrid vehicles. Many of these products were more economical than those they replace. Following is a summary of these purchases.

Paper and Office Products

Copy and Printing Paper

86% of the paper purchased by the City Print Shop contains a minimum of 30% recycled content and all of the inks are soy-based. The Print Shop also specifies a minimum of 30% recycled paper where practicable for jobs that are completed by outside printers.

City departments purchase 30% recycled copy paper for use in city facilities through Staples, the City's office supply vendor, which helps ensure that recycled paper is purchased by restricting the purchase of virgin paper. The current multi-function copier/printer lease contract does not allow for paper with more than 30% recycled content. When the contract expires, the City plans to negotiate a new contract that will allow for higher recycled content.

Office Products/Equipment

Office supplies were purchased through a citywide contract. In FY09, the City purchased $466,000 of EP office supplies (mostly recycled content) and recycled paper on this contract.

Computer and Imaging Equipment

The Department of Information Technology (IT) has taken an active role in greening the City's computer equipment purchases by ensuring that desktop, laptop, monitor purchases meet the EPEAT standard for computer equipment. All of the 398 laptops and 1,337 desktops computers met the EPEAT Gold or Silver standard in FY09. All but 19 of the 673 monitors purchased by the City met the EPEAT Silver standard. In addition, 170 of the 220 printers that the City purchased were Energy Star compliant.

In addition to the printers that are purchased, the City leases multi-function copier/printers for most general office copying and printing needs. These machines consolidate copy, print, scan, and fax functions and help eliminate the need for separate pieces of equipment. All of the machines are Energy Star compliant and capable of duplex printing and copying. The FY09 cost of this contract was $1.9 million, which also includes maintenance and imaging charges.

Electronics Recycling

Since 2004, the City has been recycling obsolete computers, TV's and other electronic equipment through a competitively bid contract with a local recycling firm. During FY09, the City recycled 3,641 pieces of equipment including computers, monitors, printers, and miscellaneous equipment and paid $21,911 in recycling fees. In addition, the City began a "technotrash" recycling program in FY07 to recycle small electronics and storage media such as CDs, DVDs, floppy disks, video tapes, handheld electronics, and digital cameras. In FY09, the City spent $2,844 on the program and recycled 1,231 pounds of technotrash.

Vehicles & Vehicle Maintenance

In FY09, the City purchased two Ford Escape Hybrids, and five Club Cars, which are electric light duty utility vehicles used by the Public Utilities Department at waste water treatment facilities for operation and maintenance purposes. The City also purchases many low emission vehicles that meet the California Ultra Low Emissions, Super Ultra Low Emissions, and Partial Zero Emissions standards.

ESD's Collection Services Division began using dual fuel trash and recycling collection trucks that ran on liquefied natural gas (LNG) and diesel in 2001. However, by 2004 these vehicles proved to be somewhat problematic and performance was less than anticipated. Furthermore, the development of ultra-low sulfur diesel fuel (ULSD) fuel was found to produce lower emissions than the LNG dual fuel vehicles. Therefore, the City began switching to diesel vehicles and ULSD fuel as the dual fuel vehicles reached the end of their life cycle. The last of the LNG dual fuel vehicles were retired in FY08; therefore no purchases of LNG were made in FY09.

The whole trash and recycling collection fleet and some other heavy vehicles run on re-treaded tires and utilize re-refined motor and hydraulic oil. In addition, almost all fleet vehicles use recycled anti-freeze. Fleet Division also uses water-based parts cleaners instead of petroleum-based solvents and is in the process of switching from lead to steel wheel weights.

Building and Construction Materials

Street Repair and Resurfacing

The Street Division uses crushed aggregate road base and asphalt that are made with recycled materials. The division also has contracts for rubberized slurry seal and street crack repair sealant that is manufactured with recycled crumb rubber from tires. In FY08, the division pilot tested Cold In-Place Recycling (CIPR) on 1.72 miles of streets. CIPR involves grinding down the existing asphalt concrete pavement; mixing it with emulsifiers and other additives as needed; spreading and compacting the recycled mixture; and overlaying the recycled surface with a new layer of hot mix asphalt. This reduces the need to haul away grindings and bring in new material, reduces truck trips and emissions, conserves resources, and can sometimes costs less than traditional methods. Street Division continues to monitor the performance of the pilot test area and will evaluate its use in future applications.

FY09 street resurfacing highlights:

- Slurry Seal: $5.8 million was spent to slurry seal 115 miles of city streets. The material used for this project utilized approximately 273,138 pounds of recycled crumb rubber. Additionally, prior to the application of the slurry seal surface treatment, many streets needed patching of the existing pavement, which was done with recycled content asphalt.
- Asphalt Overlay: $13.2 million was spent to overlay 35.4 miles, or 10.5 million square miles, of city streets. The asphalt concrete contained an average of 12-15% recycled materials.

Plastic Manholes

In October 2007, the Metropolitan Wastewater Department (MWWD) began to pilot test plastic manholes to replace the concrete manholes that are usually installed. The plastic manholes are purported to have a longer life due their resistance to corrosion and have a much lower carbon footprint in the manufacturing and transportation phases. In addition, the manholes can be installed much quicker than concrete manholes. MWWD is evaluating the plastic manholes for two years for settlement and root intrusion. Nine additional plastic manholes were installed in FY09.

Facility Maintenance, Supplies, and Energy

Mulch and Compost

Mulch produced from green material brought to the City's Miramar Greenery is used for erosion control at the Miramar landfill, eliminating the need to purchase straw or other virgin products. The Greenery's compost and mulch are also used for all restoration work at the City's inactive landfills and at City construction projects. In addition, the Park & Recreation (P&R) department uses mulch (from the Greenery and other sources) in some areas for weed suppression, reducing the need for crews to cut the weeds. More than 63,000 cubic yards of mulch and compost were applied to the City's landfills and parks in FY09.

Park and Recreation Recycling Revenue Expenditures

ESD began a program with the P&R department in 2006 to help them increase EP purchases utilizing the revenues from recyclables that are collected at 44 P&R sites and 15 City offices. In FY09, P&R began to use these funds for expenditures for items such as organic fertilizer, recycled plastic equipment, compostable foodware, Energy Star electronics, and various other purchases.

Janitorial Supplies and Paper Products

Environmentally preferable janitorial products include soap, cleaners, recycled content paper towel, bath tissue, and trash bag liners; and reusable mops and rags. Green Seal certified cleaning

products are being pilot tested at two downtown City facilities. The City purchased almost $370,000 of these products in FY09.

Alternative Power and Energy Efficiency

The Energy division of ESD works with departments across the City to pursue its goal of energy independence and become a model city in energy conservation and the use of renewable energy. The City of San Diego is a US EPA Green Power Partner and was ranked the sixth largest local government green power purchaser and the third largest onsite green power producer in the U.S., using over 69 million kWh annually at the end of FY09 through onsite biogas, hydro, and solar installations.

The City currently produces renewable energy through the following projects:

- The majority comes from cogeneration facilities using methane from sewage treatment and landfill disposal. Excess power is sold to San Diego Gas and Electric (SDGE). Some of the power is produced through an agreement with a private third party that produces and sells the power to the City at a negotiated below market rate.
- A little over 1 MW comes from hydroelectric power generated by the flow of treated wastewater to the ocean outfall.
- 13 photovoltaic systems are installed throughout the region on City-owned facilities capable of producing 1.2 MW. Most of the facilities have rooftop systems that the City purchased and installed. At the Alvarado Water Treatment Plant, the City has a power purchase agreement with a private firm that installed, owns and operates the plant's photovoltaic system. All the power generated by the solar panels is purchased by the Water Department at a negotiated below market rate and the City did not need to front the $6.5 million capital costs to install the system.

Photovoltaic system at Alvarado Water Treatment Plant

Through the two power purchase agreements described above, the City purchased approximately $2.2 million of green power generated by photovoltaics and methane from wastewater treatment and landfill gas in FY09.

In addition to green power generation, the Energy division regularly works with City departments and the community to upgrade the energy efficiency of City facilities, businesses, and homes. Much of the funding for these projects comes from grants through the California Energy Commission and California Public Utilities Commission.

Energy efficiency highlights include the following:

- Nearly $1.3 million was spent on new energy efficiency lighting and mechanical upgrades at City facilities, which will save over 1.5 million kWh and $228,000 annually.
- Since 1997, the Street Division of the General Services Department has converted more than 32,000 incandescent traffic signal lights to LED. All the red signal indications and over 90% of the green indications have been converted to LED. Amber indications are converted as replacement is needed.
- In 2003, the Division began converting the "Walk/Don't Walk" indications from incandescent to neon as replacement is needed. The Division spends approximately $50,000 annually on the new neon lights. The new "Walk" indications, which are typically lit 35% of the time, reduce energy use from 20 watts to 8 watts; and the "Don't Walk" indications, which are typically lit 65% of the time, reduce energy use from 38 watts to 8 watts.

Other Purchases

Trash and Recycling Carts/Containers

In FY09, the City spent more than $973,000 on new curbside carts and recycling bins for Mission Trails Park and Mission Beach. The trash and recycling carts used in the City's curbside trash, recycling, and yard waste collection programs are made from 20% recycled plastic. The new combination recycling/trash receptacles purchased for public use along Mission Beach are made from durable 68% recycled stainless steel, which is also fully recyclable, and the containers are coated with low or no-VOC finishes. The containers used in Mission Trails Park are made from 30% recycled plastic.

Reclaimed Water

Five City departments (Engineering and Capital Projects, ESD, MWWD, Parks and Recreation, and Water) purchased almost 1.5 billion gallons of reclaimed water for irrigation, dust control, and industrial uses at a cost of $1,554,744.

Rain Barrels

In the spring of 2009 the Storm Water Department began implementation of a Rain Barrel/Downspout Disconnect Pilot Program to study the effectiveness of rain barrel systems at reducing polluted runoff and harvesting water during dry periods. 24 rain barrel systems of varying size and design were installed at eight sites throughout the City: Southcrest and Rancho Bernardo Recreation Centers, Mission Trails Regional Park Visitor Center, Rose Canyon Operations Yard Service Building, Mira Mesa and San Ysidro Libraries, Scripps Institute of Oceanography, and South Bay Water Reclamation Plant, Some of the barrels are made from 100% recycled plastic.

The pilot program will measure the effectiveness of disconnecting downspouts and installing rain barrels to capture and divert rain water, fog vapor and water condensation from air conditioning units on rooftops to irrigate planter boxes and landscaping. The pilot program was designed as a cost effective way to reduce polluted runoff from entering San Diego beaches and bays, conserve water, and supplement existing water harvesting efforts. The program will be evaluated from January through May 2010 and, depending on the level of effectiveness, the City may implement the program on a larger scale.

Rain Barrel
San Ysidro Library

Pump System
Mission Trails Visitor Center

Multiple Barrels
Mira Mesa Library

Gravity System
San Ysidro Library

Additional Savings / Revenue

- The City expects to save at least $228,000 annually from lighting and mechanical energy efficiency improvements procured in FY09. (FY07 and FY08 reports included ongoing annual savings from upgrades procured in previous years. Beginning in FY09, reports will only include savings for upgrades procured in that fiscal year.) In addition, the City earned over $1 million in revenue from the sale of excess power produced by the cogeneration facility at the Point Loma Wastewater Treatment Plant.
- ESD's Collection Division recycles old curbside trash and recycling carts once they are no longer functional. This not only saved disposal costs, but also earned almost $30,000 in revenue by recycling approximately 3,200 carts in FY09.
- The City saved almost $4.1 million by using reclaimed water at a cost of $0.80 per hundred cubic feet (HCF) instead of potable water, which would have cost $2.91 per HCF.
- The use of retread tires saved almost $269,000 in tire costs.

IV. Conclusion

Future progress with EP^3 will be through the accomplishments of City employees who are willing to facilitate change by working with vendors and service providers to offer viable and economical environmental products, as well as by pursuing ways to incorporate environmentally preferable products in new applications.