



CITY COUNCIL SUSTAINABILITY COMMITTEE MEETING

Hayward City Hall – Conference Room 2A
777 B Street, Hayward, CA 94541-5007

Mission Statement:

Make Hayward a more sustainable community in order to ameliorate negative impacts of climate change, conserve natural resources and promote a clean environment.

July 1, 2009
4:30 p.m. – 6:00 p.m.

A G E N D A

- I. Call to Order
- II. Roll Call
- III. Public Comments: *(Note: For matters not otherwise listed on the agenda, the Committee welcomes public comments under this section but is prohibited by State Law from discussing items not listed on the agenda. Items brought up under this section will be taken under consideration and referred to staff for follow-up as appropriate. Speakers will be limited to 5 minutes each; organizations represented by more than one speaker are limited to 5 minutes per organization. All public comments are limited to this time period on the Agenda.)*
- IV. Approval of Minutes of June 3, 2009
- V. Update on City-Wide Energy Efficiency & Emission Reduction Efforts:
 - a. Public Works Energy Efficiency Measures
Robert Bauman, Public Works Director
 - b. Environmentally Preferred Purchasing
Jasmine Gacusan, Purchasing & Services Manager
 - c. Energy Efficiency & Sustainability of Municipal Buildings
Vic Avila, Facilities Manager, Maintenance Services
 - d. Municipal Fleet Upgrades
Matt McGrath, Director of Maintenance Services
- VI. Monthly Meeting Topics
- VII. General Announcements and Information Items from Staff
- VIII. Committee Referrals and Announcements
- IX. Next Meeting: Wednesday, September 2, 2009
Update on State Codes and Update on Countywide Energy Efficiency Financing Program Development
- X. Adjournment



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CITY COUNCIL SUSTAINABILITY COMMITTEE MEETING

Hayward City Hall – Conference Room 2A
777 B Street, Hayward, CA 94541-5007

June 3, 2009

4:30 p.m. – 6:00 p.m.

MEETING MINUTES

I. Call to Order – Meeting called to order at 4:34 p.m. Mayor Sweeney welcomed everyone.

II. Roll Call

Members:

- Michael Sweeney, Mayor
- Olden Henson, Council Member (Absent)
- Bill Quirk, Council Member
- Julie McKillop, Planning Commissioner (Absent)
- Al Mendall, Planning Commissioner
- Marvin Peixoto, Planning Commissioner
- Doug Grandt, KHCG Task Force (Absent)

Staff:

- David Rizk, Development Services Director
- Robert Bauman, Public Works Director
- Erik Pearson, Senior Planner
- Vera Dahle-Lacaze, Solid Waste Manager
- Katy Ramirez, Administrative Secretary

Others:

- Andy Wilson, Citizens Against Pollution (CAP)
- Ernest Pacheco, CAP
- Audrey LePell, President, CAP
- Roxanne Cruz, PG&E
- Suzanne Barba
- Richard Valle, Tri-CED
- Cam Bauer, Resident of Hayward

III. Public Comments

Suzanne Barba, League of Women's Voters, announced that there will be a Climate Change Forum on Saturday morning, June 6, 2009, from 8:30 to noon, at Chabot College, Little Theater, and free parking passes are available. Ms. Barba also noted that Council Member Olden Henson will be a guest speaker.

Cam Bauer, resident of Fairway Park – distributed documents including a summary of his situation and a model Gray Water Ordinance inspired by local jurisdictions in Arizona and New Mexico. Mr. Bauer briefly summarized his concerns with the City of Hayward’s interpretation of the plumbing code with respect to gray water systems and the potential cost of his project.

After some discussion and questions from the Committee, Mayor Sweeney asked staff to research State laws and local ordinances regarding this item and report back to the Committee. Mayor Sweeney stated that once there is a better understanding of the opportunities and challenges, then the Committee will explore the possibility of taking the Gray Water item to another level.

Ernie Pacheco, CAP – Mr. Pacheco offered his interpretation of where he believes the City is with the Energy Efficiency and Conservation Block Grant proposal, and encouraged the City to participate with the County for large-scale programs.

Mr. Pacheco also expressed his many concerns with PG&E and discouraged the City from accepting information from PG&E on the issue of Community Choice Aggregation (CCA).

Andy Wilson, CAP – Mr. Wilson reiterated some of the discussion from the May 6, 2009 Sustainability Committee meeting regarding CCA, and mentioned that the staff of Citizens Against Pollution (CAP) will be pursuing the development of CCA in the City of Hayward.

Mayor Sweeney asked if there are any other public comments and thanked all the speakers.

- IV. Approval of Minutes of May 6, 2009 - Minutes approved.
- V. Update on Federal Energy Efficiency and Conservation Block Grant (EECBG) fund projects for Hayward

Development Services Director Rizk indicated that the City of Hayward’s formula-based allocation is \$1,361,900 in association with the Federal Stimulus Recovery Act, and that the application for EECBG funds is due to the Department of Energy on June 25, 2009.

Mr. Rizk turned it over to Erik Pearson, Senior Planner, to talk about the grant program and indicated that he will follow-up with discussion about the specific projects that staff is recommending for funding.

Senior Planner Pearson gave a brief overview of the grant program and application process and indicated that staff’s intention is to submit an initial application outlining the projects that the City of Hayward would like to implement. Senior Planner Pearson outlined some of the projects that the grant program funds can be used for (i.e., energy products for residential and commercial buildings; financial incentive programs, etc.), and noted that the Department of Energy is interested in

receiving ideas that are not on the list, and also programs that will have a lasting effect.

Development Services Director Rizk added that the efforts over the last several months with the proposed adoption of the Climate Action Plan will help in developing the strategy that is required for obtaining the grant funds.

Mr. Rizk provided a detailed description of the proposed programs and projects that the funds will be used for in Hayward, as noted on pages 3 and 4 of the staff report. He further discussed Stopwaste.org's Green Packages program, and noted that Stopwaste.org requested approximately \$48,000 of our allocated block grant funds be used to develop programs and packages that address the need to implement energy efficiency.

Development Services Director Rizk also indicated that staff would be looking at other funding sources related to energy efficiency and sustainability and that staff would aggressively take the lead on applying for those grants.

There was discussion and questions from the Committee about the proposed projects and programs; the Green Package Program; the Sustainability Coordinator position; the Revolving Loan Program; funding for non-profits; budget, monitoring and reporting requirements, and the approval process, that were addressed by staff.

After much discussion, Mayor Sweeney mentioned the safety issues around the South Hayward BART area and requested that staff make sure that the lights are brighter. He also said that the City will be investing in form-based codes in this area and would like to make certain that we don't install new lights and then have to remove them due to changes in the area. Mayor Sweeney encouraged staff to make sure the City's investments are well coordinated.

Mayor Sweeney asked if the Committee Members had any other questions, and noted that there were good comments from everyone.

VI. Update on the California Bottle Bill (Senate Bill 55):

Richard Valle, President, Tri-CED, thanked Council Member Quirk for bringing this issue to the City of Hayward and thanked the Sustainability Committee for their consideration.

Mr. Valle gave a brief overview of SB 55 and of The Bottle Bill. Mr. Valle said that Tri-CED is encouraging every jurisdiction in the State of California by mail and in meetings to pass a Resolution in support of SB 55. Mr. Valle mentioned that the reason Tri-CED is encouraging support from cities and municipalities is that, should this legislation pass next year, it will result in new jobs; more income for recycling operations statewide; and a decrease in materials being deposited in landfills.

Public Works Director Bauman clarified that SB 55 does not go as far to address the issues that Mr. Valle is seeking to address, and that those issues would be addressed

in future legislation regarding expanding the California Redemption Value (CRV) to wine and liquor bottles. Mr. Valle confirmed that this is correct.

After brief discussion, Mayor Sweeney received the consensus from the Committee to recommend to City Council that they pass a resolution to support legislation to include wine and liquor bottles in the Beverage Container Recycling and Litter Reduction Act.

VII. General Announcements and Information Items from Staff – None.

VIII. Committee Referrals and Announcements – None.

IV. Next Meeting: Wednesday, July 1, 2009

- a. Energy Efficiency of Municipal Buildings
- b. Municipal Fleet Upgrades
- c. Actions Related to Public Works Projects
- d. Environmentally Preferred Purchasing

IX. Adjournment – Meeting adjourned at 5:46 p.m.



DATE: July 1, 2009

TO: Sustainability Committee

FROM: Development Services Director

SUBJECT: Update on City-Wide Energy Efficiency and Emission Reduction Efforts Including:

- Public Works Energy Efficiency Measures
- Environmentally Preferred Purchasing
- Energy Efficiency & Sustainability of Municipal Buildings
- Municipal Fleet Upgrades

RECOMMENDATION

That the Committee reads and comments on this and the attached reports.

DISCUSSION

All City departments are becoming more sustainable and are making progress on the goals stated in the draft Climate Action Plan (CAP), which is scheduled to be adopted by the Council on July 28, 2009. Specifically, the Finance Department is continuously looking for environmentally preferable products and methods of purchasing those products, the Maintenance Services Department is making improvements to the City's facilities and vehicle fleet to make them more energy efficient, and the Public Works Department has several projects underway that have an emphasis on energy conservation, and generation of renewable energy. The attached reports detail the progress and the plans of each of the above efforts as well as the relevance of those efforts to the CAP.

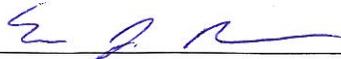
FISCAL IMPACT

Each of the attached reports provide a brief identification of existing and potential funding sources for projects/programs implementation, as well as general costs and cost savings for each program.

NEXT STEPS

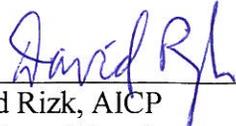
It is anticipated that future annual reports on the progress on the implementation of the CAP will be presented to the Sustainability Committee and City Council, which will include, as appropriate, departments' efforts in implementing sustainable and "green" practices.

Prepared by:



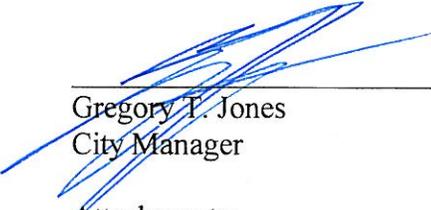
Erik J. Pearson, AICP
Senior Planner

Recommended by:



David Rizk, AICP
Director of Development Services Department

Approved by:



Gregory T. Jones
City Manager

Attachments:

- Exhibit A: Public Works Energy Efficiency Measures
- Exhibit B: Environmentally Preferred Purchasing
- Exhibit C: Energy Efficiency & Sustainability of Municipal Buildings
- Exhibit D: Municipal Fleet Upgrades



DATE: July 1, 2009

TO: Sustainability Committee

FROM: Director of Public Works

SUBJECT: Update on Public Works Energy Efficiency Measures

DISCUSSION

Relevance to the Climate Action Plan: One of the main contributing factors to the creation of greenhouse gases and global warming is energy use. Reducing energy use or converting to less polluting ways of generating energy can be an effective tool in reducing carbon dioxide and other greenhouse gases. The City's newly released Climate Action Plan includes stringent requirements for emission reductions. Specifically, municipal action item 3.10 Upgrade Street Lights to LEDs and municipal action item 5.6 Install Renewable Generation on City Property are addressed in this report. In addition, energy efficiency measures in utility operations directly contribute to emissions reduction and, therefore, further the goals of the Climate Action Plan.

Overview of Past City Practices and Programs: There are several measures that have been in place in various divisions of the Public Works Department for many years that either reduce energy usage or make use of clean energy. The following are a few examples:

1. Co-generation of Electricity at the Water Pollution Control Facility (WPCF, aka Wastewater Treatment Plant). Generation of methane gas is a by-product of the wastewater treatment process. Fats, oil, grease, food scraps and other bio-degradable solids are separated from wastewater and sent to "digester" processing tanks. This process, which is a necessary part of the treatment and kills the pathogens in the wastewater, produces a considerable amount of methane gas. Methane gas, a disproportionately large contributor to greenhouse gases, can either be released to the atmosphere (e.g., "flared") or be used in an environmentally acceptable way, such as reusing it to produce some of the required energy at the Plant. For the past 25 years or more, the WPCF has captured digester gas and, using two specialized internal combustion engines, has used the gas to produce one-third of the energy needs at the Plant. The co-generation processes currently use about 150,000 cubic feet of digester gas and produce about 3,000,000 kWh of energy per year.
2. Installation of Energy Efficient Equipment and Systems at the WPCF. This is a significant achievement because the WPCF is one of the biggest energy using facilities in the City's organization. As part of the recently completed improvements, the electrical

system was upgraded and more energy efficient equipment was installed. In recognition of this effort, PG&E awarded the City with two energy rebates totaling \$150,000.

3. Installation of Energy Efficient Equipment throughout the Water Distribution and Wastewater Collection Systems. As an example of this effort, variable frequency drives (VFDs) have been installed where demand is variable, so that the pumps' operating velocities can change with the demand and not run at a constant speed. This reduces energy usage, in addition to extending the useful life of the equipment. Our total energy usage for pump stations is approximately 4,400,000 kWh per year.
4. Water Conservation. Water conservation is both a sustainability effort and, as noted above, an energy conservation effort, as a very large amount of energy state-wide, is used directly and indirectly in the transportation of water. Public Works water conservation efforts were reported to the Sustainability Committee in May 2008.
5. Conversion from Incandescent Bulbs to LED Lights for Traffic Signals. The use of LED lights for traffic signals has been a well-accepted practice for several years. In 1999, the Engineering and Transportation division began to modify all of the City's existing traffic signals to LEDs, first with the red lights, then the green, yellow and crosswalk lights throughout the city, supported by rebates offered by PG&E. Caltrans signals were also modified because the City pays the energy bills, while Caltrans provides the maintenance. Conversion is, essentially, complete, although some directional lights and some replaced bulbs may be noticed as non-LED. City standard designs now also call for LED lights in all new traffic signals. In total, the conversion to LEDs reduced energy use by about 80 percent. Funding for the initial installation was obtained through short term borrowing.

Summary of Proposed/Planned Future Practices and Programs: The Utilities Division has been taking the lead in exploring and initiating various projects to make its operations greener and cleaner. In addition, Engineering and Transportation Division has taken the lead in investigating use of LED street lights. The following summarizes some of their efforts:

1. Solar Project at WPCF. As mentioned above, the WPCF is one of the biggest users of electrical energy among all of the City's facilities. About two-thirds of that energy (i.e., approximately 6M to 7M kWh per year) is currently purchased from PG&E. The Council has approved a project in the current Capital Improvement Program to install a solar photovoltaic (PV) project at the Wastewater Treatment Plant, and staff is currently working on a 1000 kW (1 MW) project. When constructed, this facility will have the capability to produce most of the direct daytime needs at the Plant and provide enough additional energy to "pay back" PG&E for the energy that is needed for smooth operation of the Plant around the clock (i.e., excess energy during the day would be more than enough to offset the energy needs at night when PV systems cannot work).

In addition to the above 1 MW Solar Facility which would replace electric usage at the WPCF, staff is also in the early stages of also looking into the feasibility of a much larger facility, possibly 10 MW, on underutilized land at the WPCF such as the old oxidation ponds. The old oxidation ponds occupy approximately 270 acres of the Treatment Plant land. This expanded feasibility study however is more complex because the city would

become a seller of green energy not tied to its own use at the WPCF. Also such a facility would require investment capital of almost \$80,000,000 and would have to address technical issues such as filling some of the ponds or having a floating system.

2. Wind Energy at the WPCF. Staff is exploring the idea of installing a wind turbine at the Plant to harness wind energy. This project is in its early stages at this time and will be recommended for further investigation if preliminary results indicate there is potential (enough wind) to make the project feasible and impacts to fowl can be addressed.
3. Green Co-Generation Facility at the WPCF. As mentioned above, co-generation is a very smart and efficient way to make use of the digester gas at the WPCF. However, over the past few years, sufficient advances have been made to allow the use of digester gas in fuel cells. Fuel cells can be thought of as very large “rechargeable batteries.” One great advantage of fuel cells is that they are virtually emission free. If determined to be both feasible and economical, staff will pursue this technology instead of the current reliance on internal combustion engines to burn the digester gas to generate energy.
4. Light Emitting Diode (LED) Streetlights. LED streetlights are a relatively new product development that is not yet in use by most cities. Engineering and Transportation staff has been following all the test installations by local agencies and has installed some test LEDs in Hayward. Specifically, staff has installed LED streetlights from various manufacturers on a trial basis to experiment with their performance, illumination, and maintenance, as compared to standard streetlights. Several sample lights (100W to 150W) are installed on C Street between Grand Avenue and Filbert Street, safety lights on traffic signal at the B Street/ Watkins Street intersection, and one ornamental light on Watkins Street fronting the City Hall Parking Structure. Additionally, all lights in Municipal Parking Lot Number 2 were recently upgraded to new LED lights.

According to LED manufacturers, streetlights using LED technology will have 60-70 percent lower energy consumption. PG&E recently introduced a new rate schedule for LED lights that is critical in making LED lights economically viable and at significantly lower rates than the existing rates for standard streetlights. For example, the monthly rate of a 100W LED streetlight will be \$2.39 per month, compared to \$5.04 per month for a 100W standard streetlight, which is about a 54 percent reduction. In addition, PG&E is now offering rebates on purchases of LED lights to replace existing standard streetlights. These rebates will vary between \$50 and \$200 per light, depending on wattage. Unfortunately, costs for new LED lights vary from \$900 to \$1,300. Staff is investigating the potential funding needs to convert a significant number of the City’s 7,800 existing lights to LED. Present energy costs for our street light system is about \$600,000 per year.

The life expectancy of LED streetlights is twice as long as standard lights and have 100,000 hours of operation. As noted, LED streetlights are somewhat new and, as with any emerging technology, have yet to experience major market penetration; improvements in performance are continuing to increase.

Funding Sources and Cost Savings Associated with Future Practices and Programs: The funding sources for future projects depend on the nature of the project. For example, the solar photovoltaic project can benefit from tax breaks. However, tax breaks are available only to private companies

that install the PV systems. In order for the City to benefit from this incentive, staff has issued a Request for Proposals for a Power Purchaser Agreement (PPA). This will allow a private company to install the solar system and then sell the solar power at predetermined rates to the City. While many factors contribute to whether there is an actual cost savings, including the level of tax benefits and existing PG&E tax structure, the savings in greenhouse gases is significant. This PPA acquisition method is very common and is the predominant method for installation of solar systems. In fact, the City of San Francisco recently used a similar PPA approach to initiate a solar PV project. There's also a 500 kWh PV project under construction at the Oro Loma Sanitary District, which also uses a PPA.

There are also government subsidies available for fuel cells. These subsidies can reduce the cost of this technology to the comparable cost for installing conventional internal combustion engines. Staff believes that the cost of fuel cells for Hayward would be in the range of \$10M with a government subsidy of about \$4M (i.e., \$6M remaining cost to the City). If implemented, this could save WPCF about \$200,000 more per year, compared with the savings related to the existing co-generation system.

As noted above, there are some rebates presently available from PG&E for LED streetlights. However, because of the high initial costs, even with rebates, staff has estimated it would cost approximately \$8 million to replace all City streetlights. Staff will be evaluating what the potential costs would be and what the payback period would be from the reduction in energy costs in order to pursue possible financing options.

Staff will be bringing these projects to the City Council for approval, depending on the options that prove feasible and economical to pursue.

Prepared by:

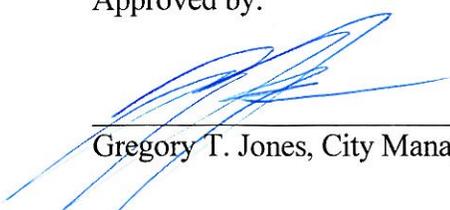

Alex Ameri, Deputy Director of Public Works


Morad Fakhrai, Deputy Director of Public Works

Recommended by:


Robert A. Bauman, Director of public Works

Approved by:


Gregory T. Jones, City Manager



CITY OF
HAYWARD
HEART OF THE BAY

DATE: July 1, 2009
TO: Sustainability Committee
FROM: Director of Finance
SUBJECT: Update on Environmentally Preferable Purchasing (EPP)

DISCUSSION

This report summarizes the goals, achievements, and long-term commitment of the City of Hayward to an Environmentally Preferable Purchasing (EPP) Program.

In the past few years, the Finance Purchasing Division has continued to increase awareness and use of environmentally preferable products and services. The EPP program aims to fundamentally change the procurement practices of the City. Joint effort and participation of other departments has helped create a collaborative approach, which relies on the expertise of the City's employees to evaluate any procurement opportunities and gradually change the way supplies and services are obtained. Every purchase has an impact on human health and the environment. Establishing a clear link between purchasing decisions and environmental concerns can profoundly help protect the future of the next generation. Development of new business and employment opportunities among the private sector that enhances the use of sustainable, recycled and green products is an indirect but a genuine and measurable contribution. The intent is to encourage, reward, and foster vendors and manufacturers to produce, deliver, and dispose products that will improve the environmental quality of the region; integrate environmental considerations into every aspect of acquisition, while maintaining cost excellence and value standards; and ultimately become a driving force responsible for lowering environmental impact.

Definition of Environmentally Preferable Purchasing: According to the US Environmental Protection Agency, environmentally preferable means "products or services that have lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose". This applies to raw materials, manufacturing, packaging, distribution, use, reuse, operation, maintenance, and disposal.

Purpose: The true purpose of the EPP program is not to develop elaborate or extravagant policy language, but to create awareness within the organization. The willingness and commitment to change purchasing decisions will legitimize the vision that every small effort brings us closer to becoming an environmentally responsible organization. The EPP program is more than simply buying "recycled" products. It is recognizing that our City's buying power has an impact over a wider variety of environmental concerns. Buying less hazardous cleaning products and more

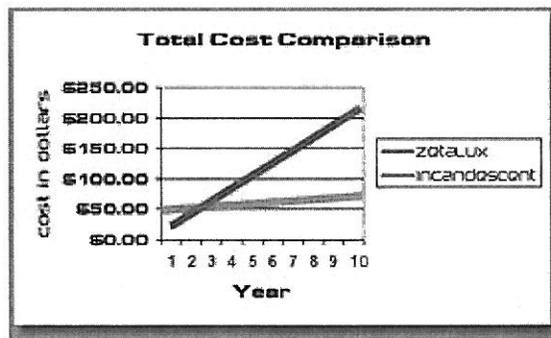
energy efficient supplies and materials are examples of the City’s commitment to EPP. Many products with less polluting origins or renewable sources are already available. We just need to include environmental consideration in our purchasing decisions. Below are ways in which the City has already implemented EPP practices.

<i>EPP Attributes Implemented</i>	
Action	Example
Choosing durable/reusable goods, as opposed to disposable or single use goods.	Hand dryer for the first floor bathrooms. Replacing disposable paper towels
Selecting goods made of recycled materials, and those that maximize post consumer content.	100% Post Consumer Multi-Purpose Paper (8.5 x 11 cut stock) for office use
Using non-toxic or minimally toxic, preferably biodegradable products.	Janitorial supplies such as green certified hand soap; microfiber terry cloths in lieu of chemical cleaners for glass and window cleaning
Select goods produced locally or regionally (to minimize environmental costs associated with shipping, travel).	Local vendors providing office supplies, printing services within the vicinity of Hayward or Alameda County
Choosing goods that can be recycled, or if not recyclable, may be disposed of safely.	Provide collection bin and depots for old cellular phones and batteries
Re-tooling or examining equipment used.	Hybrid vehicles; Copiers with scanners (to replace photocopying or printing)
Examining work habits.	Scanning documents, archiving electronically - less paper, less toner, less paper filing, no shredding. Average usage for Finance Department’s copier was 8,600 to 9,300 images per month. Usage has since been reduced to approximately 6,000/mo due to increase on scanning instead of printing or copying.
Using highly-energy efficient products.	LED lamps for all vehicular (green, yellow or red), pedestrian and countdown signal indicators.
Upgrading equipment rather than replacing.	Computer memory (RAM or hard disk space) are increased to extend life usage.
Implementing new efficient ideas and services.	Waterless urinals

Additional Practices Related To EPP: Typical criteria used in vendor selection is pricing or the “low bid”. Competitive pricing is usually based on the lowest dollar amount of goods and services available at the time of bid. Standard specifications usually describe only the nature and quality of the materials or services to be procured. EPP attributes include new valuable criteria when comparing products or services that serve the same purpose, such as using life cycle cost evaluations and best value purchasing principles.

Practice of “life cycle” cost evaluations – this means recognizing that the total cost of a product or service extends beyond the initial purchase price. For example, we recently purchased energy-efficient light bulbs for airport. We (airport, purchasing and facility) discussed advantages and disadvantages of this new product since it cost more than the conventional lamps. We evaluated other factors such as cost of replacement, energy consumption, and final disposal. We asked ourselves questions such as: will the initial purchase price offset the cost difference; how about the risk factor (these lamps are typically installed in high areas/hanger or runways), longer lifespan will lessen the frequency of replacement; is additional equipment needed or rented, such as lifts, to complete replacement tasks; can we standardize on LED lamps city wide? Data will be collected to prove feasibility. In this case, the chart below supports the EPP and sustainable goals.

LAMP	Conventional Incandescent CFL	LED
Power Consumption	60 watts	7 watts
Lifespan	7,000 hours	50,000 hours
Initial acquisition cost	\$1.00	\$49.99
Electricity cost to run for 10 years	\$175.20	\$20.00



All figures calculated at 8 Hours Per Day and \$.10 per KWH

Best Value Purchasing Principles – Adopting the best value principle allows evaluation of purchases based on variety of considerations other than the “cheapest solution” such as: performance, environmental attributes, carbon footprint, technology, best quality/economic value, minimizing the burden on administrative resources, flexibility, business relationships, and other indicators of a products or services overall desirability.

Example:

We are currently removing standard laser or inkjet printers and replacing them with copiers that can scan, email, archive, and fax documents. Goal is to achieve overall cost

savings by eliminating costs in supplies (toner/ink/drum), services (repair), archiving paper (microfilm), disposal (shredding) and environmental benefits by taking advantage of scanning documents instead of printing or copying.

Modifying Existing Specifications – wherever possible, specifications are amended to provide use of environmentally preferred products such as: durable, reusable, energy efficient, low pollution, products that contain maximum level of post-consumer waste and/or recyclable content, or remove requirements for virgin materials.

Continual Education – distributors and manufacturers are invited to promote products, practices and services that are certified environmentally friendly. They also educate City employees, as well as the public, on how to identifying credible endorsements of products from independent and accredited organizations such as Green Seal, Energy Star, PowerSmart, etc.

Example:

Purchasing held the First Annual Green Expo last March 31, 2009. Janitorial suppliers, manufacturers and subject matter experts (StopWaste.Org) were invited to promote, educate and encourage city employees to practice “green lifestyle” at work or home. Response from the employees and even the public was encouraging. We are planning to expand next year’s expo to include landscaping, maintenance and office supply vendors

Audit of City Buildings – incorporating environmental values into building related operations and to integrate EPP into the management of custodial supplies and services.

Example:

Last February, Purchasing worked with our janitorial supplies vendor (with permission from our Building Manager) to perform a “Green Cleaning survey” of City Hall building. The audit examined the following areas: building exterior; entryways and lobbies; stairs and elevators; offices/meeting rooms/work areas/conference rooms; washroom/restrooms/bathrooms; mail/computer/copy rooms; basement/mechanical/crawl spaces; custodial closets/chemical/storage rooms; disposables and equipment; garage/loading docks/shop areas and record keeping. Recommendations were noted on areas that need attention and action steps were recorded for future evaluation. One valuable improvement implemented as a result of the audit is use of green seal chemicals with dispensing system to promote safety for staff.

Summary of Proposed/Planned Future Practices and Programs

Start From Within: Evaluate and examine current supplies, work habits, practices and routines. Look for efficiency, cost reduction and method improvement. Simple change of habits such as printing double sided or shutting down lights when rooms are unoccupied can have a dramatic impact. These are single acts that will collectively contribute into a city wide goal of conservation.

Declaration: Declare statement of intent to continue purchasing green products over competing items that serve the same purpose and still remain fiscally responsible.

Network and Publish Data: Effective communication and strategizing information flow to end users will be instrumental in changing behaviors, practices, and procedures. It has been true that in the past, “green products” were considered expensive nor as effective when compared to conventional supplies. Re-educating and purging the old perception is a significant improvement towards acceptance of EPP products. With the assistance of our vendors and colleagues, we have brought sample products for testing and feedback gathering. Results were published and shared. Simple exchange of practical information or testimonials improved employee awareness on certified green products.

Have Reasonable and Measurable Goals: Measuring the effectiveness of “green purchases” and incorporating its performance is a significant undertaking. Evaluation of EPP purchases against an established baseline is measurable but certainly is not a short term goal. Documentation and reports must be compiled, reviewed, and sustained. A “list” of commodities or services to be adopted or integrated will indicate progress and track growth. This can be simple bulletins within a category:

Year 2009

Office Supplies & Equipment: 100% recycled paper; scanners on copiers

Janitorial Supplies & Services: cleaning agents; cleaning method

Building Supplies: LED lamps

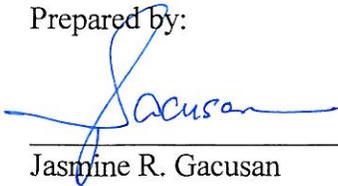
Conference/Class: CAPPO EPP sessions

Regular Review of Practice: To be truly effective, the practice must be reviewed regularly to ensure that it is meeting the City’s needs. Regularly reviewing the environmental purchasing practices ensures the focus to be in compliance with the environmental goals of the City.

Funding Sources and Cost Savings Associated with Future Practices and Programs

Green supplies and services are becoming more affordable. “Best value” evaluation practice instead of the ever popular “low bid” award system, will significantly promote the development and marketing of EPP products. A couple of years ago, a ream of 100% premium recycled paper can cost twice as much (\$7.50 per ream compared to \$2.89 virgin materials) which made it cost prohibitive. Now, market price is at \$3.79/ream on 100% and \$3.26 on 30% recycled. There is still a small difference but the trend is clear, as demand increases, prices will become more competitive and reasonable. Thanks to Measure D Recycling funds, we are deploying our first 18 pallets of 100% recycled paper for city wide use.

Prepared by:



Jasmine R. Gacusan
Purchasing and Services Manager

Recommended by:



Debra C. Auker
Director of Finance

Approved by:



Gregory T. Jones
City Manager



DATE: July 1, 2009

TO: Sustainability Committee

FROM: Director of Maintenance Services

SUBJECT: Update on Energy Efficiency & Sustainability of Municipal Buildings

DISCUSSION

Relevance to the Climate Action Plan -

Actions 3.10 and 3.12 in the City's draft Climate Action Plan recommend that the City take advantage of the California Energy Commission's (CEC) low interest loans for efficiency retrofits and to conduct energy audits for City buildings. City of Hayward buildings and facilities are currently being audited by the CEC to determine what energy savings applications are suitable for utilizing low-interest CEC loans. In the past, two energy savings measures have been financed by low-interest loans: (a) in 1997, an \$850,000 guaranteed energy savings project entailing installation of energy-efficient lighting systems throughout City buildings and new HVAC (Heating-Ventilating Air-Conditioning) systems in the Police Department and Main Library; and (b) in 2005, the City's 50% portion of the Barnes Court Solar Power Generating system.

Action 3.11 recommends that the City "Continue to implement energy conservation practices in City-owned buildings" and to "Prepare an energy conservation plan and update it on a regular basis." The City continues to use best practices in selecting energy savings applications to replace lighting systems, cool roofs, and mechanical, and controls systems in an effort to save energy and modernize facilities. A "scheduled replacement" program is utilized for equipment and components at their expected "end-of-life" rather than utilizing a "run-to-fail" replacement schedule, ensuring that City facilities have reliable operating systems and roofs. This replacement program not only ensures that facilities have operable and reliable systems, but also provides new updated systems that utilize the latest technologies to save energy and utilize sustainable materials. All local municipal and county Facilities Managers are canvassed to ascertain what best equipment/applications are available in the marketplace, in addition to utilizing industry and vendor expertise.

Overview of Past City Practices and Programs -

The following Energy savings and sustainable measures/applications have been incorporated in City facilities:

Lighting Systems -

- Energy efficient T-8 bulbs and electronic ballasts have been installed replacing old generation T-12 lamps and ballasts in all City buildings, resulting in a 30 percent electricity savings.
- LED “Exit” lights have been installed in City Hall, resulting in a 90 percent energy savings with longer-lasting 20-year fixtures.
- Exterior lights on the fourth floor ledge of City Hall have been replaced with energy efficient longer-lasting High Intensity Discharge fixtures, resulting in a 26 percent energy savings.
- Watt Manager voltage reduction units have been installed in the City Hall and Cinema Place parking garages, reducing voltage to lighting systems and saving 12 percent in energy use.
- Astronomical light timers have been installed for flag poles and City Hall plaza street lights, which adjust lights to account for changing daylight.
- Skylights have been replaced at Barnes Court to improve natural light illumination..

Mechanical & HVAC Systems -

- Computerized Energy Management Systems have been installed in City Hall, Main Library, Weekes Branch Library, Police Department, and Fire Station #1. The system saves energy; protects equipment by limiting customer settings; automatically adjusts economizer outside air settings, seasonal boiler setbacks, temperature control, on-off settings; and provides equipment break-down alerts.
- Police Department boiler replacement resulted in a 25 percent energy savings.
- Police Department air-conditioning chiller retrofit resulted in a 30 percent energy savings.
- Police Department variable frequency drive installation reduces electrical service to motors and varies supply and return fan speeds, resulting in a 30 percent energy savings.
- Police Department retrofit that utilizes water heaters instead of boiler for hot water service. This allows turning off the large boiler during the summer and utilize hot water heaters for domestic hot water, saving energy.
- Energy-saving programmable thermostats installed in smaller facilities to provide range of customer temperature comfort, while also protecting equipment.
- Main Library furnace retrofit, resulting in a 25 percent energy savings.
- HVAC package units replaced at Fire Stations #2, #5, and #6, Main Library, Weekes Branch Library, Centennial Hall, Animal Control, Facilities Division, and the Hayward Historical Society.
- Equipment timers have been installed on exhaust fans in City Hall, City Hall basement shop HVAC and on four City fountains saving electricity.
- Replacement of all fire stations’ refrigerators with energy efficient units.

Solar Power -

- Barnes Court 276kW solar power system generates \$51,000 in electricity annually, paying for the complete electricity consumption for Animal Control, Police Property & Evidence, Landscape Division, Fleet vehicle storage, and Facilities Division. Over the thirty-year life

of the solar panels, carbon dioxide emissions will be reduced by 2,000 tons, equivalent of planting 600 acres of trees.

Cool Roofs -

- Cool roofs have been installed at Barnes Court, Fire Station #2, Police Department Deck, and the corporation yard pumphouse. Cool roofs save energy, lengthen the life of the roofing membrane, improve customer comfort, and have low volatile organic compounds (VOC's).

Sustainable Recycled Content Products (RCP) and Practices -:

- Carpet tiles with 40 percent RCP and solution-dyed embedded nylon yarn have been installed in the Police Department, Main Library, Weekes Branch Library, Fire Stations #3 and #5, and the City Hall Lobby.
- The copper roof on the City Hall rotunda is 60 percent RCP. Other RCP in City Hall include acoustic ceiling tiles and grids, and ceramic tile.
- RCP lumber has been used in the smoke tower at Fire Station #6 and on Centennial Hall patio benches.
- RCP ceramic tile has been used in the Police Department's new staff kitchen and men's shower room.
- RCP fabric was used to re-upholster 120 chairs at the Main Library.
- We are currently using janitorial cleaning chemicals with 30 percent RCP, paper towels (40 percent), and toilet tissue 30 (percent).
- Currently using graffiti paint with 60 percent RCP.
- RCP has been used in drapery replacement at selected Fire Stations.
- Re-use of Materials: Products from one facility have been saved and re-fabricated for use in another application. Surplus metal building siding was used for Police Department dog run roofs and counter-tops and cabinetry have been remodeled for re-application.

Summary of Proposed/Planned Future Practices and Programs-: The following projects are planned for the next several years:

- Cool Roofs: Installation of cool roofs on the Streets and Water building in 2009, Fire Station #3 in 2010, Fire Station #4 in 2011, and Barnes Court re-coat in 2016.
- Lighting retrofit on City Hall and Police Department buildings, which are expected to result in \$38,000 annual savings.
- City Hall Plaza flag and accent lights LED upgrade in 2009, reducing electricity by 76 percent.
- Solar Power Projects: City Hall Parking Garage, Corporation Yard Solar Carport (once funding is secured).
- "Pint" Wall Urinals scheduled for installation in City facilities in 2009, reducing water usage by 87.5 percent and saving 900,000 gallons of water annually.

- Electric hand dryers: Equip City buildings with powerful new generation hand dryers, which will save transportation, manufacture, and disposal costs of hand towels of \$29,000 per year.
- Energy efficient HVAC: Streets and Water Building in 2009, Fire Stations #3 and #4 boiler replacements in 2009, Main Library in 2011, Animal Control in 2012, and Landscape Maintenance building in 2013.
- Infrared test electrical panels: Infrared equipment will be purchased in 2009 to test electrical panels for “hot” spots, reduces amperage/costs and provides measure of safety by reducing the possibility of electrical fires.
- Carpet replacement with RCP: Fire Stations #2 (2010) and #3 (2011), Landscape (2012), Police (2013), and City Hall (2015) Corridors.
- Pursue CEC audit recommendations for equipment and component replacement.

Funding Sources and Cost Savings Associated with Future Practices and Programs -

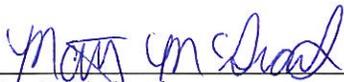
CEC low-interest loans will be utilized for proposed projects as a result of the CEC audit. Federal Stimulus funds will be sought for any solar projects approved. The “pint wall” urinal project is funded through the Utilities Division. All other projects, many of which are included in the recently adopted Capital Improvement Plan, will apply for Capital Improvement Funds.

Prepared by:



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Facilities & Manager

Recommended by:



Matt McGrath
Director of Maintenance Services

Approved by:



Gregory T. Jones
City Manager



DATE: July 1, 2009

TO: Sustainability Committee

FROM: Director of Maintenance Services

SUBJECT: Update on Municipal Fleet Upgrades

DISCUSSION

Relevance to the Climate Action Plan

The City's draft Climate Action Plan (CAP) includes two actions that aim to reduce emissions associated with the municipal vehicle fleet. Action 1.14 recommends exploring the possibility of a car and/or bike sharing program for City employees and Action 2.3 calls for the procurement of vehicles with higher fuel efficiency and alternative fuel vehicles for the municipal fleet.

Overview of Past City Practices and Programs

The City of Hayward's Fleet Management is a certified public agency through the Alameda County Green Business Program. This program, which began in 1996, verifies that businesses meet higher standards of environmental performance.

Current practices have included the down-sizing of vehicle class size and fleet reduction. In lieu of full-sized Ford F-150 pickups, six compact Ford Ranger pickups were purchased instead between 2005 and 2007. In 2007, a full-sized van was also replaced with a minivan. When applicable, full and mid-sized sedans have been replaced with compact sedans. Vehicles with more fuel efficient engines have been procured; accordingly, vehicles with smaller V-8, V-6, and 4 cylinder engines have been purchased instead of vehicles with V-10 engines. Fleet inventory has also been down-sized with the retirement of 29 low-use vehicles. Employees have been sharing City vehicles rather than having them individually assigned.

When funding has been available, hybrid sedans and hybrid sport utility vehicles have been procured. From 2006 through 2009, 14 hybrids have been purchased that include:

- 4 - Honda Civic Hybrid Sedans (2006)
- 1 - Honda Civic Hybrid Sedan (2007)
- 1 - Ford Escape Hybrid SUV for Tech Services (2008)
- 2 - Ford Escape Hybrid SUVs for Police as CSO vehicles (2009)

Furthermore, there have been 23 vehicles purchased in 2007 and 2008 that are capable of operating on E-85 fuel (85% ethanol/15% gasoline), which produces less pollution than typical gasoline. These vehicles include 20 Ford Crown Victoria patrol cars and 3 Chevrolet Tahoe SUVs for the Police and Fire Departments.

Global Positioning System (GPS) units have been installed on 50 Public Works Department vehicles to promote improved driving habits, such as driving slower, idling less, and taking fewer unauthorized trips, which should reduce fuel consumption. Employees have also been encouraged to generally reduce vehicle idling time as much as possible.

Summary of Proposed/Planned Future Practices and Programs

Continuation of established programs and procedures is essential. The City Manager has directed staff to develop a vehicle replacement fund. Implementation of a vehicle replacement fund in the future will be very cost effective. Staff is also developing a financial model to ensure appropriate and regular vehicle replacement, however funding such a plan in our current fiscal condition will be challenging. Providing for the replacement of vehicles in the fleet in accordance with a standard replacement schedule will lead to the removal of older vehicles from the road, replacing them with more fuel efficient and lower emission models. This will be the single most important element in meeting or exceeding the 2050 emission reduction goals of the Climate Action Plan.

Expansion of the use of GPS to the entire fleet of City vehicles will contribute to an overall reduction in fuel consumption. Networkfleet, the GPS provider, claims up to a 20 percent reduction in fuel cost with GPS on board. Currently, City fleet staff is monitoring fuel consumption on the vehicles that have GPS installed and once it is determined the claims for reduced fuel consumption are accurate, installation of additional GPS units in City vehicles may be initiated. Fleet should have sufficient data by January 1, 2010.

Establishment of a maximum mileage radius or eliminating employee take-home vehicles will also reduce fuel consumption. These changes, associated with reducing vehicle miles traveled in and out of the City limits, would thereby decrease unnecessary emissions. Currently, the City Manager's Office and Maintenance Services Department are reviewing the establishment of a mileage radius for these take-home vehicles.

Changing to E-85 fuel in the 23 vehicles in the fleet that are capable of using it is being considered. However, the cost of E-85 is approximately 10 cents per gallon more than regular unleaded gasoline. There also is a slight loss to engine performance when using E-85 fuel, which contributes to decreased fuel efficiency and fewer miles per gallon. Another consideration is that there is currently only one station in Hayward that sells E-85 fuel and they are not a part of the City's contracted fuel network. A major benefit of E-85 gasoline is the reduced dependence on fossil fuel through the use of more ethanol which can be produced from the fermentation of corn. Accordingly, more evaluation is recommended before deciding to switch to E-85 fuel.

The use of the City Car Share program was evaluated to explore the possibility of replacing some City owned vehicles, such as those used as Pool Cars. The City Car Share program offers fuel efficient and hybrid vehicles for rent on an hourly basis through an on-line reservation system.

These cars are prepositioned at convenient busy spots throughout the City. Unfortunately, car share companies require a monthly commitment of \$1,200 for the positioning of the cars. At this time, City pool car use is very low as employees tend to use their personal vehicles and submit mileage reimbursement requests, instead of utilizing a pool car. Because of this low use, in addition to deterioration, we have been able to eliminate three pool cars in the fleet.

Funding Sources and Cost Savings Associated with Future Practices and Programs

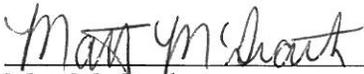
Funding is provided by the Fleet Management Internal Service Fund. Efforts to secure grant and stimulus funds have proven unsuccessful thus far and such funds only cover the additional alternative fuel premium portion of the vehicle, such as hybrid or compressed natural gas (CNG) technology, but not the basic vehicle cost itself. The current budget does not allow for the purchase of any new vehicles in FY 09/10 except for public safety vehicles; accordingly, the City has not requested grant or stimulus funds during this period.

Prepared by:



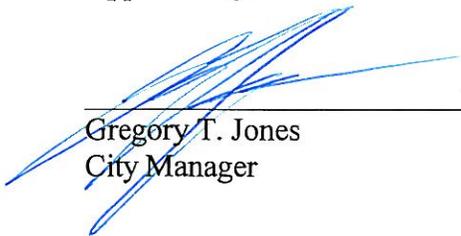
Scott C. Estes
Fleet Manager

Recommended by:



Matt McGrath
Director of Maintenance Services Department

Approved by:



Gregory T. Jones
City Manager

**Sustainability Committee
Monthly Meeting Topics
2009**

Presenting Department	Date	Topics
DS	January 7, 2009	Solar and Energy Efficiency Financing, and Mandatory Solar for New Development
DS	February 4, 2009	Obama Green Cities and Infrastructure Plan
DS	March 4, 2009	SB 375 - Transportation Planning
	March 20, 2009	OptiSolar Presentation and Tour (Cancelled)
DS	April 1, 2009	Community Choice Aggregation – Part 1
MS	May 6, 2009	Community Choice Aggregation – Part 2
DS	June 3, 2009	Update on Federal Energy Efficiency and Conservation Block Grant Fund Projects for Hayward
DS		Update on the California Bottle Bill (Senate Bill 55)
DS/PW	July 1, 2009	Update on City-Wide Energy Efficiency & Emission Reduction Efforts <ul style="list-style-type: none"> a) Public Works Energy Efficiency Measures b) Environmentally Preferred Purchasing c) Energy Efficiency & Sustainability of Municipal Buildings d) Municipal Fleet Upgrades
	August 2009	No Meeting
DS/PW	September 2, 2009	Update on State Codes and Update on Countywide Energy Efficiency Financing Program Development
DS	October - December, 2009	Presentation of Energy Efficiency and Conservation Strategy (required as part of EECBG application)
DS/PW		Summary of Education and Outreach Efforts (Permit Center-Green Display, Website, Water Efficiency, etc.)
PW		Water Recycling Presentation
DS		Citywide Parking Policy and Revised Standards
DS		Green Collar Jobs and Investment
DS		Annual Review of Green Building Ordinances and Implementation