



CITY OF
HAYWARD
HEART OF THE BAY

**COUNCIL SUSTAINABILITY
COMMITTEE**

JANUARY 12, 2015

Table of Contents

Agenda	2
Meeting Minutes	
Minutes	4
Briefing on 2014 California Youth Energy Services Program	
Staff Report	10
Pollution Prevention and Stormwater Management	
Staff Report	14
Attachment I	19
Attachment II	22
Energy Report Update – 2013 Energy Use and Efficiency	
Staff Report	23
Attachment I: PG&E Energy Summary	30
Overview of Car Sharing Programs	
Staff Report	32
Update on Green Hayward PAYS® (Pay-As-You-Save)	
Staff Report	37
Sustainability Committee Agenda Topics for 2015	
Staff Report	39



CITY COUNCIL SUSTAINABILITY COMMITTEE MEETING

~~Thursday, December 11, 2014~~ **Monday, January 12, 2015**

Conference Room 2A

4:30 -6:30 PM

CALL TO ORDER

ROLL CALL

PUBLIC COMMENTS: *(The Public Comment section provides an opportunity to address the Council Sustainability Committee on items not listed on the agenda as well as items on the agenda. The Committee welcomes your comments and requests that speakers present their remarks in a respectful manner, within established time limits, and focus on issues which directly affect the City or are within the jurisdiction of the City. As the Committee is prohibited by State law from discussing items not listed on the agenda, any comments on items not on the agenda will be taken under consideration without Committee discussion and may be referred to staff.)*

1. Approval of Minutes of September 11, 2014
[Minutes](#)
2. Briefing on 2014 California Youth Energy Services Program
[Staff Report](#)
3. Pollution Prevention and Stormwater Management
[Staff Report](#)
[Attachment I Municipal Regional Stormwater Permit \(MRP\) Provisions and Requirements](#)
[Attachment II City Stormwater Management Organization Chart](#)
4. Energy Report Update – 2013 Energy Use and Efficiency
[Staff Report](#)
[Attachment I PG&E Energy Summary](#)
5. Overview of Car Sharing Programs
[Staff Report](#)
6. Update on Green Hayward PAYS® (Pay-As-You-Save)
[Staff Report](#)
7. Sustainability Committee Agenda Topics for 2015
[Staff Report](#)

COMMITTEE MEMBER ANNOUNCEMENTS AND REFERRALS

ADJOURNMENT

NEXT MEETING – 4:30PM – 6:30PM; MARCH 05, 2015
TENTATIVE, SUBJECT TO COUNCIL SUSTAINABILITY COMMITTEE APPROVAL

Materials related to an item on the agenda submitted to the Council Sustainability Committee after distribution of the agenda packet are available for public inspection in the City Clerk's Office, City Hall, 777 B Street, 4th Floor, Hayward, during normal business hours. An online version of this agenda and staff reports are available on the City's website.

Assistance will be provided to those requiring accommodations for disabilities in compliance with the Americans Disabilities Act of 1990. Interested persons must request the accommodation at least 48 hours in advance of the meeting by contacting the Assistant City Manager at (510) 583-4300 or TDD (510) 247-3340.

CITY HALL, 777 B STREET, HAYWARD, CA 94541
[HTTP://WWW.HAYWARD-CA.GOV](http://www.hayward-ca.gov)

CITY COUNCIL SUSTAINABILITY COMMITTEE MEETING
Hayward City Hall – Conference Room 2A
777 B Street, Hayward, CA 94541-5007

September 11, 2014
4:30 p.m. – 6:30 p.m.

MEETING MINUTES

CALL TO ORDER: Meeting called to order at 4:30 p.m. by Chair Al Mendall, Council Member.

ROLL CALL:

Members:

- Al Mendall, City Council Member/CSC Chair
- Greg Jones, City Council Member
- Francisco Zermeño, City Council Member
- Laura Oliva, Keep Hayward Clean and Green Task Force/CSC Vice Chair

- Vishal Trivedi, Planning Commissioner - absent
- Dianne McDermott, Planning Commissioner - absent

Staff:

- Kelly McAdoo, Assistant City Manager
- Alex Ameri, Director of Utilities & Environmental Services
- Erik Pearson, Environmental Services Manager
- Corinne Ferreyra, Administrative Analyst II
- Mary Thomas, Administrative Analyst I
- Michelle Koo, Landscape Architect
- Carol Lee, Administrative Secretary (Recorder)

Others:

- Minane Jameson, Hayward Area Recreation & Park District (H.A.R.D.)

PUBLIC COMMENTS:

None

1. Review of Minutes of July 16, 2014 – Minutes approved.

2. Use of Artificial Turf

Erik Pearson, Environmental Services Manager, introduced the item. Mr. Pearson explained that in response to a request to the Planning Commission from Saint Rose Hospital to replace some of the lawn areas with artificial turf, the Planning Commission has referred this item to the Council Sustainability Committee for policy guidance. Mr. Pearson also introduced Michelle Koo, Landscape Architect, who had helped prepare the report and was available to respond to the Committee's questions.

Mr. Pearson presented three options for the Committee's consideration: 1) Continue to informally educate property owners and contractors regarding the pros and cons related to artificial turf; 2) Direct staff to prepare a fact sheet that discourages the use of artificial turf; 3) Direct staff to do additional research to evaluate whether a prohibition of artificial turf should be incorporated into the Municipal Code.

Council Member Zermeño expressed favor for option two, noting that he was not in favor of artificial turf in a hospital setting. He commented that artificial turf seemed reasonable for some uses such as football fields, and referenced Moreau High School and Chabot College as examples. He further used Chabot College as an example of a location that embraced drought tolerant native landscaping, suggesting that St. Rose Hospital could likewise replace their lawn with similar landscaping as a healthier alternative to artificial turf. Furthermore, Council Member Zermeño requested clarification on option three, asking if it would prohibit the use of artificial turf, and stated that he would not be in favor of prohibiting it. Instead, Council Member Zermeño encouraged the City to educate residents on drought tolerant landscaping as alternative to lawn.

Council Member Jones inquired if the discussion was limited to St. Rose Hospital's use of artificial turf. Alex Ameri, Director of Utilities & Environmental Services, responded that staff was looking for policy direction from the Committee regarding the overall use of artificial turf. Council Member Jones expressed support for option two and also thought education is the best option for residents and local landscapers. He noted that local hardware stores were heavily promoting the use of artificial turf, displaying a variety of options for consumers' consideration. Mr. Jones stressed the importance of informing consumers about the adverse effects of artificial turf, but concluded that he was not in favor of prohibiting the use of artificial turf, despite his personal distaste.

Laura Oliva, Keep Hayward Clean and Green Task Force, stated that she was strongly against any use of artificial turf. She explained that she would however support an exemption for school use. She mentioned that several homes in her neighborhood have replaced their lawns with artificial turf and the resulting front yards were unsightly. Ms. Oliva expressed her support for options two and three. In response to Saint Rose Hospital, she suggested they find more creative alternative, stating that artificial turf has no healing benefit for patients. Ms. Oliva also shared two references by Claire Cooper Marcus that offered alternatives to lawn replacement: 1) *Healing Gardens: Therapeutic Benefits and Design Recommendations*, and 2) *Therapeutic Landscapes: An Evidence-Based Approach to Designing Healing Gardens and Restorative Outdoor Spaces*.

Council Member Mendall requested clarification regarding the City's ordinance requirement of "live plants", which seemingly prohibits St. Rose from installing an artificial lawn. Michelle Koo responded that according to the zoning ordinance, areas described as a landscape area shall be fully landscaped and irrigated with "live plants" and the sole use of mulch, decorative rocks or other materials are prohibited. She clarified that St. Rose Hospital and other commercial properties' landscape areas require "live plants", reiterating that artificial turf does not qualify. Director Ameri indicated that staff will conduct further research.

[Upon further review, staff confirmed that in the Commercial and Industrial zoning districts, “Required front, side, side street, and rear yard areas shall be landscaped except for permitted driveways, and walkways. All other areas not utilized for structures or paving shall be landscaped *unless otherwise authorized by the Planning Director or other approving authority* because of site constraints, existing or adjacent site conditions, or phased development.” (emphasis added) and that “required landscaped areas shall be planted with water-conserving trees, shrubs, turf grass, ground cover, or a combination thereof”. The letter from St. Rose Hospital was an attempt to obtain an exception from the zoning ordinance requirements.]

Council Member Mendall cautioned that, although he was not in favor of artificial turf, singling it out for banning would be wrong. He questioned if artificial turf was different than front yards that only consisted of dirt or weeds, and indicated perhaps defining what was not allowed would be more logical and consistent, though he recommends against that. Michelle Koo reiterated that the “live plant” requirement is for the commercial and industrial zoning districts. She explained that the single family residential district landscaping requires fifty feet of frontage and no more than 50% of the front yard can consist of paving, excluding the driveway and walkways. She added that there was no specification on how the remaining 50% of frontage is landscaped. Council Member Mendall stated that the use of artificial turf should not be encouraged or subsidized, nor should it be prohibited. Director Ameri suggested developing standards for the usage of artificial turf, Ms. Oliva concurred. Council Member Mendall responded that there is insufficient funding to regulate and enforce such limitations at this time. Council Member Mendall expressed his support for options one and two and recommends reevaluating in one years’ time.

Director Ameri responded that staff has noted the Committee’s comments and that all agree that artificial turf is not appropriate in a hospital setting; rather native or drought tolerant vegetation may be the best alternative for Saint Rose Hospital.

3. Overview of Bicycle Sharing Programs

Erik Pearson presented an informational report regarding bike sharing programs. Mr. Pearson indicated that Hayward’s General Plan, adopted in July, includes policies and implementation programs related to bicycle sharing. Mr. Pearson provided an overview of a bike share program and discussed the parameters necessary for a successful bike share program. He noted that, according to Census data, Hayward has a relatively low number of bicycle commuters and that analysis by the Metropolitan Transportation Commission shows that Hayward would likely have low participation levels in a bike sharing program.

Mr. Pearson reported that since the report had been published, he researched another bike share company, Zagster.com, which offered a lower cost alternative to current local bike share programs.

Council Member Zermeño urged staff to conduct further research on how to implement a bike share program in Hayward, noting that Hayward is the fifth largest city in the Bay Area. He

suggested seeking interest from the private sector. He recommended that stations would be best near BART, Southland, and Chabot College. Council Member Zermeño expressed support for implementing a bike share program in Hayward and asked staff to look for grants that can help fund such a program before 2020 as suggested in the General Plan. Ms. Oliva concurred and expressed that she would support and personally participate in a bike share program in Hayward.

Council Member Jones expressed support for exploring bike share programs further. He did however question how “bike-friendly” Hayward is currently, and expressed that currently biking Downtown is difficult and can be unsafe. Mr. Jones requested a study to determine docking station locations to maximize usage, suggesting Chabot College, Southland and Downtown as possible locations.

Mr. Pearson affirmed Mr. Jones’ comment and provided two options in response. He suggested encouraging riders to use their own helmets and also noted that a few programs offer helmet vending machines.

Council Member Mendall stated that bike sharing may be a good idea in the future, but emphasized that recent improvements have made Downtown Hayward unfriendly to bicycling. He added that if it were to be done now, Chabot College, Southland Mall and multiple locations along Hesperian Blvd. were plausible docking station locations; however at this time, he is not in favor of it. He further added that he thought 2020 might be a good estimation of when Hayward would be ready for a bike share program. Mr. Jones felt that there was no harm in looking for grants or canvassing the private sector for interest to expedite the implementation of a bike share program prior to 2020.

Council Member Zermeño said he believed that this program was feasible and would like to see it implemented soon. He closed by thanking staff for addressing the issue.

4. Update on Figtree Property Assessed Clean Energy (Figtree PACE)

Mary Thomas, Administrative Analyst I, provided an update on Property Assessed Clean Energy (PACE).

Council Member Mendall stated that it is good when homeowners have options; however he noted that David Stark of the Bay East Association of Realtors contacted him and stated that he is extremely concerned about accelerated foreclosure which is currently part of Figtree PACE, therefore recommends option three, to which Council Member Mendall concurs. Council Member Mendall commended staff for appropriately scrutinizing the 107-page Figtree Program Report, and identifying the risk of accelerated foreclosure. He further expressed that he is also extremely concerned with accelerated foreclosure and suggested that staff ask Figtree to amend their policy in order to make them more competitive with other programs.

Council Member Zermeño was in favor of option three stating that it would protect residents. He expressed desire for more information, and his distaste for accelerated foreclosure.

Council Member Jones and Ms. Oliva both also thought option 3 was most favorable.

5. Update on Water Supply and State-Adopted Emergency Water Conservation Regulations

Corinne Ferreyra, Administrative Analyst II, presented an update on the current water supply and addressed the City's response to the Governor's call for reduction in water use. She further discussed the City's response to reports of water waste and introduced the City's new Drought Watch website.

Council Member Zermeño commended staff for the report and requested that staff email to the Committee the drought message images found in the PowerPoint presentation, to which staff affirmed. In addition, Council Member Zermeño inquired about collecting rain water, requesting further education on the matter.

Council Mendall requested that Access Hayward be used for reporting water wasting activity and questioned the addition of the drought watch website, stating his desire to keep service requests and complaints centralized. Mr. Ameri indicated that staff created a feature on the Drought Watch website to respond specifically to water waste reports more efficiently and to allow reporters to remain anonymous. Mr. Mendall requested that water waste reporting also be encouraged through Access Hayward.

6. Update on Community Choice Aggregation (CCA)

Ms. Oliva recused herself from discussions of this item as she is a PG&E employee.

Mary Thomas, Administrative Analyst I, presented an update on Community Choice Aggregation (CCA).

Council Member Mendall commented that it was important that the governing body only consist of jurisdictions that join the CCA and that each jurisdiction's vote should be weighted appropriately based on population or energy usage.

7. Possible Reorganization of the Council Sustainability Committee

As a referral from Mayor Halliday, Alex Ameri, Director of Utilities & Environmental Services, introduced the possible reorganization of the Council Sustainability Committee.

Council Member Mendall commented that he asked the Mayor to bring this to staff's attention to be agendaized for discussion due to the current Committee vacancy as a result of the recent appointment of Elisa Marquez to the City Council. He noted that there might be challenges to find three Planning Commissioners who were interested to serve as members of the Committee. He suggested opening the spring interview process to the general public, in order to find someone eager to serve on the Committee. Council Member Mendall suggested that there be the same number of members but perhaps fewer Planning Commissioners. He suggested that more flexibility in the Council Sustainability Committee structure may result in more candidates that have a high degree of interest in sustainability.

Council Member Zermeño commented that the Committee should consist of at least one Planning Commissioner and suggested that a member of H.A.R.D. might be a good addition. Council Member Jones concurred, and noted that outside perspective may be valuable. Mr. Jones stated that Council Members could assist with policy issues. They both agreed that it was important to have members that wanted to be a part of the Committee.

Ms. Oliva requested that the Keep Hayward Green Task Force be a part of the interview process. She expressed a desire to have a member of the Task Force be a member of the interview panel or at least help prepare interview questions.

8. Review of Meeting Topics

Council Member Zermeño requested an update on the bike sharing programs in December, to which Council Member Mendall did not agree, stating it was too soon for an update. Council Member Zermeño also expressed a desire for an update on lawn replacement and Staff's plans to outreach and educate on the matter.

Council Member Jones requested that staff address the issue of greywater and rain water use, noting that if December did not allow for enough time to do sufficient research, early 2015 is acceptable. Council Member Zermeño added that some residents are not familiar with the idea of gray-water, expressing his desire for more information. Director Ameri responded in affirmation.

Council Member Mendall asked staff to continue addressing the issue of water in 2015. He commented that the topic of water will only become more prevalent and requested staff to look into the conservation and recycling opportunities available to residents.

COMMITTEE MEMBER/STAFF ANNOUNCEMENTS AND REFERRALS: None.

ADJOURNMENT: 6:32 p.m.

Attendance	Present 9.11.14 Meeting	Present to Date This Fiscal Year	<u>MEETINGS</u>	
			Excused to Date This Fiscal Year	Absent to Date This Fiscal Year
Greg Jones	✓	1	0	0
Dianne McDermott	O	0	0	2
Al Mendall*	✓	2	0	0
Laura Oliva**	✓	2	0	0
Vishal Trivedi	O	1	0	1
Francisco Zermeño	✓	1	1	0

✓ = Present O = absent X = excused

* Chair

** Vice Chair

DATE: ~~December 11, 2014~~ January 12, 2015
TO: City Council Sustainability Committee
FROM: Director of Utilities & Environmental Services
SUBJECT: Briefing on 2014 California Youth Energy Services Program

RECOMMENDATION

That the Committee reviews and comments on this report.

BACKGROUND

Rising Sun Energy Center (Rising Sun) is a Bay Area nonprofit workforce development organization established in 1994. Since 2000, Rising Sun has operated a young adult employment program called CYES. The CYES program, which is offered through the East Bay Energy Watch Local Government Partnership with PG&E, trains and employs young adults to provide energy and water conservation assessments and installations to local residents at no cost to the customer. This service, called a Green House Call, is offered to both homeowners and renters, and checks homes for efficiency, installs equipment, and provides personalized recommendations for further savings. The City of Hayward has hosted CYES in 2010, 2011, 2013, and most recently in the summer of 2014.

Rising Sun, which is based in the Berkeley, operates the CYES program by setting up satellite offices in partner cities. The program commences with Rising Sun, along with the partner city, conducting a community marketing and outreach campaign in the spring to generate a waitlist of residents that can be served by the summer program. Rising Sun also conducts a youth and manager recruitment campaign in the spring to hire local Youth Energy Specialists from the partner cities. Once staffed, Rising Sun works with the partner City to setup the site office in late May and early June. CYES program implementation begins with training, including a week-long youth training. Youth Energy Specialists then conduct Green House Calls for six weeks following training. These Green House Calls provide renters and homeowners with free energy and water conservation assessments, equipment installation, and education. The CYES program serves single-family, 2-4 plexes, and multi-unit dwellings.

A CYES Green House Call consists of:

- A walkthrough energy assessment of the home with the client, looking for energy- and water-saving opportunities
- Direct installation of free energy and water saving measures; for example:
 - Efficient-flow faucet bath and kitchen aerators
 - Efficient-flow showerheads
 - Screw-in compact fluorescent lamps (CFLs)
 - Retractable clotheslines in qualifying homes, or a power strip
 - Fluorescent floor lamps, in exchange for halogen floor lamps
- Checking for adequate attic insulation, pipe insulation, and a hot water heater blanket
- Testing gallon per minute (GPM) flow rates on all feasible shower, kitchen, and bathroom water fixtures
- Assessment of toilets for leaks and flush volume
- Assessment of refrigerator and water heater temperature settings
- Collection of irrigation information
- Energy and water conservation education, including personalized recommendations and information about the City’s High Efficiency Toilet Rebate program.
- Customized report to the client documenting work completed and ways to further capture energy savings after the CYES appointment

DISCUSSION

The 2014 CYES program in Hayward provided employment and training to nine young adults, all Hayward residents, varying in age from fifteen to twenty-two years old. This team served 420 Hayward households, which is the highest number served in the four years the program has operated in the City. CYES targets “hard-to-reach” populations, and in 2014, of the 420 households served by the program, 79% were renters, 81% were low-moderate income households, and 60% of the households spoke a language other than English at home.

Further information about client demographics is listed below:

Hayward - Client Demographics			
Languages Spoken at Home		Ethnicity	
Other than English		Hispanic/Latino	54%
Spanish	78%	African American	20%
Tagalog	1%	Asian/ Pacific Islander	13%
Mandarin	1%	Caucasian	1%
Other	13%	Other	1%
Home Information		Additional Information	
Average Square Footage	1,297	Persons with Disabilities	18%
Average Household Size	4	Senior Citizens	15%

Note: Data is based on survey respondent’s pool. Not all CYES clients respond to the survey, so results do not equal 100%.

Youth Energy Specialists installed the following equipment in Hayward homes in 2014:

- 2,245 CFL light bulbs
- 292 LED light bulbs
- 61 LED night lights
- 24 CFL torchiere lamps
- 288 efficient-flow showerheads and aerators (provided by the City at no cost)
- 282 power strips
- 38 retractable clotheslines
- 74 feet of water heater pipe insulation

The installation of these measures will result in a calculated¹ annual reduction of 63,803 kWh, 1,271 therms, thereby reducing 44.5 metric tons of carbon dioxide from entering the atmosphere. When water is being utilized, the installed water conservation measures will result in a calculated annual reduction of 401 gallons of water per minute. These savings are equivalent to carbon dioxide emissions from 5,649 gallons of gasoline consumed, or 117 barrels of oil consumed.

CYES also piloted an electronic waste removal feature in this year's program. In Hayward, 894 pounds of electronic waste was removed and disposed of. CYES worked in partnership with Green Citizen, a Berkley-based company that recycles electronic items under stringent environmental and health regulations. This process ensures that all heavy metals and toxins in the electronic items are reclaimed, reused, or properly disposed rather than being sent overseas or to landfills.

After each Green House Call, a pre-stamped client comment card is left with the client to solicit feedback about the program. The average customer feedback rating of clients who responded was 95%.

ECONOMIC IMPACT

CYES provides services to all community members, regardless of income, but the program is designed to serve "hard-to-reach" residents, including renters, low-moderate income households, and non-English speaking households. Youth Energy Specialists are also hired locally, providing employment opportunities to young adults in the community. This employment experience not only provides paid work, but can also help young adults discover and build a meaningful career path.

While the energy and water savings tend to be the focus of the program highlights and accomplishments, the workforce development aspect is also an integral component of the program's success and the value it provides to the local community. Beyond the savings that residents achieve through equipment installation, Youth Energy Specialists also provide clients with a customized report with recommendations for further energy and water savings, which include behavioral changes that can also lower their monthly utility costs.

¹ Calculated using the U.S. Environmental Protection Agency's Greenhouse Gas Equivalencies Calculator

FISCAL IMPACT

CYES is part of the program offerings of the East Bay Energy Watch, which is a local government partnership with PG&E and cities in Alameda and Contra Costa County. PG&E provides partial funding for the CYES program, and Rising Sun also utilizes other grant funding to cover some of the program costs as well. Rising Sun has reported that the average total cost of running of a CYES satellite office is approximately \$120,000 per site. This cost includes youth salaries, manager salaries, site set-up and breakdown, outreach and marketing, equipment and materials, transportation, planning, coordination, and all overhead costs. The cost to the partner cities is \$20,000.

There is also an in-kind contribution request of office space (which has been provided by the Hayward Unified School District for the past two years), water conservation devices (i.e. aerators, showerheads), and staff assistance with marketing and outreach. All City costs related to the CYES were borne by the Water Enterprise Fund and had no impact on the General Fund.

NEXT STEPS

The Utilities and Environmental Services staff has prepared a proposal to host CYES again in 2015 and will begin working with Rising Sun on a contract in the beginning of the calendar year. The cost and in-kind contributions will be the same as in 2014. Upon completion of the program, staff will report back to the Committee with the results and accomplishments of the program.

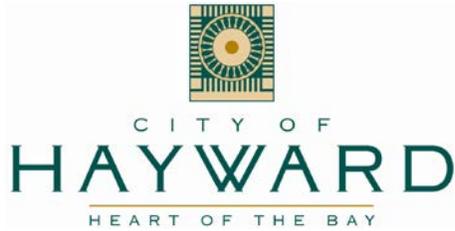
Prepared by: Corinne Ferreyra, Administrative Analyst II

Recommended by: Alex Ameri, Director of Utilities & Environmental Services

Approved by:



Fran David, City Manager



DATE: ~~December 11, 2014~~ January 12, 2015

TO: City Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT: Pollution Prevention and Stormwater Management

RECOMMENDATION

That the Committee reviews and comments on this report.

SUMMARY

This report provides a brief overview of stormwater regulation, including the federal Clean Water Act (CWA), the current regional stormwater permit, and the City’s stormwater compliance activities and management. This report also addresses the status of the reissuance of the Municipal Regional Permit (MRP).

DISCUSSION

Overview of Stormwater Regulation – The federal CWA, the governing law regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters, was enacted in 1972 and addressed direct pipe and other such man-made water conveying structures or ‘point-source’ discharges to the waters of the United States. The basis for the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act. This led to requirements and federal funding to establish modern wastewater treatment plants, some of which, such as the City of Hayward’s, are called Water Pollution Control Facilities. The Act was significantly reorganized and expanded in 1972. The CWA implemented pollution control programs such as setting wastewater standards for industry, including the requirement of a National Pollutant Discharge Elimination System (NPDES) permit for any point source discharge to the waters of the United States for municipal, industrial and other similar entities that discharged directly to surface waters.

The CWA was amended in 1987 to address stormwater runoff or ‘non-point source’ pollution discharged to the nation’s waters to further improve water quality. In 1990, the Environmental Protection Agency (EPA), the CWA governing body, established rules for stormwater pollution prevention for the NPDES stormwater program. The program for Municipal Separate Storm Sewer System (MS4) requires operators that serve populations of 100,000 or greater to obtain a NPDES

permit to discharge waters from their MS4 to the waters of the United States and implement a stormwater management program as a means to control polluted discharges from these MS4s.

The California State Water Board and the nine Regional Water Quality Control Boards are authorized to implement the federal CWA in the State of California. The City of Hayward lies within Region 2, San Francisco Bay. In the State of California, the Regional Water Quality Control Boards (Water Board) have issued county-wide municipal stormwater permits since the early 1990s to operators of MS4s serving populations over 100,000. This practice changed for Region 2, the San Francisco Bay area, on October 14, 2009, when the Water Board re-issued these county-wide municipal stormwater permits as one Municipal Regional Stormwater Permit (MRP) to regulate stormwater discharges from municipalities and local agencies in Alameda, Contra Costa, San Mateo, and Santa Clara counties, and the cities of Fairfield, Suisun City, and Vallejo. Municipalities and local agencies included in the MRP are referred to as 'Permittees'.

The MRP consists of twenty-one (21) provisions, including fourteen (14) provisions prescribing best management practices (BMPs) that each municipality must implement to comply with stormwater pollution prevention requirements. The fourteen (14) prescriptive provisions are listed below and are described in more detail in Attachment I:

- C.2. Municipal Operations
- C.3. New Development and Redevelopment
- C.4. Industrial and Commercial Site Controls
- C.5. Illicit Discharge Detection and Elimination
- C.6. Construction Site Control
- C.7. Public Information and Outreach
- C.8. Water Quality Monitoring
- C.9. Pesticides Toxicity Control
- C.10. Trash Load Reduction
- C.11. Mercury Controls
- C.12. Polychlorinated Biphenyls (PCBs) Controls
- C.13. Copper Controls
- C.14. Polybrominated Diphenyl Ethers (PBDE), Legacy Pesticides and Selenium
- C.15. Exempted and Conditionally Exempted Discharges

The MRP also requires annual reporting on all stormwater management and control measures and all Permittees are subject to audits at any time by the Water Board during which all current implementation programs and efforts can be assessed to determine a Permittee's compliance status.

Current MRP Implementation by the City – As indicated in Attachment I, the City achieves compliance with the MRP by managing and implementing stormwater activities and programs through the use of City staff and resources in several Departments, as well as by utilizing the resources of both countywide and region-wide agencies. The City is a member of the Alameda Countywide Clean Water Program (ACCWP), a consortium of all the municipal agencies in Alameda County. Each of the seventeen member agencies pool resources with dues and in-kind services to achieve compliance with the MRP provisions where appropriate. Similarly, the ACCWP is a member of the Bay Area Stormwater Management Agencies Association (BASMAA), the consortium of all the San Francisco Bay Area counties regulated by the MRP. All BASMAA members participate on

an economy-of-scale effort and contribute dues and in-kind services to achieve compliance with the MRP provisions where appropriate. The organization of stormwater management and implementation duties for each of the fourteen (14) prescriptive provisions (provision C.2-C.15) is included in Attachment I.

The City of Hayward's local stormwater program is managed by the Water Pollution Source Control (WPSC) group, which is in the Utilities and Environmental Services Department. The WPSC group oversees all compliance activities with the MRP and directly implements the following provisions:

- C.4 – *Industrial and Commercial Site Controls*;
- C.5 – *Illicit Discharge Detection and Elimination*;
- C.7 – *Public Information and Outreach*;
- C.11 – *Mercury Controls*;
- C.12 – *PCBs Control*;
- C.13 – *Copper Controls*;
- C.10 – *Trash Load Reduction*; and
- C.15 – *Exempted and Conditionally Exempted Discharges* (with other City departments).

The City's WPSC staff consists of a Water Pollution Control Administrator, a Senior Water Pollution Control Inspector, three Water Pollution Control Inspectors, a Secretary, a part-time Civil Engineer and support from an Administrative Analyst. Please refer to Attachment II for an organization chart of the City's stormwater program.

Re-Issuance of the MRP – The current MRP had an original expiration of December 1, 2014, but has been administratively extended to July 1, 2015. Water Board staff and BASMAA have conducted meetings since August 2013 to discuss the next permit (commonly called MRP 2.0) and the implications of any proposed changes. Discussions to date indicate that the Water Board's priorities will be heavily focused on trash reduction and pollutants of concern in regards to both monitoring and pilot projects for abatement/mitigation. The BMPs currently supported by the Water Board to address these priorities are green streets (infrastructure changes to retain/treat the stormwater runoff) and trash capture devices to control trash from impacting the storm drain system. These BMPs are costly to implement and are required to be maintained by the City in perpetuity once installed. The Water Board has indicated that they anticipate that the MRP 2.0 will be adopted by July 1, 2015.

Inspections and Enforcement – WPSC staff conducts over 200 business inspections annually including follow-up inspections and enforcement activities. Staff also manages a robust database to record inspection data in compliance with provision C.4. WPSC staff conducts illicit discharge inspections both proactively and reactively in response to complaints from the public on a daily basis and conducts enforcement actions as appropriate. The City of Hayward has been in substantial compliance with the Water Board as was documented in an audit conducted on May 22, 2014. This most recent audit and other previous audits have not identified any compliance deficiencies in the WPSC program.

Recent stormwater violations enforced by WPSC have included restaurants discharging wash water to the storm drain system and a plastic recycling company that was improperly storing materials outdoors, which resulted in discharges of plastic material and grit into the local storm drain. Staff's

presentation at the meeting will include more information on these and other recent enforcement activities.

Trash Reduction – The current and pending revised MRP provision C.10 requires reducing trash pollution by 100% by the year 2022. WPSC staff is researching cost effective methods to meet this requirement. Recently, WPSC submitted a proposal to the Environmental Protection Agency’s Water Quality Improvement Grant program with a project to install two large trash capture devices and conduct community outreach with the local schools to promote trash reduction stewardship throughout the City. The City’s proposal was one of the eight projects accepted in the final round of proposal reviews. In 2014, four projects were selected to receive grant funds. Unfortunately, the City’s project did not receive funds in 2014; however, pending the availability of grant monies, the City’s project may be awarded grant funds in spring of 2015.

The City currently reduces trash using one large underground trash capture device located on Tennyson that filters 150 acres of stormwater runoff and 79 small trash capture devices located in storm drain inlets throughout the City that filter stormwater runoff along streets. The City also has an aggressive street sweeping program including parking restrictions to limit cars parked on the streets during street sweeping activities, maintenance crews removing trash found on the streets and in open spaces, and a trash can management program to improve the collection of trash from overflowing trash cans.

In addition, Alameda County’s single-use plastic bag ban ordinance has substantially reduced the environmental impacts of plastic bags based on the near 100% compliance with the applicable stores to eliminate plastic bag use. Stopwaste, the organization within the County administrating the County’s plastic bag ordinance, is considering expanding the ordinance to include a larger set of stores and possibly restaurants. The City’s polystyrene ban has also been very successful with little to no food serving establishments out of compliance. Both these product bans have been approved by the Water Board and the City is given trash reduction credits for their efforts to implement these bans.

ECONOMIC IMPACT

WPSC permitting and enforcement result in costs to some Hayward businesses; however, these activities also have far-reaching economic benefits as they enable the enjoyment of a cleaner environment by the Hayward community and beyond.

FISCAL IMPACT

The current MRP and WPSC activities have no impact on the City’s General Fund. The funding for MRP-related and WPSC stormwater activities is provided from the stormwater enterprise fund, which is funded primarily by a stormwater fee that is collected via property tax bills and a street cleaning fee received from the City’s solid waste franchise contractor. Likewise, WPSC sewer-related activities are funded from the sewer system enterprise. The fiscal impacts of the pending reissuance of the MRP are unknown at this time; however, expenditures have been and are expected to increase every year. The WPSC program is challenged with funding trash reduction activities to reach 100% trash reduction by the year 2022. To meet this and other MRP requirements, WPSC staff has pursued grant

funding opportunities both locally and regionally to offset some of these costs. Staff will continue to pursue funding opportunities to meet the MRP requirements.

NEXT STEPS

Staff will continue to implement the current MRP requirements as detailed in each permit provision, and will continue to proactively pursue funding opportunities to assist with implementing the MRP requirements. The City will also continue to participate in the ACCWP to support county-wide efforts to comply with stormwater regulation.

Prepared by: Elisa Wilfong, Water Pollution Control Administrator

Recommended by: Alex Ameri, Director Utilities & Environmental Services

Approved by:



Fran David, City Manager

Attachments:

- Attachment I Municipal Regional Stormwater Permit (MRP) Provisions and Requirements
- Attachment II City Stormwater Management Organization Chart

Attachment I - Municipal Regional Stormwater Permit (MRP) Provisions and Requirements

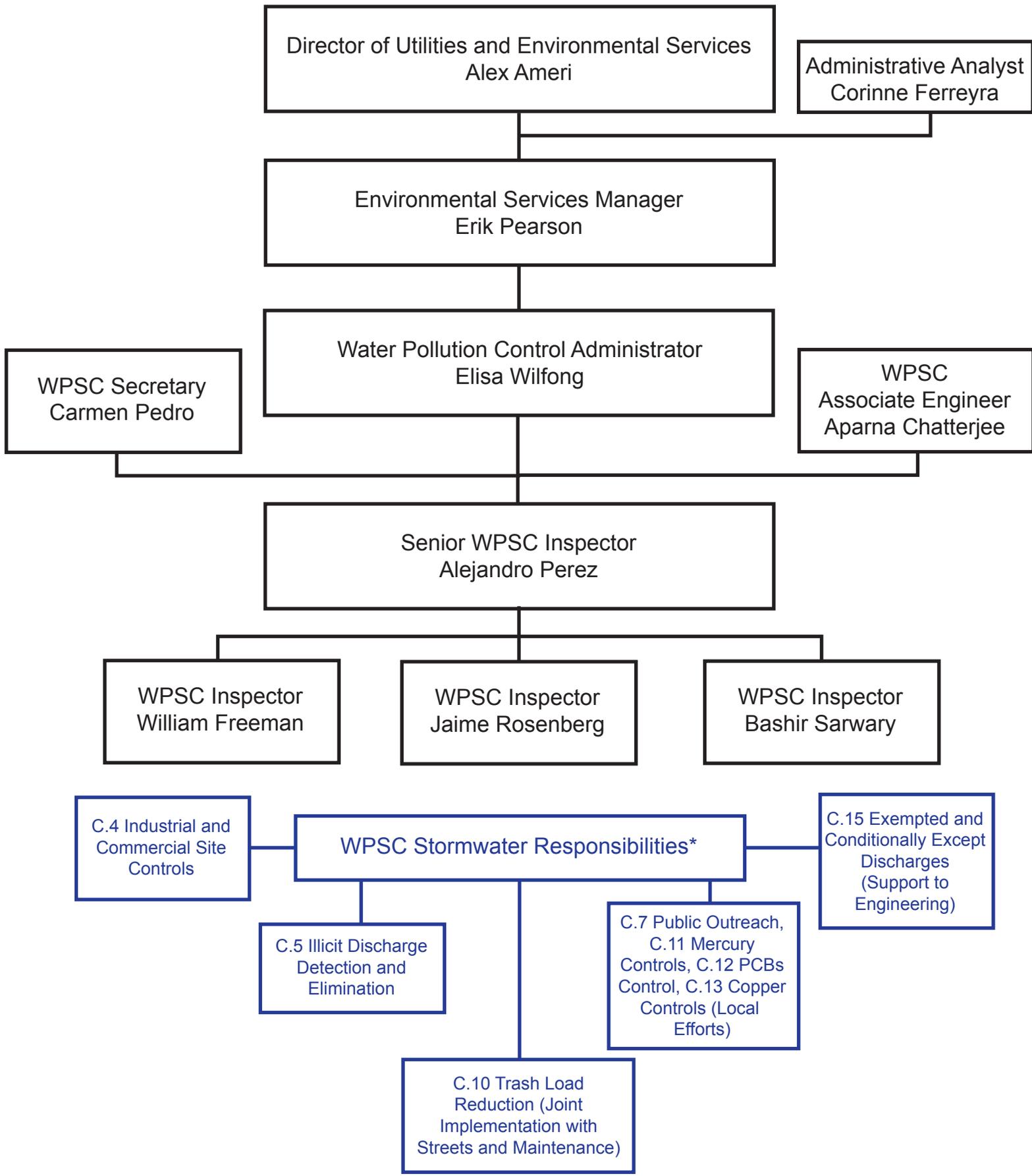
Provision	Summary of Requirements	Responsible Agency
C.2. Municipal Operations	<p>To control and reduce non-stormwater discharges and polluted stormwater to storm drains and watercourses during operation, inspection, and routine repair and maintenance activities of municipal facilities and infrastructure including:</p> <ul style="list-style-type: none"> • Street and road repair and maintenance • Surface washing • Structure maintenance and graffiti removal • Pump stations • Rural public works construction and maintenance • Corporation yards 	City of Hayward (Maintenance Services Department)
C.3. New Development and Redevelopment	<p>To include source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollution and prevent increases in runoff flows from new development and redevelopment projects. Primarily C.3 implements low impact development (LID) and includes green street projects and hydromodification.</p>	City of Hayward (Engineering Division and Water Pollution Source Control (WPSC) Division under the Utilities and Environmental Services Department)
C.4. Industrial and Commercial Site Controls	<p>To implement an industrial and commercial site control program with inspections and effective follow-up and enforcement to abate actual or potential pollution sources utilizing an Enforcement Response Plan (ERP). Permittees are required to develop and implement a business inspection plan, listing all facilities requiring inspection, prioritizing and developing a frequency to inspect the list of businesses, providing and training inspection staff, and maintaining adequate records to demonstrate compliance with appropriate enforcement actions.</p>	City of Hayward WPSC Division (Utilities and Environmental Services Department)

C.5. Illicit Discharge Detection and Elimination	To implement the illicit discharge prohibition and to ensure illicit discharges are detected and controlled through a developed illicit discharge program that includes active surveillance and complaint collection/follow-up. The provision also requires recordkeeping to show accountability.	City of Hayward WPCSC Division
C.6 Construction Site Control	To implement a construction site inspection and control program at all construction sites with follow-up and enforcement to prevent construction site discharges of pollutants to storm drains and receiving waters.	City of Hayward (Public Works – Engineering & Transportation Department)
C.7. Public Information and Outreach	To implement programs such as signage, advertising campaigns, and public events to outreach to the public and school children to increase their knowledge about stormwater pollution and solutions to mitigate the problems it causes as well as encourage implementation of those solutions.	Alameda Countywide Clean Water Program (ACCWP) with the City of Hayward (WPCSC) implementing local efforts
C.8. Water Quality Monitoring	To conduct water quality monitoring in creeks and in the San Francisco Bay for pollutants of concern.	ACCWP
C.9. Pesticides Toxicity Control	To implement a pesticide toxicity control program that addresses their own and others’ use of pesticides within the Permittee’s jurisdiction that pose a threat to water quality and have the potential to enter the MS4. Permittees are required to adopt an Integrated Pest Management Plan (IPM) policy or ordinance, implement that policy or ordinance, train municipal employees on the policy or ordinance, require contractors to implement the policy or ordinance and conduct public outreach for pesticide reduction.	City of Hayward (Maintenance Services-Landscape Maintenance) with Bay Area Stormwater Management Agencies Association (BASMAA) addressing California legislation efforts
C.10. Trash Load Reduction	Permittees must reduce trash loads to their MS4 by 40% by 2014, 70% by 2017, and 100% by 2022 by implementing a short-term trash reduction plan until July 2014 then implementing a long-term trash reduction plan through 2022. In addition, Permittees must install full trash capture devices, clean trash hot spots annually, and report on all trash reduction activities annually.	BASMAA, ACCWP, and the City of Hayward (WPCSC and Street Maintenance)

ATTACHMENT I

C.11. Mercury Controls	To implement control measures to reduce mercury loads from urban runoff and make substantial progress towards meeting mercury discharge standards. The control measures include mercury collection and recycling, mercury monitoring, pilot abatement and diversion projects.	ACCWP with the City of Hayward (WPSC) implementing local efforts
C.12. Polychlorinated Biphenyls (PCBs) Controls	To implement a control program for PCBs and make substantial progress toward meeting PCB discharge standards. The control measures include identifying PCB sources, PCB monitoring, pilot abatement and diversion projects.	ACCWP and City of Hayward (WPSC Division)
C.13. Copper Controls	To implement control measures including waste management and controlling discharges to remove copper from the MS4 including engaging in efforts to enact California law to regulate brake pads.	BASMAA and ACCWP with the City of Hayward (WPSC Division) implementing local efforts
C.14. Polybrominated Diphenyl Ethers (PBDE), Legacy Pesticides and Selenium	To implement control measures to reduce the loadings to the MS4 and gather concentration and loading information on these pollutants of concern for which discharge standards are being developed.	ACCWP
C.15. Exempted and Conditionally Exempted Discharges	To implement a program that includes prescriptive controls to allow some discharges to enter the MS4. These discharges include groundwater, potable water, planned discharges and emergency discharges.	City of Hayward (WPSC Division and Public Works – Engineering & Transportation Department)

Attachment II: City Stormwater Management Organization Chart



*WPSC oversees the City's overall stormwater MRP compliance as well as annual reporting and regulatory relations

DATE: ~~December 11, 2014~~ January 12, 2015
TO: City Council Sustainability Committee
FROM: Director of Utilities & Environmental Services
SUBJECT: Energy Report Update – 2013 Energy Use and Efficiency

RECOMMENDATION

That the Committee reviews and comments on this report.

SUMMARY

Hayward's first comprehensive community-wide greenhouse gas (GHG) emissions inventory was completed in 2006 for calendar year 2005. Another inventory was completed in 2012 for calendar year 2010. To measure progress of the Climate Action Plan, staff anticipates completing full GHG inventories approximately every five years. In the intervening years, staff provides easily accessible information such as energy use reported by PG&E. This report focuses on community-wide electricity and natural gas use for the City of Hayward in 2013. The next full report will be completed for calendar year 2015.

BACKGROUND

The City's Climate Action Plan (CAP) was adopted by Council in July 2009. Following is a list of key related actions the City has taken to address GHG emissions:

- On April 8, 2005, the City of Hayward became a participant in the U.S. Mayors Climate Protection Agreement and committed to reducing GHG emissions seven percent below 1990 levels by 2012.
- In 2006, the first GHG emission inventory was completed for both community-wide activities and municipal operations.
- In 2009, the City adopted a Climate Action Plan with GHG reduction targets for 2020 and 2050 and actions necessary to achieve those targets.
- In July 2014, Council adopted the City's new General Plan and re-affirmed the City's goals to reduce GHG emissions.

Hayward's General Plan includes policies¹ with goals to reduce GHG emissions by 20 percent below 2005 baseline levels by 2020, 61.7 percent by 2040 and 82.5 percent by 2050. The City's

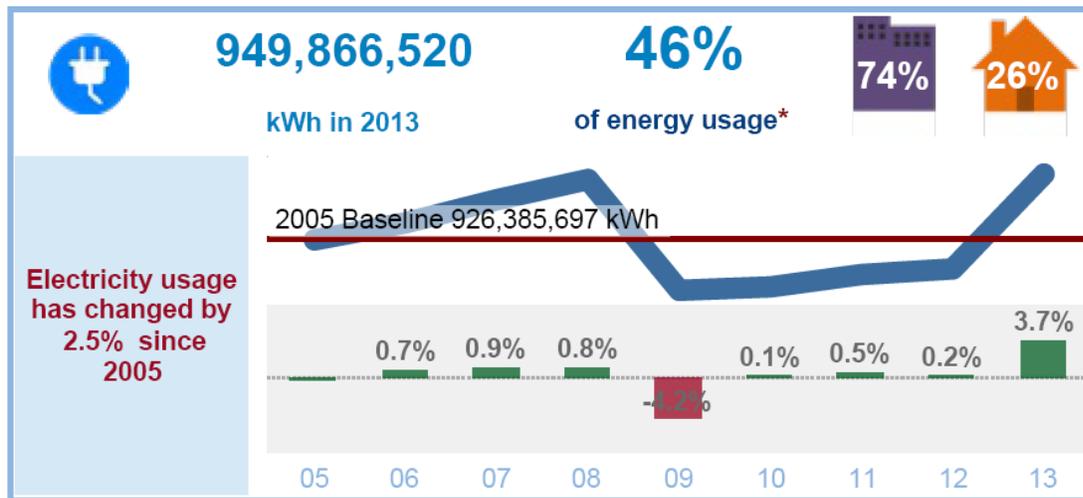
¹ NR-2.4 "Community Greenhouse Gas Reduction" and NR-2.5 "Municipal Greenhouse Gas Reduction"

goals are consistent with those expressed in the recent agreement between the United States and China, which are to reduce emissions by 26-28 percent below 2005 levels by 2025.

DISCUSSION

Overall energy use (electricity and natural gas) has increased by 3.9 percent between 2005 and 2013 (see Attachment I). Approximately sixty percent of Hayward’s energy use is by non-residential uses (businesses and industry). The remaining forty percent is used by residential buildings. In 2013, the Hayward community used 949,866,520 kilowatt hours (kWh) of electricity and 37,631,188 therms of natural gas.

Electricity Use – As shown below, electricity use has increased by 2.5 percent between 2005 and 2013 and it increased by 3.7 percent between 2012 and 2013. Non-residential uses account for approximately seventy-four percent of all electricity use while residential buildings and facilities use the remaining twenty-six percent.



The above graphic accounts for all electricity use in Hayward including electricity used by entities that purchase their electricity from sources other than PG&E. These customers are known as Direct Access customers. The following table provides more detailed information, but does not include Direct Access and larger customers that do not meet the 15/15 Rule².

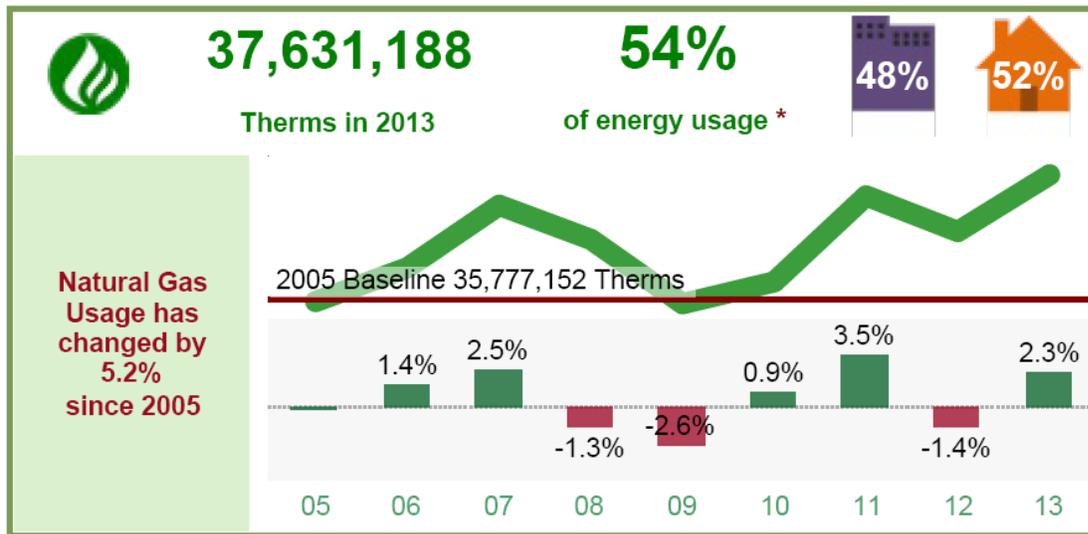
² The 15/15 Rule was adopted by the CPUC to protect customer confidentiality. The 15/15 rule requires that any aggregated information provided by the Utilities must be made up of at least 15 customers and a single customer’s load must be less than 15 percent of an assigned category. If the number of customers in the compiled data is below 15, or if a single customer’s load is more than 15 percent of the total data, categories must be combined before the information is released. The Rule further requires that if the 15/15 Rule is triggered for a second time after the data has been screened once already using the 15/15 Rule, the customer be dropped from the information provided. In addition to the 15/15 Rule, the CPUC further determined that no information about customers with demands above 500 kW should be included in the distributed information.

Table 1. Electricity Use: 2005 – 2013

YEAR	Residential		Non-residential		Total	
	KWH	% Change	KWH	% Change	KWH	% Change
2005	242,161,904		590,811,842		833,119,773	
2006	246,767,812	1.9%	594,383,533	0.6%	841,297,743	1.0%
2007	248,058,163	0.5%	602,442,915	1.4%	850,648,923	1.1%
2008	251,207,821	1.3%	610,740,772	1.4%	862,097,528	1.3%
2009	253,699,731	1.0%	574,789,861	-5.9%	828,640,470	-3.9%
2010	252,327,941	-0.5%	562,228,183	-2.2%	814,700,310	-1.7%
2011	252,955,481	0.2%	538,378,116	-4.2%	791,478,698	-2.9%
2012	251,513,196	-0.6%	517,296,386	-3.9%	768,956,508	-2.8%
2013	251,615,436	0.0%	527,079,155	1.9%	778,843,486	1.3%

As indicated above, the residential sector, increased electricity use by 3.9 percent between 2005 and 2013 and the non-residential sector decreased by 10.8 percent over the same time period. Total electricity use for all sectors, decreased by 6.5 percent between 2005 and 2013. Year to year changes may be due to conservation and efficiency programs, but changes in weather, population, and economic activity are also important considerations. As is evident in the above table, the bulk of the 6.5-percent decrease comes from non-residential electricity use in 2009 through 2012, which is most likely due to the Great Recession.

Natural Gas Use – Natural gas use increased by 5.2 percent between 2005 and 2013 and it increased by 2.3 percent between 2012 and 2013. Non-residential uses accounted for forty-eight percent of total use while residential uses consumed approximately fifty-two percent.



All natural gas used in Hayward is provided by PG&E. For that reason, the totals shown for 2005 and 2013 in the above graphic match those in the following table.

Table 2. Natural Gas Use: 2005 – 2013

YEAR	Residential		Non-Residential		Total	
	Therms	% Change	Therms	% Change	Therms	% Change
2005	19,489,985		16,287,167		35,777,152	
2006	19,581,767	0.5%	16,689,752	2.5%	36,271,519	1.4%
2007	19,825,980	1.2%	17,359,660	4.0%	37,185,640	2.5%
2008	19,548,952	-1.4%	17,137,277	-1.3%	36,686,229	-1.3%
2009	19,413,012	-0.7%	16,331,540	-4.7%	35,744,552	-2.6%
2010	19,400,629	-0.1%	16,664,879	2.0%	36,065,508	0.9%
2011	20,027,272	3.2%	17,295,629	3.8%	37,322,901	3.5%
2012	19,263,628	-3.8%	17,537,398	1.4%	36,801,026	-1.4%
2013	19,619,139	1.8%	18,012,049	2.7%	37,631,188	2.3%

As indicated above, the residential sector increased natural gas use by 0.7 percent between 2005 and 2013 and the non-residential sector increased by 10.6 percent over the same time period. Total natural gas use for all sectors, increased by 5.2 percent between 2005 and 2013. In the residential sector, natural gas is used primarily for home heating and water heating so fluctuations may be due to changes in weather and/or behavior. In the non-residential sector, changes in energy use are more likely due to changes in business activity. As indicated above and on the second page of Attachment I, non-residential natural gas use increased sharply between 2012 and 2013. PG&E staff has confirmed that this data does include gas use by the Russell City Energy Center (RCEC), which began operating in 2013.

Greenhouse Gas Emissions – Table 3 details GHG emissions for 2005 through 2013 and shows that natural gas emissions increased by 5.2 percent between 2005 and 2013, while total emissions decreased by 6.0 percent. Like Table 1, Table 3 does not include Direct Access and larger electricity customers. Based on Tables 1 and 3, electricity use decreased by 6.5 percent, while emissions from electricity decreased 17.5 percent from 2005 to 2013. The difference is due to the change in the emissions factor over the years. While emissions per unit of natural gas use remains constant from year to year, the GHG emissions factor for electricity varies from year to year, depending in part on how the electricity is generated.

A GHG emission factor is a measure of the pounds of carbon dioxide (CO₂) emitted per kilowatt-hour of electricity or per therm of natural gas. The electricity that PG&E delivers to customers comes from a mix of generation sources, such as natural gas, hydropower, wind, solar, and nuclear power. PG&E’s emission factor for delivered electricity incorporates the annual energy and associated emissions from each generation source for the given year. Variance in PG&E’s mix of electricity sources largely account for changes in PG&E’s GHG emission factor from year to year.

Attachment I has a detailed breakdown of PG&E’s energy mix for 2012 and also has the emission factor for 2003 through 2011. The exact emissions factor for 2013 has not yet been published, but it is estimated to be 432, which is a three percent decrease compared to the factor for 2012. This Energy Summary also includes more information about Hayward’s use of electricity and natural gas by the residential and non-residential sectors as well as numbers of photovoltaic installations per sector by year.

Table 3. Greenhouse Gas Emissions: 2005 – 2013

YEAR	Electricity				Natural Gas				Total	
	Total (MWH)	Emissions Factor (Metric tons CO2/MWH)*	Metric Tons CO2	% Change	Total (THM)	Emissions Factor (Metric tons CO2/Therm)*	Metric Tons CO2	% Change	Metric Tons	% Change
2005	833,120	0.222	184,953		35,777,152	0.00531	189,977		374,929	
2006	841,298	0.207	174,149	-5.8%	36,271,519	0.00531	192,602	1.4%	366,750	-2.2%
2007	850,649	0.288	244,987	40.7%	37,185,640	0.00531	197,456	2.5%	442,443	20.6%
2008	862,098	0.291	250,870	2.4%	36,686,229	0.00531	194,804	-1.3%	445,674	0.7%
2009	828,640	0.261	216,275	-13.8%	35,744,552	0.00531	189,804	-2.6%	406,079	-8.9%
2010	814,700	0.202	164,569	-23.9%	36,065,508	0.00531	191,508	0.9%	356,077	-12.3%
2011	791,479	0.178	140,883	-14.4%	37,322,901	0.00531	198,185	3.5%	339,068	-4.8%
2012	768,957	0.205	157,636	11.9%	36,801,026	0.00531	195,413	-1.4%	353,050	4.1%
2013	778,843	0.196	152,653	-3.2%	37,631,188	0.00531	199,822	2.3%	352,475	-0.2%

Energy Efficiency Programs – There are several energy efficiency programs available to Hayward residents and businesses:

- Energy Upgrade California – provides a “whole house” approach to home energy efficiency and offers rebates for insulation, whole house air sealing, duct sealing, and furnace replacement. As of November 2014, 157 projects have been completed in all of Alameda County. This program provides incentives for single-family home owners and non-financial resources for businesses.
- Bay Area Multifamily Building Enhancements (BAMBE) – offers rebates of \$750 per dwelling unit for improvements that increase efficiency by at least ten percent. There are fourteen properties in Hayward in various stages of the process ranging from technical assistance and consultation to construction completed. This program is available to multifamily buildings with five or more attached dwelling units.
- Home Energy Advisor – is a free online tool that was launched in 2013. It uses PG&E data to monitor and analyze home energy use. There are currently seventy participants in Hayward.
- CaliforniaFirst – is a Property Assessed Clean Energy (PACE) program that allows energy efficiency and renewable energy improvements to be paid for over time on a participant’s property tax bill. This program is available to all property types.
- Figtree PACE – is another PACE program that is currently only available to commercial and multi-family properties.
- East Bay Energy Watch – (EBEW) is a collaboration between PG&E, local governments, and non-profit and for-profit energy service providers in the East Bay dedicated to providing innovative energy efficiency solutions for residents and businesses in communities throughout Alameda and Contra Costa Counties. EBEW offers programs designed for commercial, municipal, and residential properties and includes the following:
 - Business Energy Solutions Team – (BEST) program helps small to medium sized business owners lower energy costs and offset the high cost of energy efficiency upgrades. The BEST program offers free facility energy audits and incentives for

energy efficient lighting retrofits, refrigeration equipment, and controls. The BEST program offers incentive levels which cover on average 50 percent of the project cost.

- SmartSolar – provides free assistance for planning a solar hot water or solar photovoltaic system, selecting a contractor, and financing.
- Municipal Implementation Team – (MIT) supports cities and counties by managing energy efficiency projects, leveraging PG&E’s on-bill financing program, maximizing incentive rebates, and verifying project savings estimates.
- California Youth Energy Services – (CYES) provides “Green House Calls”, which include a walk through the home by energy specialists to identify energy saving opportunities. Services may include replacement of incandescent lightbulbs with energy-saving compact fluorescent bulbs and installation of high-efficiency faucet aerators and showerheads.

Table 4 summarizes the electricity and natural gas savings achieved by EBEW programs in 2013.

Table 4. Savings Summary (Jan. 2013 to Jan. 2014) for Alameda and Contra Costa Counties

	kW	kWh	Therms
Non-residential Programs (includes BEST and MIT)	648	4,880,254	40,918
Residential Program (CYES)	52	557,289	-7,598

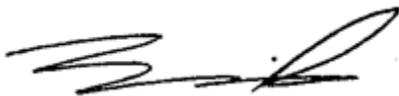
NEXT STEPS

Staff will continue to track energy use and GHG emissions while promoting energy efficiency incentives and assistance programs as part of the City’s efforts to meet its long term GHG reduction goals.

Prepared by: Erik Pearson, AICP, Environmental Services Manager

Recommended by: Alex Ameri, Director of Utilities & Environmental Services

Approved by:



Fran David, City Manager

Attachments:

Attachment I PG&E Energy Summary

This document will help you understand drivers of Hayward's energy usage and the ways the community and PG&E are partnering to decrease energy consumption.

Overall energy usage

This is the breakdown between **Non-Residential** and **Residential** energy usage in 2013 for Hayward.

7,004,063

million British thermal units in 2013*

Energy usage has changed by **3.9%** since 2005

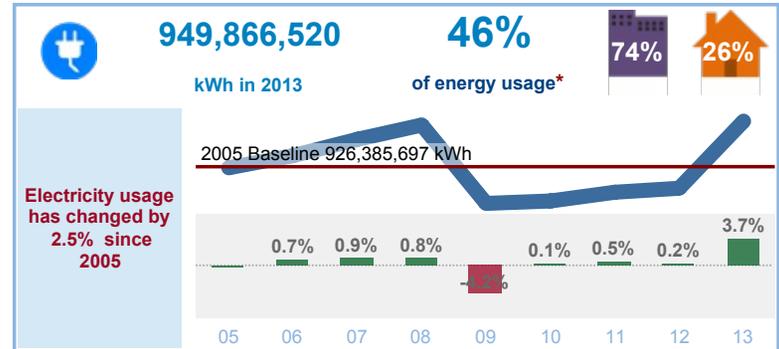
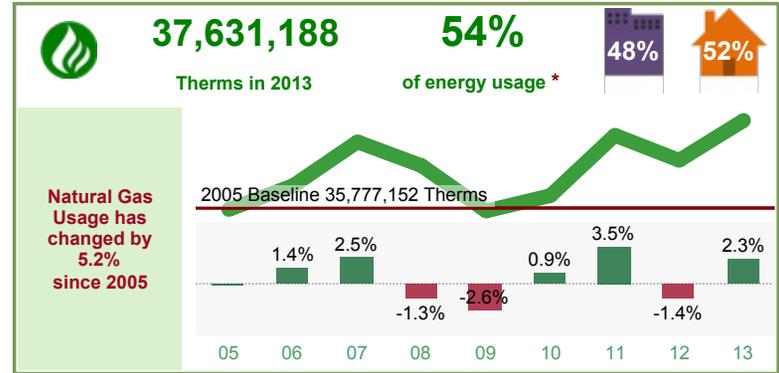
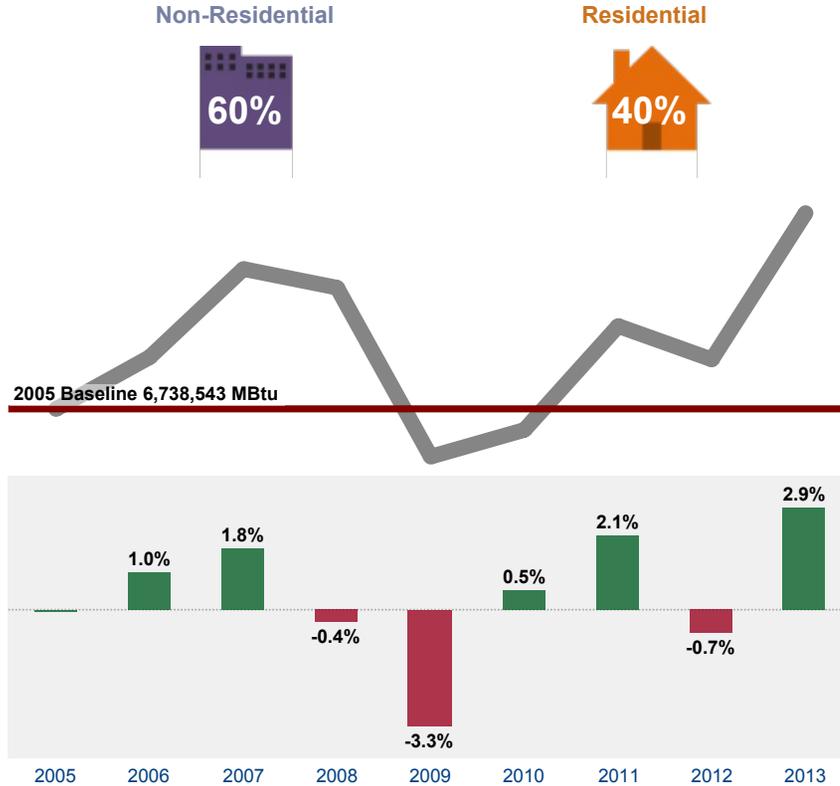
This is the Year over Year change in overall energy usage from the prior year

*Consumption has been converted to British thermal units (Btu) to compare **electricity** and **natural gas** usage

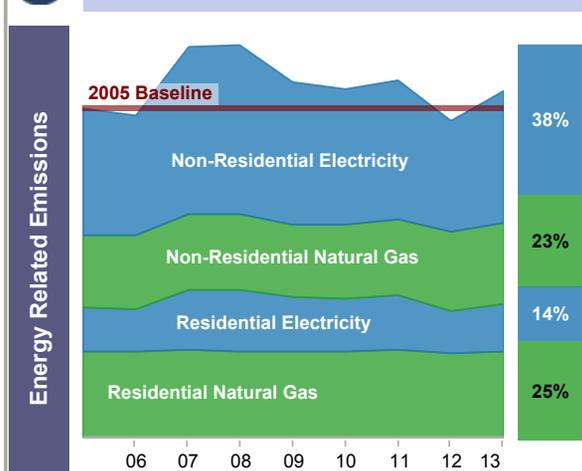
Non-Residential



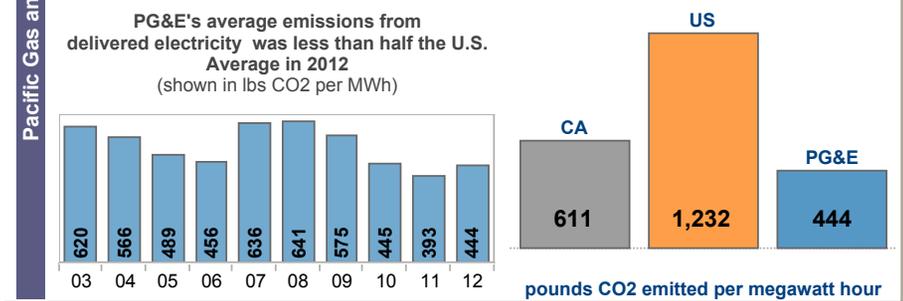
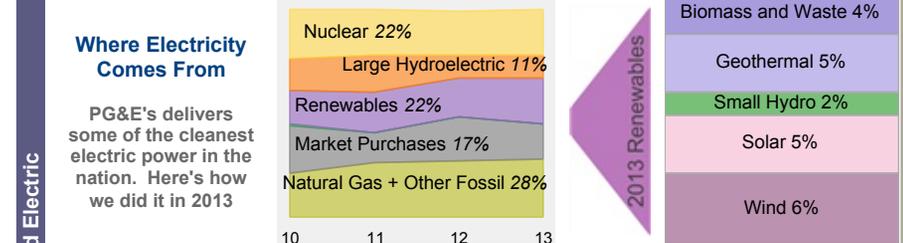
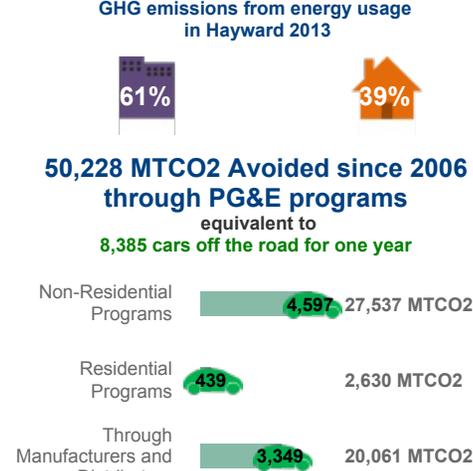
Residential



CO2 CO2 Emissions from energy usage changed by 4.9% since 2005



414,707 MTCO2 GHG emissions from energy usage in Hayward 2013





Residential Energy

Usage

40%

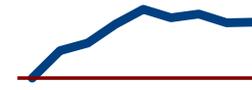
of community energy usage (Btu) is from residential customers



Energy usage has changed by 1.6% since 2005



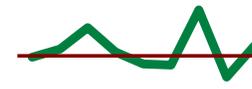
30%



Residential electricity usage changed by 3.8% since 2005



70%



Residential natural gas usage has changed by 0.7% since 2005

Averages

Averages

Monthly Household Averages in 2013



Multi Family	322 kWh per month	-7.0% since 2005
Single Family	424 kWh per month	-1.3% since 2005



Multi Family	24 therms per month	-8.0% since 2005
Single Family	34 therms per month	-2.4% since 2005

Climate Zone Average: 410 kWh

Climate Zone Average: 36 therms

Climate Zone 03

By Season



Renewables

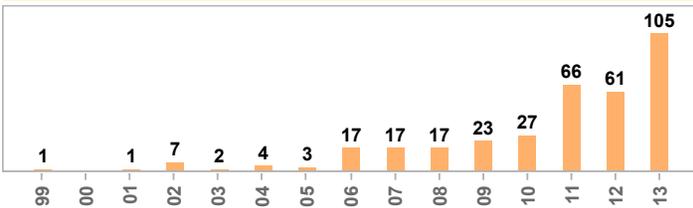
Photovoltaics

351 Sites

1,269 kW

CEC AC Capacity

Residential sites interconnected to the PG&E grid 99 to 13



Energy Efficiency

2,630 MTCO2

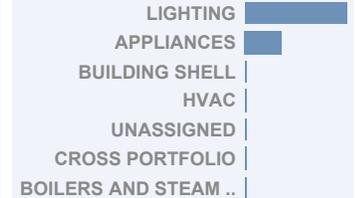
Annual avoided emissions since 2006 through PG&E programs



243,000 Therms Saved



5,835,000 kWh Saved



Non-Residential Energy Usage

60%

of Hayward energy usage (Btu) is from non-residential customers



Non-residential energy usage has changed by 5.6% since 2005



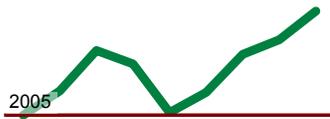
57%



Electricity usage has changed by 2.1% since 2005

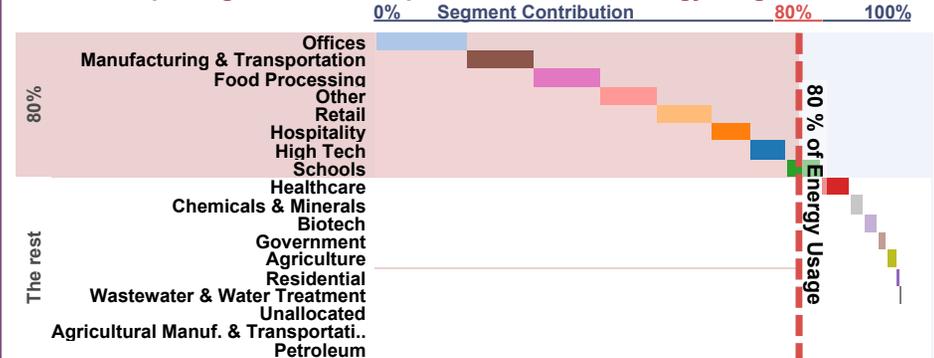


43%



Non-residential natural gas usage has changed by 10.6% since 2005

The top 8 Segments were responsible for 80% of energy usage in 2013



Renewables

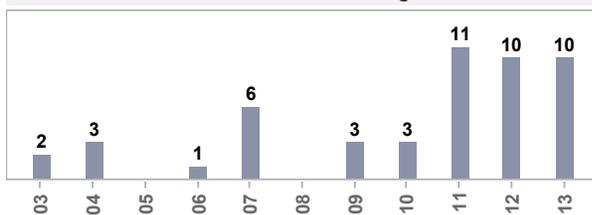
Photovoltaics

48 Sites

8,095 kW

CEC AC Capacity

Sites Interconnected to the PG&E grid 03 to 13



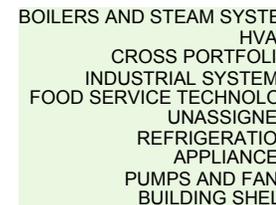
Energy Efficiency

27,537 MTCO2

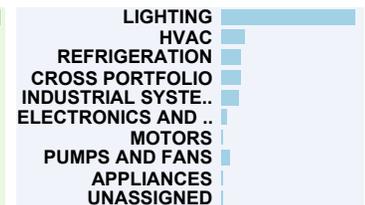
Annual avoided emissions since 2006 through PG&E programs



830,000 Therms Saved



100,117,000 kWh Saved



DATE: ~~December 11, 2014~~ January 12, 2015
TO: City Council Sustainability Committee
FROM: Director of Utilities & Environmental Services
SUBJECT: Overview of Car Sharing Programs

RECOMMENDATION

That the Committee reviews and comments on this report.

SUMMARY

This purpose of this report is to give the Committee a general overview of car sharing models, including the benefits and challenges associated with car sharing. In addition, staff recently applied for a car sharing grant that is being offered by the Metropolitan Transportation Commission (MTC) as one of their Plan Bay Area strategies to reduce greenhouse gas (GHG) emissions. Awards are scheduled to be made in December 2014 or January 2015 and projects are expected to be implemented within twenty-four months after awards are made. The specifics of Hayward's grant application are described below.

The only car sharing provider currently operating within Hayward boundaries is Zipcar, which has five vehicles at the Cal State University East Bay campus. These cars are intended for students living on campus and do not serve the larger Hayward community.

BACKGROUND

Hayward's recently-adopted General Plan includes the following policies and implementation programs related to car sharing.

Policy M-1.2 Multimodal Choices – The City shall promote development of an integrated, multi-modal transportation system that offers desirable choices among modes including pedestrian ways, public transportation, roadways, bikeways, rail, and aviation.

Policy M-7.1 Transit System – The City shall support a connected transit system by improving connections between transit stops/stations and roadways, bikeways, and pedestrian facilities.

Policy M-8.6 Car/Bike Sharing Programs – The City shall assist businesses in developing and implementing car and bike sharing programs, and shall encourage large employers (e.g., colleges, Hayward Unified School District (HUSD)) and the BART stations to host car and bike sharing programs available to the public.

M-8.7 Public-Private Transportation Partnerships – The City shall encourage public-private transportation partnerships (e.g., car sharing companies) to establish programs and operations within the city to reduce single-occupant vehicle use.

Policy M-12.1 Federal and State Funding – The City shall identify, develop, and prioritize transportation projects to compete for Federal and State funds for freeway, highway, transit, bicycle and pedestrian improvements.

Policy HQL-2.1 Physical Activity and the Built Environment – The City shall support new developments or infrastructure improvements in existing neighborhoods that enable people to drive less and walk, bike, or take public transit more.

Policy NR-2.10 Zero-Emission and Low-Emission Vehicle Use – The City shall encourage the use of zero-emission vehicles, low-emission vehicles, bicycles and other non-motorized vehicles, and car-sharing programs by requiring sufficient and convenient infrastructure and parking facilities throughout the City.

Implementation Program M-17: City Employee Car/Bike Share Programs. – The City shall conduct a study that explores the development of car-sharing and/or bike sharing programs for City employees. Based on findings from the study, the City shall prepare and submit recommendations to the City Council about establishing such programs. (Responsible Department(s): Public Works – Engineering and Transportation; Supporting Department(s)/Partner(s): City Manager, Development Services, Public Works – Utilities and Environmental Services, Human Resources; Implementation Timeframe: 2020 – 2040).

Implementation Program M-21: Downtown Parking Management Plan. – The City shall prepare and implement a Downtown Parking Management Plan. The preparation of the plan shall consider providing dedicated parking spaces for car-sharing programs and establishing incentives to encourage car-sharing programs. (Responsible Department(s): Development Services; Supporting Department(s)/Partner(s): Public Works – Engineering and Transportation, Public Works – Utilities and Environmental Services, City Manager; Implementation Timeframe: 2017 – 2019).

DISCUSSION

What is Car Sharing? – Car sharing is designed to reduce or replace car ownership for people who do not need a car to commute. Joining a car share saves individuals the cost of buying, maintaining, and parking personal vehicles. In addition, most car sharing programs have the goals of reducing congestion and greenhouse gas emissions.

Unlike car rentals, car sharing is primarily designed for shorter, more frequent trips as an extension of an existing public transportation network. For example, a person might use a car share for running errands or visiting locations that are not accessible on public transportation lines. Some car sharing models allow users to reserve cars for longer trips, like a weekend vacation.

Car sharing has the potential to reduce GHG emissions by changing the economics of driving. For most car owners, driving has large fixed costs of buying the car and paying for insurance, but

relatively small costs for each trip. Conversely, car sharing members pay a smaller membership fee, but more for each trip. For example, Zipcar members in the Bay Area currently pay a membership fee of \$6.00 per month, and from \$8.50 per hour to \$79.00 per day to drive. Therefore, car sharing members are more likely to favor walking, biking, or transit when these options are available. In addition, most car sharing vehicles are newer and more fuel efficient than the average privately-owned car, which further reduces emissions. Several car sharing providers are now offering electric vehicles.¹

In a study by the RAND Corporation², the authors found that car sharing can reduce the need for individual car ownership, which “reduces energy used and GHGs emitted in the manufacture of vehicles” and that “a single driver who shifts from personally owning a motor vehicle to participating in a vehicle-sharing program would likely emit 893 kg of CO₂ per year less than if he or she had continued to own and operate a vehicle.”

History of Car Sharing – Car sharing began as early as the 1960s in Switzerland³, and expanded in the 1980s and 1990s throughout Europe. The model started in North America with Quebec City⁴ in 1994 and Carshare Portland in 1998. In 2000, Zipcar⁵ was founded in Boston and Flexcar was founded in Seattle, which eventually bought Carshare Portland. In late 2007, Flexcar and Zipcar agreed to merge, becoming the largest provider in the United States.

Locally, City CarShare⁶ launched in San Francisco in 2001 and has since expanded throughout the northern East Bay. As a nonprofit, City CarShare has the goals of taking 20,000 cars off Bay Area roads by 2020, with at least half their cars running on alternative fuel by 2015.

According to the Transportation Sustainability Research Center at UC Berkeley⁷, worldwide, there were 1,788,027 car sharing members using 43,554 cars in 2012; and in the United States, there were 891,593 members using 12,131 cars in 2013.

Different Models of Car Sharing – Car sharing has been rapidly evolving over the past several years. Start-ups are competing with older companies, using new technology and service models to offer greater flexibility and efficiency.

Return-trip Car Sharing: Established companies like Zipcar continue to expand, offering car sharing locations around the world. Members can access any of the company’s cars, which can be convenient for travel. However, the cars need to be returned to the same location from which they were retrieved. These companies have looked to improve service by launching smartphone apps that can be used to reserve, locate, and unlock cars and by updating their fleets to hybrids and electric vehicles.

Point-to-Point Car Sharing: New companies like Car2Go⁸ and DriveNow⁹ allow users to make one-way trips as long as the cars are parked within the program’s operating area. Users pay by minute

¹ <http://carsharingus.blogspot.com/search/label/electric%20vehicles>

² http://www.rand.org/pubs/technical_reports/TR1170.html

³ <http://carsharingus.blogspot.com/2010/01/witkar-first-one-way-ev-carsharing.html>

⁴ <http://www.communauto.com/>

⁵ <http://www.zipcar.com>

⁶ <https://citycarshare.org/>

⁷ <http://www.innovativemobility.org/carsharing/index.shtml>

instead of by the hour or day and usually do not need to specify what time they will return the car when making a reservation.

Peer-to-Peer Car Sharing: New companies like Getaround¹⁰ and RelayRides¹¹ allow car owners to rent out their cars when not in use. The companies act as a matchmaker, providing the website and executing the transaction. A primary benefit of this model is that it can operate in less dense areas. Fees vary depending on the car owner and gas is not included. Rentals can occur face-to-face, or the car owner can install a kit that will allow renters to open the car using their membership card.

MTC Car Sharing Grant – The Car Sharing Grant¹² is being offered by MTC as one of their Plan Bay Area strategies to reduce GHG emissions. Plan Bay Area projects that car sharing will reduce per capita CO₂ emissions by 2.6% by 2035. The grant is intended to be a one-time funding source to help with implementation costs of setting up a car sharing program. Four to five projects will be selected for a total of \$2 million. The funding for the grant comes from federal Congestion Mitigation and Air Quality Improvement (CMAQ) funds.

Staff submitted a grant application to MTC in mid-October. The application proposed to use the grant to administer an RFP (request for proposals) process to select a car sharing provider to expand services to the Downtown and other areas in Hayward. Staff has heard from car sharing providers that they are hesitant to expand into an untested market like Hayward, especially if they are taking on the risk of the full upfront costs. For this reason, staff proposed to use this grant to subsidize the costs of the cars and marketing for the provider selected through the RFP process. In addition, staff proposed to provide free parking in the downtown Watkins Street garage and exclusive use of up to two electric vehicle chargers.

The RFP would require the car sharing provider to launch services at a minimum of two locations, one of which must be the Downtown BART area. Extra points would be given to any vendor that would use electric vehicles (the provider would be responsible for the cost of electricity). In addition to the Downtown BART area, the provider would be required to consider three additional locations, which staff identified as priority locations: 1) Cannery Area/Amtrak Station, 2) Life Chiropractic/Chabot Colleges, and 3) South Hayward BART Area. If a vendor/proposer determines that car sharing would not be feasible at any of these three sites, the provider would be allowed to select another location as its second location.

Redwood City and the San Mateo County Transit District used an earlier MTC grant to run an RFP process to launch a car sharing program as part of their *Connect Redwood City*¹³ pilot program. They selected Zipcar as their provider and have successfully launched three car sharing locations in downtown Redwood City.

⁸ <https://www.car2go.com/en/austin/>

⁹ <https://us.drive-now.com/>

¹⁰ <https://www.getaround.com/>

¹¹ <https://relayrides.com/>

¹² http://www.mtc.ca.gov/news/current_topics/7-14/car_share.htm

¹³ <http://www.connectredwoodcity.com/>

ECONOMIC IMPACT

To the extent that car sharing can reduce the need for community members to own their own cars, a local program could increase consumer spending on other non-automobile purchases. Car sharing can also decrease the need for parking spaces in the community and make more efficient use of cars. More detailed economic impacts may be determined upon the implementation of a pilot program.

FISCAL IMPACT

At this time, this report is for informational purposes only. If the City receives the MTC car sharing grant, the City has pledged to provide a local match of \$40,000 in project management costs, which will be absorbed by existing staff. In addition, the City pledged to provide free parking spaces for a car sharing provider in the Watkins Street garage, an incentive that will have no impact on the City's budget at this time

NEXT STEPS

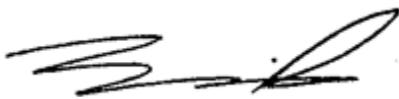
If the City receives the MTC car sharing grant, staff will inform the Committee and provide an update on grant activities at the March meeting. If the City does not receive the grant, staff will continue to explore other means of providing incentives to attract car share providers to the Downtown in accordance with General Plan Implementation Program M-21 (Downtown Parking Management Plan).

General Plan Implementation Program M-17 (City Employee Car/Bike Share Programs) calls for a study to be prepared in the 2020-2040 timeframe. Upon direction from the Committee, staff will pursue grant opportunities that may support such a study sooner than 2020.

Prepared by: Mary Thomas, Administrative Analyst

Recommended by: Alex Ameri, Director of Utilities & Environmental Services

Approved by:



Fran David, City Manager

DATE: ~~December 11, 2014~~ January 12, 2015

TO: City Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT: Update on Green Hayward PAYS[®] (Pay-As-You-Save)

RECOMMENDATION

That the Committee reviews and comments on this report.

BACKGROUND

Development of the Green Hayward PAYS[®] program has been funded by a grant from the Regional Climate Protection Authority (RCPA), which received funding from the Bay Area Regional Energy Network (BayREN). PAYS[®] allows eligible property owners to install water and energy-saving measures with no up-front cost. Participants repay program costs over time through a surcharge on their water bills, with their estimated water, sewer, and energy savings exceeding the surcharge. If implemented, Hayward would be the second city in California to provide this innovative financing program to its water customers.

DISCUSSION

The Program Design for Green Hayward PAYS[®] envisioned a pilot program that would serve up to 2,000 dwelling units and that initial funding of \$1 million would be needed for these projects. During development of the Program Design, staff began discussions with New Resource Bank and reached preliminary terms for a guidance line of credit. Following a recommendation by the Committee on January 29, 2014, the Program Design and authorization to proceed with the bank terms were approved by Council on February 18, 2014¹. On February 25, 2014, staff provided New Resource Bank with a signed expression of interest letter, which began the bank's due diligence and formal credit underwriting process. In March and April, staff worked with New Resource Bank to prepare draft documents for the guidance line of credit.

During an internal review of the draft New Resource Bank documents, staff consulted with the City's outside financial advisor and it was determined that the guidance line of credit would violate municipal debt limitations set forth in the California Constitution. This might be the reason no other City in the state has implemented a PAYS program with the exception of Windsor, which self-funded their program. After several internal discussions as well as discussions with RCPA and their

¹ See Item 3 at <http://www.hayward-ca.gov/CITY-GOVERNMENT/CITY-COUNCIL-MEETINGS/2014/CCA14PDF/cca021814full.pdf>

consultants, staff has continued to consider options for financing the Green Hayward PAYS[®] program.

Staff evaluated the possibility of self-funding the program with an internal loan from the City's Wastewater Fund. After careful consideration, staff determined it would not be prudent to commit up to \$1 million to the program over the ten-year customer repayment term. The Water and Wastewater Fund balances are maintained so that the City has the capacity to handle nondiscretionary unanticipated expenses and emergency repairs.

The Association of Bay Area Governments (ABAG), the administrators of the BayREN program, are very interested in enabling cities and water districts to run successful PAYS programs. ABAG staff, RCPA, and others are working directly with Jones Hall, a law firm that specializes in public finance, to find a way that cities can secure outside funding that is necessary to make PAYS programs work. RCPA has indicated that there may be an effort to address the limitations of the State Constitution via state legislation. Staff will track and report on any progress on this front.

ECONOMIC IMPACT

A Green Hayward PAYS[®] program would benefit residents and property owners who are able to take advantage of the opportunity to improve energy and water efficiency in their homes with no up-front costs and no increases in their overall utility bills. Local contractors may also benefit from the increased workload from efficiency measure installations.

FISCAL IMPACT

This report is for informational purposes only. Green Hayward PAYS will only be launched if staff is able to secure outside funding for program projects. Administration of the program would be covered by fees paid by participants and would have a minimal impact on staff resources. The program would have no impact on the City's General Fund.

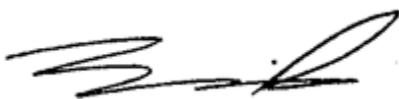
NEXT STEPS

Staff will continue to investigate the possibility of outside funding for the program. If a path forward to obtain this capital from banks or other financial institutions, staff will prepare an RFP to obtain the lowest interest rate and best terms possible.

Prepared by: Erik Pearson, AICP, Environmental Services Manager

Recommended by: Alex Ameri, Director of Utilities & Environmental Services

Approved by:



Fran David, City Manager



DATE: ~~December 11, 2014~~ January 12, 2015
TO: City Council Sustainability Committee
FROM: Director of Utilities and Environmental Services
SUBJECT: Sustainability Committee Agenda Topics for 2015

RECOMMENDATION

That the Committee reviews and comments on this report.

DISCUSSION

The following list of future agenda topics was developed considering the policies and programs identified in the City’s General Plan, other sustainability-related initiatives and the Committee members’ previous directions. For the Committee’s consideration, staff suggests the following agenda topics for the next four meetings.

Meeting Date	Agenda Topic	General Plan Policy/Program
March 5, 2015 (1 st Thursday)	Update on Green Business Program	Policies ED6.11 & NR-4.2 Program NR-17)
	Update on Community Choice Aggregation	Policy NR-4.8
	Update on Advanced Metering Infrastructure (AMI) Pilot Program	Policy PFS-3.15
	Rainwater Catchment and Greywater	Policies NR-6.12 & PFS-5.9 Program PFS-6
June 18, 2015 (3 rd Thursday)	Update on Education and Community Outreach regarding Sustainable Practices	Program NR-18
	Update on Home Energy Analyzer Pilot Program & Energy Reduction Initiative	Policies NR-2.4 & 4.13 Program NR-7
	Update on PAYS Program	Policy 4.14 Program NR-13
	Update on Water Supply, Outlook, Efficiency, and Conservation	Policies NR-6.9, PFS-3.2, PFS-3.14, PFS-3.15 Programs NR-4, PFS-2
	Annual Update on Administrative Rule 3.9 – Environmentally Preferred Purchasing Policy	Policy PFS-2.3

Meeting Date	Agenda Topic	General Plan Policy/Program
September 10 2015 (2 nd Thursday)	Waste Reduction Report – Annual Update on Recycling Programs	Policy PFS-7.4
	Update on Community Choice Aggregation	Policy NR-4.8
	Update on Green Portal on City’s Website	Policies NR-2.4, 4.1, 4.2 Program NR-16

December 10 2015 (2 nd Thursday)	Renewable Energy Generation Potential on City Facilities	Policies NR-2.5 & 4.10 Program NR-14
	Update on Green Team and Sustainability in Municipal Operations	Policy PFS-2.3
	Energy Report Update – 2014 Energy Use and Efficiency	Policy NR-2.4
	Review Agenda Topics for 2016	

Depending on the desires of the Committee, staff has identified the following additional topics that could be presented to the Committee. Until dates for these items are determined, they may be indicated on future topics lists as “unscheduled items.” In addition, there will be at least one update on progress on the CAP.

- Downtown Parking Study
- Shuttle Study

NEXT STEPS

Staff will incorporate direction from the Committee and present an updated list of meeting topics to the Committee at the March 2015 meeting. As in the past, depending on the Committee’s direction and City priorities, the topics list may be adjusted throughout the year.

Prepared by: Erik Pearson, AICP, Environmental Services Manager

Recommended by: Alex Ameri, Director of Utilities and Environmental Services

Approved by:



Fran David, City Manager