



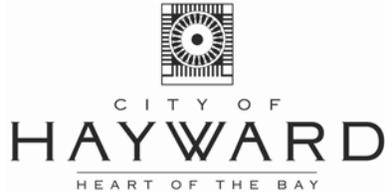
CITY OF
HAYWARD
HEART OF THE BAY

**COUNCIL SUSTAINABILITY
COMMITTEE**

OCTOBER 02, 2013

Table of Contents

Agenda	2
Meeting Minutes from July 10, 2013 Council Sustainability Committee Meeting	
Meeting Minutes	4
Draft General Plan Policies and Programs Related to Sustainability	
Staff Report	9
Attachment I	15
Attachment II	26
Attachment III	46
Sustainability Circle – A Comprehensive Program for Sustainable Business Practices	
Staff Report	51
“Pay as You Save” (PAYSS®) Pilot On-Bill Conservation and Efficiency Financing System - Memorandum of Understanding and Concept Paper	
Staff Report	53
Attachment I Draft MOU	60
Attachment II Concept Paper	68
Update on Commuter Benefits Programs	
Staff Report	95
Summary of Community-Wide and Municipal Energy Use and Efforts to Improve Efficiency	
Staff Report	98
Att I	110
Att II	113
Att III	119
Att IV	120
Att V	121
Att VI	123
Sustainability Committee Agenda Topics for 2014	
Staff report	124



CITY COUNCIL SUSTAINABILITY COMMITTEE MEETING
Wednesday, October 02, 2013
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 City Council Committee on items not listed 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, your item will be taken under consideration and may be referred to staff.)*

1. Approval of Minutes of July 10, 2013

2. Minutes

Meeting Minutes from July 10, 2013 Council Sustainability Committee Meeting
[Meeting Minutes](#)

3. Report

Draft General Plan Policies and Programs Related to Sustainability

[Staff Report](#)
[Attachment I](#)
[Attachment II](#)
[Attachment III](#)

Sustainability Circle – A Comprehensive Program for Sustainable Business Practices

[Staff Report](#)

“Pay as You Save” (PAYS®) Pilot On-Bill Conservation and Efficiency Financing System -
Memorandum of Understanding and Concept Paper

[Staff Report](#)
[Attachment I Draft MOU](#)
[Attachment II Concept Paper](#)

Update on Commuter Benefits Programs

[Staff Report](#)

Summary of Community-Wide and Municipal Energy Use and Efforts to Improve Efficiency

[Staff Report](#)

[Att I](#)

[Att II](#)

[Att III](#)

[Att IV](#)

[Att V](#)

[Att VI](#)

Sustainability Committee Agenda Topics for 2014

[Staff report](#)

COMMITTEE MEMBER ANNOUNCEMENTS AND REFERRALS

ADJOURNMENT

NEXT REGULAR MEETING – 4:30 – 6:30 PM, DECEMBER 4, 2013

****Materials related to an item on the agenda submitted to the Council 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. All Council Meetings are broadcast simultaneously on the website and on Cable Channel 15, KHRT. ****

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.

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

AUGUST 2, 2011



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

July 10, 2013
4:30 p.m. – 6:30 p.m.

MEETING MINUTES

CALL TO ORDER: Meeting called to order at 4:31 p.m. by Chair Al Mendall, Council Member.

ROLL CALL:

Members:

- Al Mendall, Council Member/CSC Chair
- Francisco Zermeño, Council Member
- Dianne McDermott, Planning Commissioner
- Elisa Marquez, Planning Commissioner
- Vishal Trivedi, Planning Commissioner
- Laura Oliva, Keep Hayward Clean and Green Task Force/CSC Vice Chair
- Barbara Halliday, Council Member -Absent

Staff:

- Kelly McAdoo - Assistant City Manager
- Alex Ameri, Director of Public Works - Utilities & Environmental Services
- David Rizk, Director of Development Services
- Erik Pearson, Environmental Services Manager
- Vera Dahle-Lacaze, Solid Waste Manager
- Marilyn Mosher, Administrative Analyst III
- Corinne Ferreyra, Administrative Analyst I
- Angel Groves, Administrative Secretary (Recorder)

Others:

- David Stark, Bay East Association of Realtors
- Patrick Grogan, Heritage Fund Realty

PUBLIC COMMENTS:

None

1. Approval of Minutes of April 3, 2013 – minutes approved.
2. Consideration of New Priorities for CAP Actions in General Plan.

Erik Pearson, Utilities & Environmental Services Manager, provided an update on staff's progress on developing climate action-related implementation programs for the 2040 General Plan. He introduced a list of revised actions/programs as a result of feedback provided by CSC committee members during the April 3 meeting and the General Plan Update Task Force on April 4. Such actions included increasing the use of alternative

modes of transportation and improving effectiveness of the transportation circulation system by actions on both a municipal level and community-wide level.

Mr. Pearson went over the first seven strategies of the General Plan and introduced two new added strategies: Economic Development and Quality of Life.

Mr. Pearson also reviewed 2009 GHG reductions below 2005 level goals of 6% by 2013, 12.5% by 2020 and 82.5% by 2050. He noted that these goals continue to be ambitious, but consistent with state goals.

In reviewing Strategy 3, the Residential Energy Conservation Ordinance (RECO), David Stark, Bay East Association of Realtors, commented that RECO should not be mandatory and reminded committee members that this has been rejected by Council previously. Mr. Stark shared his personal experience in upgrading his home at a cost of over \$20,000 and seeing in return a monthly savings of \$20. He noted that though his residence is more comfortable and his quality of life is worth the upgrade, he will not see a financial return in this investment and so recommends that RECO not be mandatory.

Francisco Zermeño, Council Member, asked if Strategy 3 made RECO mandatory, recollecting that City Council had rejected this item previously. Mr. Pearson noted that yes, in 2011 Council had rejected RECO as mandatory, but at the request of most CSC members, RECO had been added to Strategy. Council Member Zermeño commented that it should be voluntary and not mandatory. To this Dianne McDermott, Planning Commissioner, added that in previous discussions it has been mentioned that this would be very costly for existing homes and would better suit new developments. She noted that new developments are able to offer this as an option and have the cost incorporated into the mortgage loan.

Elisa Marquez, Planning Commissioner, asked what would be the per home average cost of implementing RECO. Mr. Pearson responded \$3,000 to \$4,000 per home.

Taking into consideration his own personal experience and that of Mr. Stark, Council Member Mendall added that making this mandatory would not work and scaling back expectations should be considered. Council Member Mendall also recommended that this wait until 2020 to be implemented and not 2017. It was agreed that further discussions, at a later date, would be warranted. All concurred that the average cost being associated with this could be too high.

Council Member Zermeño also inquired regarding the City's fleet and how many electric vehicles are currently in use, to which Mr. Pearson responded that although he did not have the exact current number of vehicles, the City is still adding to that total when economically possible.

Council Member Zermeño then inquired about grey water and recycled water education for residents. Mr. Ameri acknowledged that we have not devoted time to this item and do need to in the future. He advised that there are some challenges to grey water use, which is water

captured and reused for irrigation, etc. before it leaves the premises and not recycled water. Council Member Mendall noted that this topic should be added to the agenda for discussion in six months.

3. Update on Renewable Energy Generation at City Facilities

Erik Pearson, Utilities & Environmental Services Manager, provided background on how each of the City's Departments are accomplishing the reduction in emissions associated with electricity production by increasing the amount of electricity being supplied from renewable sources. One example was the cogeneration system at WPCF, which has been in place since 1982 and provides approximately 40% of the treatment plants power needs. Another example, also at WPCF, is the Solar PV installed fall of 2010, which provides approximately 20% of the treatments plant's power needs with a cost savings of approximately \$190,000.

He noted and commended other City facilities that have installed solar panels such as the Corp Yarn on Barnes Court, the Utilities Center on Soto Road, various Water Facility buildings, the City Hall Parking structure, the roof at City Hall and the Executive Airport. He also informed all that the three most recent solar PV projects were made possible thanks to financing from the California Energy Commission through their Energy Conservation Assistance Act (ECCA) loan program.

Mr. Pearson also provided a list of future proposed projects which would include adding another 1 MG at WPCF (Phase II), solar photovoltaic at pump stations, municipal parking structure across from City Hall, and also solar hot water. He explained that the City's current usage is approximately 20 MW hours for all facilities and we are currently providing 50% of our total needs.

4. Overview of "Pay as You Save" (PAYS®) Pilot – On-Bill Financing for Water and Energy Efficiency Measures

Corinne Ferreyra, Administrative Analyst I, provided background on the PAYS®, (Pay As You Save) financing system, advising members of the recent award of a grant by the Bay Area Regional Energy Network (BayREN) to the City, for the design of this system. Ms. Ferreyra provided a summary including the CAP's requirement for the creation of financing programs to support energy efficiency improvements in existing buildings.

Ms. Ferreyra also provided an overview of the PAYS® program, which allows property owners and tenants to install water and energy efficiency measures with no upfront costs. The costs are repaid over time via their water bills. She noted that repayment is much less than the overall savings residents will receive through a combination of water and energy usage. Ms. Ferreyra discussed specifics regarding the process, the design, and positive projected outcomes of implementing this program. She also advised that there has been no commitment made, as we are in the early stages and any advances will be relayed to Committee members and their input requested.

Council Member Zermeño asked how many residents could be reached with this program and what plans are there to expand. Ms. Ferreyra advised that our initial aggressive goal was to reach 2,000 households and then expand to include businesses. Laura Oliva, Keep Hayward Clean and Green Task Force/CSC Vice Chair, asked what happens to the surcharge associated with the program when an owner sells their property. Ms. Ferreyra responded by explaining that once a property is sold, the surcharge remains with the property and is attached to the new utility bill; the new owner is advised of this via disclosures and the surcharge will transfer as many times as the property is sold, until paid in full. Ms. Ferreyra advised that the pilot will go through 2014 and then be reevaluated.

5. Mandatory Recycling Ordinance: Evaluation of Phases 1 & 2

Vera Dahle-Lacaze, Solid Waste Manager, provided background and current status of the City's ongoing efforts to comply with Phase 1 of the mandatory recycling ordinance and steps that will be taken to prepare a report to obtain direction from Council to enter into Phase 2 of the ordinance. Ms. Dahle-Lacaze summarized the different services, tasks completed and results thereof. She noted that based on WMAC's records, about 78% of the businesses subject to Phase 1 of the ordinance subscribe to mixed recyclables collection and nearly 500 multi-family developments have implemented recycling services.

Ms. Dahle-Lacaze also advised that Phase 2 is contingent upon the City renewing its Franchise Agreement with WMAC, which will expire on May 31, 2014. She noted that if the contract is renewed, Phase 2 may be able to be implemented by July 1, 2014.

Ms. McDermott asked how often the contract is negotiated and the consequence of not renewing the contract. Mr. Ameri explained that contracts are usually for seven to ten years due to the level of commitment required from the hauler, i.e., purchasing of trucks and carts to accommodate the City's capacity. If the City chose not to renew, an RFP would go out to at least two potential haulers. He also noted that an update would be given at the October CSC meeting.

6. Overview of City Participation in Earth Day Events

Corinne Ferreyra, Administrative Analyst I, provided members with a summary of all activities City staff participated in for Earth Day. Amongst them, the City's Annual Clean Up Event where 300 volunteers also participated, an Earth Day display in the rotunda at City Hall, several booths supported by staff at California State University East Bay on April 22, and the "Return of the Swallows" at Chabot College.

Council Member Zermeño suggested that Arbor Day, which fell on April 26, should be included in the activities for next year.

All members applauded the efforts of City staff to participate in this event.

7. Council Sustainability Meeting Topics 2013/2014

Mr. Ameri advised that the agenda item related to Phase 2 would be removed from the October agenda and instead the PAYS® MOU would be discussed and also information regarding additional Solid Waste & Recycling projects.

Council Member Mendall and Council Member Zermeño both would like to see the topic of grey water on the agenda, but expressed that there is no rush.

COMMITTEE MEMBER/STAFF ANNOUNCEMENTS AND REFERRALS:

Council Member Mendall noted and suggested that when too many topics are planned for one meeting, he is not opposed to adding a second meeting, on an as needed basis, to not condense too many items into a two-hour period. He also expressed that perhaps having the meeting the first Wednesday of the quarter was not convenient for all and that possibly, it would be a good idea to ask all members if another Wednesday would work best. He asked if this would be a better solution than having to reschedule the January and July meetings every year, which usually fall during a holiday week. Mr. Ameri advised that a survey would be conducted with all members, to address this item.

Ms. Marquez expressed her concern at adding another meeting, due to members already busy schedules and conflicts with other committee meetings in which members participate.

ADJOURNMENT: 6:13 p.m.

DATE: October 2, 2013
TO: Council Sustainability Committee
FROM: Director of Public Works – Utilities & Environmental Services
Development Services Director
SUBJECT: Draft General Plan Policies and Programs Related to Sustainability

RECOMMENDATION

That the Committee reviews and comments on this report.

SUMMARY

This report provides an update on staff's progress on developing climate action and sustainability-related policies and implementation programs for the 2040 General Plan.

BACKGROUND

The City Council adopted the City's Climate Action Plan (CAP) in July 2009. The CAP includes greenhouse gas (GHG) emission reduction goals for 2020 and 2050 and identifies the actions necessary to achieve the reduction goals. The CAP is being integrated into the new General Plan, which is expected to be adopted by Council in June 2014.

On July 10, 2013, staff presented to the Committee a draft list of CAP actions that were developed with input provided by the Committee on April 3, 2013¹ and by the General Plan Update Task Force on April 4, 2013². The July 10 agenda report³ also included revised projections of future GHG emissions and estimates of GHG reductions anticipated for individual programs.

DISCUSSION

With input from the community, the General Plan Update Task Force, Planning Commission and City Council, staff developed draft General Plan policies, which are organized by the following nine elements:

¹ See Item # 3 at <http://www.hayward-ca.gov/CITY-GOVERNMENT/COUNCIL-STANDING-COMMITTEES/COUNCIL-SUSTAINABILITY-COMMITTEE/2013/CSC-CCSC040313full.pdf>

² See meeting packet at <http://www.hayward-ca.gov/CITY-GOVERNMENT/BOARDS-COMMISSIONS-COMMITTEES/GENERAL-PLAN-UPDATE-TASK-FORCE/2013/BCC-GPTF040413full.pdf>

³ See Item # 2 at <http://www.hayward-ca.gov/CITY-GOVERNMENT/COUNCIL-STANDING-COMMITTEES/COUNCIL-SUSTAINABILITY-COMMITTEE/2013/CSC-CCSC071013full.pdf>

1. Land Use and Community Character
2. Mobility
3. Economic Development
4. Community Safety
5. Natural Resources
6. Hazards
7. Education and Lifelong Learning
8. Community Health and Quality of Life
9. Public Facilities and Services

Draft policies that are related to climate action and/or sustainability are included as Attachment I. Some actions identified in the original CAP do not direct the production of a tangible work product and have, therefore, been included as policies rather than programs. Staff has also drafted implementation programs designed to implement the draft policies. The programs (see Attachment II) are also organized by General Plan element. For each program, the implementation timing, relevant policies, and responsible departments are identified in the table. The draft programs were presented to the General Plan Update Task Force on September 12, 2013 and September 26, 2013. Staff will relay any Task Force comments to the Committee on October 2, 2013.

At the April 4 General Plan Update Task Force meeting and the July 10 City Council Sustainability Committee meeting, Task Force and Committee members expressed their desire to eliminate the Residential Energy Conservation Ordinance (RECO) and the Commercial Energy Conservation Ordinance (CECO) from the list of programs related to the CAP. The RECO and CECO, which were identified in the 2009 CAP, could, in some cases, have required expensive energy efficiency improvements in existing buildings. However, given that approximately 35 percent of Hayward's GHG emissions are from building energy use and because most of the buildings that will exist in 2050 are already built, energy efficiency in existing buildings must be addressed in order to meet long term GHG reduction goals.

Staff included an Energy Performance Audit and Disclosure (EPAD) ordinance (see program numbers NR-9 and NR-10) to address energy use in existing buildings. The intent of the EPAD is to require disclosure of energy consumption and efficiency information for existing buildings so that such information may allow market forces to lead to increases in energy efficiency. Over time, energy efficiency improvements that are determined to be affordable and cost-effective may be required as part of the ordinance. Staff is seeking direction from the Committee regarding these two draft programs.

Attachment III is an updated list of the CAP actions that were presented to the Committee in July. The table includes the identification number used in the original CAP, the number as it was presented in July, and the new draft policy and/or implementation program number and title. For the actions that have GHG reductions quantified, those reductions are indicated.

GHG Emissions Projections – Table 1 includes projections that are adjustments to those that were provided in the July 10 report. The projections are legislatively adjusted, meaning that the effects of state and federal laws and regulations have been taken into consideration.

A traffic analysis was recently completed for the General Plan Environmental Impact Report and data from that analysis was used to update current and projected annual vehicle miles traveled (VMT) by automobiles and trucks in Hayward. The new VMT figures have resulted in significantly higher emissions associated with transportation. Transportation emissions estimated for 2020 increased from 590,038 metric tons of carbon dioxide equivalent (MTCO₂e) to 600,764 and emissions projected for 2050 increased from 708,309 to 817,151. Accordingly, overall projections for overall emissions for 2020 increased from 1,015,048 to 1,025,775 and emission for 2050 increased from 1,250,630 to 1,359,472 MTCO₂e.

Table 1: Summary of Community-wide Greenhouse Gas Emission Projections

Sector	GHG Emissions (MT CO ₂ e/year)		
	2020 ¹	2040 ¹	2050 ¹
Residential Energy	158,749	184,820	202,437
Commercial/Industrial Energy	231,856	269,388	296,873
Transportation	600,764	738,873	817,151
Solid Waste	26,235	30,610	32,798
Water/Wastewater Treatment	8,170	9,532	10,214
Total	1,025,775	1,233,223	1,359,472

GHG Reduction Targets – Greenhouse gas emission reduction targets were presented to the Committee in July. Table 2 has updated reduction targets that are slightly higher due to the increases in projected emissions. The target for 2020 increased from 6.7 to 7.7 percent. The target for 2040 increased from 60.5 to 63.2 and for 2050 from 83.4 to 84.8 percent.

The following recommended reduction targets have been incorporated into draft General Plan policies NR-2.4, *Community Greenhouse Gas Reduction* and NR-2.5, *Municipal Greenhouse Gas Reduction* (see Attachment I).

Table 2: Recommended Greenhouse Gas Emissions Reduction Targets: 2020, 2040 and 2050

Year	GHG Emissions (MT CO ₂ e/year)							
	Baseline	BAU Projection	Legislative-Adjusted Projection	Recommended Reduction Targets	Net Reductions to Achieve Targets	% Below 2005 Baseline	% Below BAU	% Below Legislative Adjusted
2005	1,183,279	-	-	-	-	-	-	-
2010	1,120,803	-	-	-	-	-	-	-
2020	-	1,208,245	1,025,775	946,623	79,151	20.0%	21.7%	7.7%
2040	-	1,524,599	1,233,223	453,590	779,633	61.7%	70.2%	63.2%
2050	-	1,670,080	1,359,472	207,074	1,152,398	82.5%	87.6%	84.8%

Notes: BAU = Business-as-Usual; GHG = greenhouse gas; MT CO₂e = metric tons carbon dioxide equivalent.
 Source: City of Hayward 2009; StopWaste.org 2013; Data modeled by Ascent Environmental, Inc. in 2013.

Gap Between General Plan Programs and Targets – Preliminary estimates of GHG emission reductions were presented to the Committee in July. Table 3 includes revised estimates of emissions reductions for several transportation-related programs, which were made possible with the recent availability of data from the General Plan traffic analysis. The Energy Performance Audit and Disclosure (EPAD) ordinance (program numbers NR-9 and NR-10) is not included as staff is currently unable to quantify the future effectiveness of disclosure activities on GHG reduction.

Of note is that staff included Community Choice Aggregation (CCA) as a policy for which GHG emission reductions have been quantified. CCA is a tool that allows a city to pool the electricity demand of the community in order to purchase or develop clean power on their behalf. Implementation of a CCA is estimated to achieve approximately 78 percent of the reduction necessary to meet the 2020 target.

As indicated below, the implementation programs identified in the draft General Plan will not be sufficient to achieve the reduction targets identified for 2040 and 2050. If implementation of all programs is successful, then GHG reductions are estimated to exceed the 2020 target by 10,811 metric tonnes of CO₂e each year; however reductions may fall short of the 2040 target by 635,033 metric tonnes and the 2050 target by 979,760 metric tonnes. Because the landscape of available technologies, regulations, individual behaviors and economic trends are difficult to predict, staff recommends that current efforts focus on meeting the 2020 target. GHG-reducing programs identified in the General Plan will need to be re-evaluated in the next five to seven years when staff may have a better understanding of the tools or programs that will allow Hayward to achieve its 2040 and 2050 goals.

The following CAP actions/programs are identified by the original CAP action number, or in some cases, revised action number. Because many CAP actions are addressed by multiple draft General Plan policies and/or implementation programs, staff included Attachment III as a cross reference providing each CAP action and the corresponding General Plan policy and/or Implementation Program.

Table 3: Summary of Greenhouse Gas Emissions Reduction Measures Performance

Action Number and Description		GHG Emissions Reduction (MT CO ₂ e/year)		
		2020	2040	2050
Transportation Sector				
Action 1.1	Commuter Benefits	1,806	2,221	2,456
Action 1.2	Car/Bike Sharing	4,475	5,570	6,118
Action 1.4	Parking Strategies	356	1,139	1,260
Action 1.6	Bicycle Master Plan	244	9,162	10,133
Action 1.7	Pedestrian Master Plan	6,008	7,389	8,172
Energy Sector				
Action 3.7	Energy Efficiency Financing – Single-Family	1,458	6,705	11,055
Action 3.8	Energy Efficiency Financing – Multi-Family	1,488	6,796	11,635
Action 3.9	Energy Efficiency Financing - Commercial	556	8,638	17,544
Action 5.1	Finance Renewable Energy – Residential	657	1,854	1,854
Action 5.2	Finance Renewable Energy – Commercial	8,320	19,692	19,692
Action 5.3	Community Choice Aggregation	61,431	71,438	78,520
Action 5.7	Renewable Energy on City Facilities	737	737	737
Solid Waste Sector				
Action 6.1	Solid Waste Diversion	2,099	2,449	2,624
Water & Wastewater Sector				
Action 6.8	Water Conservation	327	381	409
Carbon Sequestration				
Action 7.1	Carbon Sequestration	-	385	385
Action 7.2	Carbon Sequestration on City Property	-	44	44
Total GHG Emissions Reductions		89,962	144,600	172,638
Recommended GHG Emissions Reduction Target¹		79,151	779,633	1,152,398
GHG Emissions Reduction Gap (Surplus)		(10,811)	635,033	979,760

Source: Data estimated by Ascent Environmental, Inc. in 2013.

As noted in the July 10 agenda report and above, additional implementation actions will need to be identified to meet the 2040 and 2050 targets. Staff anticipates many of these actions will be identified when the CAP is updated in the next five to seven years. At such time, the General Plan will need to be amended to incorporate the revised CAP actions.

NEXT STEPS

Staff will present the draft policies and implementation programs during work sessions with the City Council on October 22, 2013 and the Planning Commission on October 24, 2013. Staff will

then incorporate comments from the Committee, Council, and Planning Commission and prepare a complete draft General Plan. The draft General Plan is expected to be released to the public in early December 2013.

Prepared by: Erik J. Pearson, AICP, Environmental Services Manager

Recommended by: Alex Ameri, Director of Public Works – Utilities & Environmental Services
David Rizk, AICP, Development Services Director

Approved by:



Fran David, City Manager

Attachments:

- Attachment I Draft General Plan Policies
- Attachment II Draft General Plan Programs
- Attachment III List of Original CAP Actions with Corresponding New Policy and Programs



Draft General Plan Policies Related to Sustainability & Climate Action

LAND USE AND COMMUNITY CHARACTER ELEMENT

LU-1.5 Transit-Oriented Development

The City shall support high-density transit-oriented development within the city's Priority Development Areas to improve transit ridership and to reduce automobile use, traffic congestion, and greenhouse gas emissions.

LU-1.9 Development Standards and Greenhouse Gas Emissions

The City shall explore the use of zoning and development standards that help reduce greenhouse gas emissions when preparing or updating plans and ordinances.

MOBILITY ELEMENT

M-1.6 Bicycling, Walking, and Transit Amenities

The City shall encourage the development of facilities and services, (e.g., secure term bicycle parking, street lights, street furniture and trees, transit stop benches and shelters, and street sweeping of bike lanes) that enable bicycling, walking, and transit use to become more widely used modes of transportation and recreation.

M-5.1 Pedestrian Needs

The City shall consider pedestrian needs, including appropriate improvements to crosswalks, signal timing, signage, and curb ramps, in long-range planning and street design.

M-5.2 Pedestrian System

The City shall strive to create and maintain a continuous system of connected sidewalks, pedestrian paths, creekside walks, and utility greenways throughout the city that facilitates convenient and safe pedestrian travel, connects neighborhoods and centers, and is free of major impediments and obstacles.

M-6.1 Bikeway System

The City shall maintain and implement the Hayward Bicycle Master Plan.

M-6.2 Encourage Bicycle Use

The City shall encourage bicycle use in all neighborhoods, especially where short trips are most common.

M-7.3 Transit Service Expansion

The City shall collaborate with BART and AC Transit to expand short- and long-term opportunities to expand services (e.g., extend rapid bus service from Bayfair to the South Hayward BART Station), pursue a hydrogen fueling station for both buses and

personal vehicle use, and improve transit stations by expanding amenities at stations.

M-7.10 New Facilities

The City shall work with transit providers to incorporate transit facilities into new private development and City project designs including incorporation of transit infrastructure (i.e., electricity, fiber-optic cable, etc.), alignments for transit route extensions, and new station locations.

M-7.11 Shuttle Service

The City shall evaluate the need for shuttle service citywide and support public and private efforts and activities to bridge gaps in existing transit service.

M-8.1 Increase Vehicle Occupancy

The City shall work with a broad range of agencies (e.g., Metropolitan Transportation Commission, BAAQMD, AC Transit, Caltrans) to encourage and support programs that increase vehicle occupancy including the provision of traveler information, shuttles, preferential parking for carpools/vanpools, transit pass subsidies, and other methods.

M-8.2 Citywide TDM Plan

The City shall maintain and implement a citywide Travel Demand Management Program, which provides a menu of strategies and programs for developers and employers to reduce single-occupant vehicle travel in the city.

M-8.3 Employer-based Strategies

The City shall encourage employers to participate in TDM programs (e.g., guaranteed ride home, subsidized transit passes, carpool and vanpool programs) and to participate in or create Transportation Management Associations to reduce parking needs and vehicular travel.

M-8.4 Automobile Commute Trip Reduction

The City shall encourage employers to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.

M-8.5 Commuter Benefits Programs 

The City shall assist businesses in developing and implementing commuter benefits programs (e.g., offers to provide discounted or subsidized transit passes, emergency ride home programs, participation in commuter rideshare programs, parking cash-out or parking pricing programs, or tax credits for bike commuters).

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.

M-8.8 Regional TDM Program

The City shall implement the Alameda County Transportation Commission Travel Demand Management Element of the Congestion Management Program, which includes a checklist covering specific TDM strategies that the city could employ as part of its own TDM plan (e.g., preferential

parking, car/van pools, casual car pools, subsidized transit passes).

M-8.9 City Facility Locations 🌐

When making decisions about where to rent or build new City facilities, the City shall give preference to locations that are accessible to an existing public transit line or ensure that public transit links (e.g. bus lines) are extended to the new locations.

M-9.4 Parking Management

The City shall continue to coordinate with other public and institutional parking suppliers (e.g., BART, Chabot College, and Cal State University, East Bay) to provide sufficient parking, and to implement parking charges and preferential parking programs (e.g. designated parking spaces for carpool/vanpool, electric vehicle, and carshare closer to building entrances.), and shall work with such agencies to minimize the impacts of their parking policies on adjacent residential streets.

M-9.8 Downtown Parking

The City shall maintain and implement a Downtown Parking Management Plan that considers consolidation and expansion of downtown parking with multi-level parking structures and other options to address Downtown parking needs.

M-9.9 Alternative Fuel Vehicle Parking 🌐

The City shall require new private parking lots to grant low-carbon vehicles access to preferred parking spaces, and shall require new private parking lots to provide electric vehicle charging facilities. The City shall provide electric vehicle charging facilities in public parking lots.

M-9.10 Unbundled Multifamily Parking 🌐

The City shall encourage multifamily development projects to separate (i.e., unbundle) the cost of parking from lease or rent payments.

M-9.11 Multifamily Charging Stations 🌐

The City shall consider requiring electric vehicle charging stations in new multifamily development projects.

ECONOMIC DEVELOPMENT ELEMENT

ED-1.19 Local Hiring

The City shall promote local hiring to increase community ownership and resident retention, help achieve a more positive jobs-housing balance, and reduce regional commuting, gas consumption, and greenhouse gas emissions.

ED-6.11 Expand and Promote the Green Business Program 🌐

The City shall coordinate with Alameda County, the Hayward Chamber of Commerce, and local businesses to develop strategies to promote the Alameda County Green Business Program to the Hayward business community.

COMMUNITY SAFETY ELEMENT

CS-5.7 Energy Assurance Plan

The City shall develop, maintain, and implement a citywide Energy Assurance Plan that documents the energy needs of critical City and community facilities and functions, establishes goals and actions to increase energy resiliency during disasters, and prioritizes the use of renewable energy or other sustainable technologies to reduce dependency on the grid during power outages.

NATURAL RESOURCES ELEMENT

NR-2.4 Community Greenhouse Gas Reduction

The City shall work with the community to reduce community-based GHG emissions by 7.7 percent below 2005 baseline levels by 2020, and strive to reduce community emissions by 63.2 percent and 84.8 percent by 2040 and 2050, respectively.

NR-2.5 Municipal Greenhouse Gas Reduction

The City shall reduce municipal greenhouse gas emissions by 7.7 percent below 2005 baseline level by 2020, and strive to reduce municipal emissions by 63.2 percent and 84.8 percent by 2040 and 2050, respectively.

NR-2.6 Greenhouse Gas Reduction in New Development

The City shall reduce potential greenhouse gas emissions by discouraging new development that is primarily dependent on the private automobile; promoting infill development and/or new development that is compact, mixed use, pedestrian friendly, and transit oriented; promoting energy-efficient building design and site planning; and improving the regional jobs/housing balance ratio.

NR-2.7 Coordination with Bay Area Air Quality Management District

The City shall coordinate with the Bay Area Air Quality Management District to ensure projects incorporate feasible mitigation measures to reduce greenhouse gas emissions and air pollution if not already provided for through project design.

NR-2.8 Reduced Emissions for City Operations and Commutes

The City shall promote reduced idling, trip reduction, routing for efficiency, and the use of public transportation, carpooling, and

alternate modes of transportation for operating City departments and City employees.

NR-2.9 Fleet Operations

The City shall continue to purchase low-emission or zero-emission vehicles for the City's fleet and to use available clean fuel sources such as bio-diesel for trucks and heavy equipment.

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.

NR-2.11 Zero-Emission and Low-Emission Vehicle Advocacy

The City shall collaborate with regional, State, and Federal entities to promote the use of alternative fuels and increased vehicle fuel efficiency standards, and to advocate for higher fuel-economy standards, or contribute to regional and state marketing and outreach efforts.

NR-2.12 Preference for Reduced-Emission Equipment

The City shall give preference to contractors using reduced-emission equipment for City construction projects and contracts for services (e.g., garbage collection), as well as businesses that practice sustainable operations.

NR-4.1 Energy Efficiency Measures

The City shall promote the efficient use of energy in the design, construction, maintenance, and operation of public and private facilities, infrastructure, and equipment.

NR-4.2 Energy Efficiency Collaboration

The City shall collaborate with partner agencies, utility providers, and the business community to support a range of energy efficiency, conservation, and waste reduction measures, including the development of green buildings and infrastructure, weatherization programs, installation of energy-efficient appliances and equipment in homes and offices, promotion of energy efficiency retrofit programs, use of green power options, and heightened awareness of the benefits of energy efficiency and conservation issues.

NR-4.3 Efficient Construction and Development Practices

The City shall encourage construction and building development practices that maximize the use of renewable resources and minimize the use of non-renewable resources throughout the life-cycle of a structure.

NR-4.4 Energy Resource Conservation in Public Buildings

The City shall continue to require all public facilities and services to incorporate energy and resource conservation standards and practices.

NR-4.5 Energy Efficient Contractors

When soliciting and awarding public contracts, professional service agreements, or grants to businesses or non-profit agencies, the City shall require, as appropriate, proposals or applications to include information about the sustainability practices of the organization.

NR-4.6 Renewable Energy

The City shall encourage and support the generation, transmission, use, and storage of locally-distributed renewable energy in order to promote energy independence, efficiency, and sustainability. The City shall consider various incentives to encourage the

installation of renewable energy projects (i.e. reduced permit fees and permit streamlining).

NR-4.7 Renewable Portfolio Standards

The City shall strive to increase the renewable portion of utility electricity generation by advocating for increased state-wide renewable portfolio standards.

NR-4.8 Community Choice Aggregation

The City shall assess and, if appropriate, pursue participation in community choice aggregation, or other similar programs. The City shall seek partnerships with other jurisdictions to minimize start up and administration costs.

NR-4.9 Renewable Energy Financing Programs

The City shall collaborate with regional agencies and organizations to promote financing programs for renewable energy systems.

NR-4.10 Public Renewable Energy Generation

The City shall ensure that all new City-owned facilities are built with renewable energy, as appropriate to their functions, and shall install renewable energy systems at existing City facilities where feasible.

NR-4.11 Green Building Standards

The City shall require newly constructed or renovated public and private buildings and structures to meet energy efficiency design and operations standards with the intent of meeting or exceeding the State’s zero net energy goals by 2020.

NR-4.12 Urban Forestry

The City shall encourage the planting of native and diverse tree species to reduce heat island effect, reduce energy consumption, and contribute to carbon mitigation.

NR-4.13 Energy Use Data 🌐

The City shall consider requiring disclosure of energy use and/or an energy rating at time of sale for single family homes, multifamily properties, and commercial buildings. The City shall encourage residents to voluntarily share their energy use data and/or ratings on a regular basis, such as the Home Energy Rating System (HERS) or the Home Energy Score, with the City as part of collaborative efficiency efforts.

NR-4.14 Energy Efficiency Retrofits 🌐

The City shall collaborate with regional entities and others to promote incentive programs for energy efficiency retrofits such as the Energy Upgrade California program for residential properties.

NR-4.15 Energy Efficiency Programs 🌐

The City shall promote the use of the Energy Star Portfolio Manager program and energy benchmarking training programs for nonresidential building owners

NR-6.9 Water Conservation

The City shall require water customers to actively conserve water year-round, and especially during drought years.

NR-6.10 Water Recycling

The City shall support efforts by the regional water provider to increase water recycling by residents, businesses, non-profits, industries, and developers, including identifying methods for water recycling and rainwater catchment for indoor and landscape uses in new development.

NR-6.11 Reclaimed Water Usage

The City shall take an active role in increasing the use of reclaimed water and educating the community about the methods of safe collection and benefits of using reclaimed water.

NR-6.12 Dual Plumbing Systems

The City shall encourage the installation and use of dual plumbing systems in new buildings to recycle greywater.

NR-6.13 Water Recycling Program Advocacy

The City shall coordinate with the East Bay Municipal Utility District and the Hayward Area Recreation and Park District to advance water recycling programs, including using treated wastewater to irrigate parks, golf courses, and roadway landscaping and encouraging rainwater catchment system-wide and greywater usage techniques in new buildings.

HAZARDS ELEMENT

HAZ-4.1 Monitor Rising Sea Level

The City shall monitor information from regional, State, and Federal agencies on rising sea levels in the San Francisco Bay to determine if additional adaptation strategies should be implemented to address flooding hazards.

HAZ-4.2 Adapting to Rising Tides

The City shall continue to participate in the Adapting to Rising Tides Project to develop adaptation strategies that protect the Hayward shoreline and enhance the community’s overall resilience to rising sea levels.

HAZ-4.3 Shore Realignment Master Plan

The City shall coordinate with the Hayward Area Shoreline Planning Agency, the Bay Conservation Development Commission, and other agencies involved in the Adapting to Rising Tides Project to develop and implement a Regional Shore Realignment Master Plan. The Master Plan shall identify:

- A preferred long-term strategy and implementation program to protect the regional shoreline.

- Interim standards to regulate development within potentially affected areas if sea levels rise prior to the construction of shoreline protection projects.
- Potential flood mitigation measures to apply to development projects within potentially affected areas.

HAZ-4.4 FIRM Maps

The City shall strive to provide updated Flood Insurance Rate Maps that reflect rising sea levels and changing flood conditions.

HAZ-4.5 Rising Sea Level Disclosures

The City shall require that all new development within areas subject to future flooding as a result of rising sea levels provide future residents and property owners with deed notices upon transfer of title concerning rising sea levels and flooding.

EDUCATION AND LIFELONG LEARNING ELEMENT

EDL-3.3 Sustainable Design

The City shall encourage school districts to incorporate sustainable design practices in the construction and renovation of school facilities to reduce energy and water consumption and related utility expenses.

COMMUNITY HEALTH AND QUALITY OF LIFE

HQL-2.3 Education about Walking, Cycling and Using Public Transit

The City shall partner with schools, employers, transit agencies, HARD, and community groups to teach bicycle and pedestrian safety in schools and workplaces and to educate residents and businesses

about the health and environmental benefits of walking, bicycling, and using public transit.

HQL-3.4 Partnerships for Farmers' Markets

The City shall strive to increase the number of farmers' markets throughout the city and frequency in which they occur by encouraging partnerships between organizers of farmers' markets and the Hayward Unified School District, neighborhood groups, senior facilities, and business groups.

HQL-3.5 Community Garden Target

The City, in cooperation with HARD, shall strive to establish community gardens in existing and planned parks.

HQL-3.6 Community Gardens in Multi-Family Housing Developments

The City shall encourage all new multi-family housing developments to contain designated areas or other shared spaces for community gardens and shall count community gardens toward the common open space requirement.

HQL-8.2 Urban Forest Management Plan

The City shall maintain and implement an Urban Forest Management Plan.

HQL-8.4 Urban Heat Island Effects

The City shall promote planting shade trees with substantial canopies, and require, where feasible, site design that uses appropriate tree species to shade parking lots, streets, and other facilities to reduce heat island effects.

HQL-9.6 Energy Resiliency

The City shall continue to encourage residents and businesses to use less gasoline for transportation, and improve energy efficiency in and renewable energy generation from buildings and industry

processes to reduce impacts from rising oil and energy prices.

HQL-9.7 Climate Adaptation Planning

The City shall examine the potential long-term impacts of climate change on social, economic, and environmental well-being of the city of Hayward.

HQL-9.8 Climate Adaptation in Plans

The City shall address climate adaptation in all disaster preparedness and emergency response plans.

HQL-9.9 Reduce Impacts of Climate Change on Vulnerable Populations

The City shall support plans, standards, regulation, incentives, and investments to reduce the impacts of climate change on those populations most vulnerable to the impacts of climate change.

PUBLIC FACILITIES AND SERVICES ELEMENT

PFS- 1.7 Adaptive Infrastructure

The City shall monitor expected impacts of climate change on the city’s infrastructure and services and make appropriate adaptive facility and service modifications and upgrades.

PFS-2.3 Sustainable Practices

The City shall serve as a role model to businesses and institutions regarding purchasing decisions that minimize the generation of waste, recycling programs that reduce waste, energy efficiency and conservation practices that reduce water, electricity and natural gas use, and fleet operations that reduce gasoline consumption.

PFS-2.4 Sustainable Contracting

When awarding contracts, professional service agreements, or grants to businesses or non-profit agencies, the City shall request

proposals or applications to include information about the sustainability practices of the organization.

PFS-2.5 Alternative Fuels

The City shall, wherever possible, require the use of alternative fuels in new services provided by City franchisees.

PFS-2.6 City Facilities Near Transit

When making decisions about where to rent or build new City facilities, the City shall give preference to locations that are accessible to an existing public transit line or ensure that public transit links (e.g. bus lines) are extended to the new locations.

PFS-2.7 Energy Efficient Buildings and Infrastructure

The City shall continue to improve energy efficiency of City buildings and infrastructure through implementation of the Municipal Green Building Ordinance, efficiency improvements, equipment upgrades, and installation of clean, renewable energy systems.

PFS-3.2 Urban Water Management Plan

The City shall maintain and implement the Urban Water Management Plan, including water conservation strategies and programs, as required by the Urban Water Management Planning Act.

PFS-3.15 Water Conservation Programs

The City shall implement cost effective conservation strategies and programs that increase water use efficiency, including providing incentives for adoption of water efficiency measures Water conservation strategies may include a combination of financial incentives, legislative actions, and public education.

PFS-3.16 Recycled Water 🌍

The City shall increase use of recycled water where appropriate, cost effective, safe, and environmentally sustainable. The City shall work with regional partners to encourage expansion of recycled water infrastructure.

PFS-3.17 Bay-Friendly Landscaping

The City shall promote landscaping techniques that use native and climate appropriate plants, sustainable design and maintenance, water-efficient irrigation systems, and yard clipping reduction practices.

PFS-4.12 Renewable Energy

The City shall support efforts to develop, enhance, and maintain clean, green and renewable energy systems at the Water Pollution Control Facility, including:

- Solar photovoltaic and solar hot water; and
- Methane recovery systems and digester gas combustion systems.

PFS-5.4 Green Stormwater Infrastructure

The City shall encourage “green infrastructure” design and Low Impact Development (LID) techniques for stormwater facilities (i.e., using vegetation and soil to manage stormwater) to achieve multiple benefits (e.g., preserving and creating open space, improving runoff water quality).

PFS-5.9 Rainwater Harvesting

The City shall encourage the use of rainwater harvesting facilities, techniques, and improvements where appropriate, cost effective, safe, and environmentally sustainable.

PFS-7.4 Solid Waste Diversion

The City shall comply with State goals regarding diversion from landfill, and strive to comply with the provisions approved by the Alameda County Waste Management Authority.

PFS-7.5 Municipal Waste Reduction

The City shall reduce municipal waste generation by continuing to employ a wide range of innovative techniques, including electronic communications to reduce paper usage and buying products with less packaging and in bulk, where feasible.

PFS-7.6 Municipal Reuse

The City shall reduce municipal waste disposed by continuing to reuse equipment to prolong their useful life.

PFS-7.7 Municipal Collection of Recyclables and Organics

The City shall continue to require its franchisee to arrange for regular collection of recyclables and organics from all municipal facilities.

PFS-7.8 Recycling Collection at City Facilities and Parks

The City shall continue to require its franchisee to provide outdoor recycling collection containers at, and services to, all City parks and related facilities.

PFS-7.9 City Contracts 🌍

The City shall continue to implement the Environmentally Friendly Preferred Purchasing Program by requiring City contractors to use best management practices (e.g., waste prevention, salvage and reuse, recycling and reusing) to maximize diversion of waste from landfills.

PFS-7.10 Recycled Products or Processes for Capital Projects

The City shall implement the use of recycled products or recycling processes whenever possible as part of any capital project.

PFS-7.11 Disposable, Toxic, or Non-Renewable Products

The City shall reduce the use of disposable, toxic, or nonrenewable products in City operations.

PFS-7.12 Construction and Demolition Waste Recycling

The City shall require demolition, remodeling and major new development projects to salvage or recycle asphalt and concrete and all other non-hazardous construction and demolition materials to the maximum extent practicable.

PFS-7.13 Residential Recycling 

The City shall encourage increased participation in residential recycling programs, and strive to comply with the recycling provisions approved by the Alameda County Waste Management Authority Board. The City shall work with StopWaste.org to monitor participation in residential recycling programs and educate the community regarding actual composition of waste sent to landfills.

PFS-7.14 Commercial Recycling 

The City shall encourage increased participation in commercial and industrial recycling programs, and strive to comply with the recycling provisions approved by the Alameda County Waste Management Authority Board. The City shall work with StopWaste.org to provide technical assistance to businesses to implement mandatory recycling.

PFS-7.15 Yard Clippings Reduction

The City shall encourage residents to reduce yard clippings through at-home composting

or use the green waste collection service provided by the City's franchisee.

PFS-7.16 Organics Collection

The City shall encourage residents and businesses to separate for collection food and food-soiled paper using organics collection services provided by the City's franchisee.

PFS-7.17 Waste-to-Energy Generation Systems 

The City shall advocate for waste management strategies that aim to maximize the value of solid waste by using waste-to-energy generation systems.

PFS-7.18 E-Waste Disposal

The City shall encourage residents and businesses to properly dispose of their e-waste at permitted facilities.

PFS-7.20 Food Scraps Collection 

The City shall promote and expand the food scraps collection program for single-family homes to minimize organic waste in landfills.

PFS-7.21 Mandatory Recycling 

The City shall implement mandatory recycling for commercial and multifamily uses and work with StopWaste.org to increase participation in this program.

PFS-7.22 Maximize Solid Waste Value 

The City shall advocate for waste management strategies that maximize the useful value of solid waste, such as using landfill gas to generate electricity.

PFS-7.23 Consumption Reduction 

The City shall education the community about the benefits of reducing overall consumption.

PFS-8.8 Renewable Energy Integration

The City shall encourage energy providers (e.g., PG&E) to offer their support and assistance in integrating individual renewable energy systems (e.g., solar systems) into the electricity grid.



DRAFT GENERAL PLAN IMPLEMENTATION PROGRAMS RELATED TO SUSTAINABILITY AND CLIMATE ACTION

Draft implementation programs are listed in the following tables. Similar to the policies, each implementation program is followed by a set of letters that identifies a type of action or tool that the City will use to carry out the implementation program. Following each implementation program is a description of which policy(ies) the program implements, which City department(s) is responsible for implementation, and which department(s) will support the responsible department(s). Each program also identifies a potential funding source for the program. This is intended only to inform the City budgeting process. It does not commit funding to a program for a given timeframe. The City will determine as part of the annual budget process which programs will be funded based on available City resources and needs. Finally, to the right of each program is a timeline that identifies when the implementation will be completed.

The implementation program tables are organized as follows:

- Table GPA: General Plan Administration Implementation Programs
- Table LU: Land Use and Community Character
- Table M: Mobility
- Table ED: Economic Development
- Table CS: Community Safety

- Table NR: Natural Resources
- Table HAZ: Hazards
- Table EDL: Education and Life-Long Learning
- Table: HQL: Community Health and Quality of Life
- Table PFS: Public Facilities and Services
- Table H: Housing

Table LU LAND USE AND COMMUNITY CHARACTER Implementation Programs	2014-2016	2017-2019	2020-2040	Annual	Ongoing
<p>1. Comprehensive Zoning Ordinance Update. The City shall prepare a comprehensive update to the Hayward Zoning Ordinance to ensure that the City’s zoning regulations align with the guiding principles, goals, and policies of the General Plan. The update shall consider the following:</p> <ul style="list-style-type: none"> ▪ Establishing land use regulations that create more flexibility and certainty for businesses and developers to encourage economic investment; ▪ Establishing appropriate development standards (i.e. reducing the minimum lot width) for single-family and townhome lots that are alley-loaded; ▪ Revising regulations and requirements for second units to encourage the development of additional housing opportunities; ▪ Updating land use regulations to encourage community gardens, farmers markets, and urban agriculture;; ▪ Updating land use regulations to increase access to healthy food options throughout the city; ▪ Updating the common open space standards for multi-family housing developments to allow community gardens and roof-top gardens to count towards a percentage of the project’s common open space; ▪ Creating regulations to limit the development of new liquor stores and fast food restaurants near schools and in areas with a high concentration of such uses; ▪ Creating regulations to restrict the sale of cigarettes near schools; ▪ Adopting universal design standards for housing developments; ▪ Updating landscape standards to require site design that uses appropriate tree species to shade parking lots, streets, and other facilities; ▪ Adopting tree protection standards to protect and maintain a healthy urban forrest; ▪ Adopting new regulations to limit the ability of property owners to 	✓				

Table LU LAND USE AND COMMUNITY CHARACTER Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
<p>subdivide properties below 100 acres within the East Hills Annex;</p> <ul style="list-style-type: none"> ▪ Permitting and encouraging the use of paving materials that allow percolation and reduce stormwater runoff; ▪ Updating land use regulations for residential districts to allow for a variety of complimentary uses and amenities that make neighborhoods more complete; ▪ Updating commercial land use regulations to allow for the conditional approval of mixed-use developments; ▪ Developing clear permit requirements and approval processes for land uses that involve the use, storage, and/or transportation of hazardous materials; ▪ Modifying private street design standards to reduce the area of impervious surfaces on development sites; ▪ Developing new land use regulations and standards to allow a mix of employee-intensive uses within the Industrial Technology and Innovation Corridor (including office, corporate campuses, research and development, and specialized manufacturing); ▪ Establishing provisions to conditionally allow businesses within commercial and industrial zones to provide on-site childcare services for employees; ▪ Establishing developments standards that help reduce greenhouse gas emissions; and ▪ Establishing the approval of the Preliminary Development Plan to coincide with the approval of the (Vesting) Tentative Tract Map; and ▪ Establishing provisions to require the Precise Plan to be submitted concurrently with the submittal of Tract Improvement Plans and the Final Map. <p><i>[Source: New Program; City Staff] (RDR)</i></p>						
Implements Which Policy(ies)	LU-1.4, LU-1.6, LU-1.9, LU-3.1, LU-3.3, LU-3.4, LU-3.5, LU-4.1, LU-4.2, LU-4.3, LU-5.1, LU-5.2, LU-5.4, LU-5.7, LU-6.1, LU-6.2, LU-6.4, LU-6.5, ED-1.3, ED-1.12, ED-1.15, ED-6.2, EDL-1.4, HAZ-6.3, HQL-3.1, HQL-3.2, HQL-3.4, HQL-3.5, HQL-3.6, HQL-3.8, HQL-4.3, HQL-6.5					
Responsible Department(s)	Development Services					
Supporting Department(s)/ Partner(s)	Public Works – Engineering and Transportation, Fire, City Manager,					

Table M MOBILITY ELEMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
<p>10.🌐 Improved Traffic Flow Program. The City shall work with Metropolitan Transportation Commission and the Alameda County Transportation Commission to develop a program to improve traffic flow and reduce vehicle idling by means of synchronized signals, transit and emergency signal prioritization, and other traffic flow management techniques. The program should consider expanding roadway and intersection performance metrics to use pedestrian and bicycle level of service, accessibility, intersection crossing times, and other relevant data, and consider costs and greenhouse gas reduction benefits of biking, walking, carpooling, and public transit. <i>[Source: New Program, Climate Action Plan] (MPSP/IGC)</i></p>			✓			
Implements Which Policy(ies)	M-4.1, M-4.4					
Responsible Department(s)	Public Works – Engineering and Transportation					
Supporting Department(s)/ Partner(s)	Public Work – Utilities and Environmental Services, MTC, ACCMA					
Funding Source(s)	General Fund					
<p>12.🌐 Pedestrian Master Plan. The City shall develop, adopt, and implement a Pedestrian Master Plan that includes a planned sidewalk system, pedestrian design standards, and implementation program. As part of the preparation of the Pedestrian Master Plan, the City shall review and incorporate (as appropriate) planned improvements and programs identified in the Alameda Countywide Pedestrian Plan that connect Hayward’s existing and planned pedestrian facilities to regional walking and bicycle facilities. The Pedestrian Master Plan shall include both a Safe Routes to Schools Plan and an ADA Transition Plan. <i>[Source: Climate Action Plan, City Staff] (MPSP)</i></p>			✓			
Implements Which Policy(ies)	M-5.2, M-5.4, M-5.5					
Responsible Department(s)	Public Works – Engineering and Transportation					
Supporting Department(s)/ Partner(s)	Development Services, Public Works— Utilities and Environmental Services					
Funding Source(s)	General Fund, Grants					
<p>13.🌐 Pedestrian Master Plan Review and Update. The City shall review and update (as necessary) the Pedestrian Master Plan every five years. <i>[Source: Climate Action Plan, City Staff] (MPSP)</i></p>						
Implements Which Policy(ies)	M-5.2, M-3.12, M-5.4, M-5.5					
Responsible Department(s)	Public Works – Engineering and Transportation					
Supporting Department(s)/ Partner(s)	Development Services, Public Works – Utilities and Environmental Services					
Funding Source(s)	General Fund			✓		

Table M MOBILITY ELEMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
14.🌐 Bicycle Master Plan Review and Update. The City shall review and update (as necessary) the Bicycle Master Plan every five years. As part of the next review of the Bicycle Master Plan, the City shall review and incorporate (as appropriate) planned improvements and programs identified in the Alameda Countywide Bicycle Master Plan (October 25, 2012) that connect Hayward’s existing and planned bicycle facilities to regional bicycle facilities. <i>[Source: Climate Action Plan, City Staff] (MPSP)</i>				✓		
Implements Which Policy(ies)	M-6.1, M-6.3					
Responsible Department(s)	Public Works – Engineering and Transportation					
Supporting Department(s)/ Partner(s)	Development Services, Public Works – Utilities and Environmental Services					
Funding Source(s)	General Fund					
15.🌐 Shuttle Service Study. The City shall conduct a study to evaluate the feasibility of establishing shuttle services to address any unmet transit needs, to fill in gaps in service that are not being met by other transit providers, and to improve transit connections between major transit stations and employment centers. Based on findings from the study, the City shall prepare and submit recommendations to the City Council relative to the options for establishing such services in the city. <i>[Source: New Program, Climate Action Plan] (PSR)</i>			✓			
Implements Which Policy(ies)	M-7.11					
Responsible Department(s)	Public Works – Engineering and Transportation					
Supporting Department(s)/ Partner(s)	Development Services, City Manager, AC Transit, Public Works – Utilities and Environmental Services					
Funding Source(s)	General Fund					
20.🌐 Citywide TDM Plan. The City shall develop and adopt a citywide Transportation Demand Management (TDM) Plan, which should include strategies to reduce peak-hour traffic, such as staggered work hours, flexible schedule options, and telecommuting from home offices. <i>[Source: Climate Action Plan, City Staff] (MPSP)</i>			✓			
Implements Which Policy(ies)	M-8.2					
Responsible Department(s)	Public Works – Engineering and Transportation					
Supporting Department(s)/ Partner(s)	Development Services, Public Works – Utilities and Environmental Services, Alameda County Transportation Commission					
Funding Source(s)	General Fund					

Table M MOBILITY ELEMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
21. Citywide TDM Plan Review and Update. The City shall review and update (as necessary) the citywide Transportation Demand Management (TDM) Plan every five years. <i>[Source: New Program, City Staff] (MPSP)</i>						
Implements Which Policy(ies)	M-8.2					
Responsible Department(s)	Public Works – Engineering and Transportation		✓			
Supporting Department(s)/ Partner(s)	Development Services, Public Works – Utilities and Environmental Services					
Funding Source(s)	General Fund					
22. 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. <i>[Source: New Program, Climate Action Plan] (MPSP/PSR)</i>						
Implements Which Policy(ies)	M-8.3, M-8.4, M-8.5, M-8.6			✓		
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					
Funding Source(s)	General Fund					
23. City Commuter Benefits. The City shall continue to offer commuter benefits, such as Tran Ben or Commuter Checks to City employees, and when possible, expand or develop other commuter benefits programs, such as parking cash-out or parking pricing programs, or taking advantage of the new tax credit for biking to work. <i>[Source: New Program, Climate Action Plan] (CSO)</i>						✓
Implements Which Policy(ies)	M-8.5					
Responsible Department(s)	Human Resources					
Supporting Department(s)/ Partner(s)	Public Works – Engineering and Transportation, City Manager, Public Works – Utilities and Environmental Services					
Funding Source(s)	General Fund					
24. TDM Amendments. The City shall amend Administrative Rule 2.26 to reflect current transportation demand management opportunities. <i>[Source: New Program, Climate Action Plan] (RDR)</i>			✓			
Implements Which Policy(ies)	M-8.3, M-8.4					
Responsible Department(s)	City Manager					

Table M MOBILITY ELEMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
Supporting Department(s)/ Partner(s)	Human Resources, Public Works – Engineering and Transportation, Public Works – Utilities and Environmental Services					
Funding Source(s)	General Fund					
<p>25.🌐 Off-Street Parking Regulations Comprehensive Update. The City shall amend the Off-Street Parking Regulations of the Municipal Code to incorporate smart growth principles and to incentivize walking, biking, and public transit. The update shall consider the following changes:</p> <ul style="list-style-type: none"> ▪ Creating a single “blended” parking requirement for commercial uses to facilitate future changes of use (i.e. changing a retail store to a restaurant); ▪ Proving requirements or incentives for bicycle parking; ▪ Allowing on-street parking along the property’s frontage to count towards satisfying a portion of the property’s off-street parking requirements; ▪ Setting parking maximums to limit the amount of parking that can be built on a site; ▪ Creating parking preferences or incentives for residents who rideshare or use low- or zero-emissions vehicles; and ▪ Allowing property owners to develop and implement parking demand management plans that consider ways to reduce the need for off-street parking by using shared parking arrangements, valet parking services, paid parking, and other appropriate techniques. <p><i>[Source: New Program, Climate Action Plan] (RDR)</i></p>			✓			
Implements Which Policy(ies)	M-9.2, M-9.3, M-9.11					
Responsible Department(s)	Development Services					
Supporting Department(s)/ Partner(s)	Public Works – Engineering and Transportation, Police, Fire, Public Works – Utilities and Environmental Services					
Funding Source(s)	General Fund					

Table ED ECONOMIC DEVELOPMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
4.🌱 Energy and Sustainability Businesses Program. The City shall coordinate with the Chamber of Commerce and the East Bay Economic Development Alliance to develop a program that supports and attracts businesses in the renewable and energy-efficiency sector to Hayward. <i>[Source: Climate Action Plan] (MPSP/JP/IGC)</i>						
Implements Which Policy(ies)	ED-1.7, ED-6.11		✓			
Responsible Department(s)	City Manager					
Supporting Department(s)/ Partner(s)	Development Services, Chamber of Commerce, East Bay Economic Development Alliance, Public Works – Utilities and Environmental Services					
Funding Source(s)	General Fund					
8. Local Hire Incentives. The City shall develop a package of business incentives (e.g., reduced business license fees) to encourage Hayward businesses to hire local residents. <i>[Source: New Program; GPUTF, PC/CC] (MPSP/RDR)</i>						
Implements Which Policy(ies)	ED-1.19	✓				
Responsible Department(s)	Finance					
Supporting Department(s)/ Partner(s)	City Manager, Development Services, City Attorney					
Funding Source(s)	General Fund					

Table CS COMMUNITY SAFETY Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
18. Energy Assurance Plan. The City shall develop and implement an Energy Assurance Plan to ensure that critical facilities have access to power during emergencies and power outages. <i>[Source: New Program; City Staff] (MPSP)</i>						
Implements Which Policy(ies)	CS-5.7			✓		
Responsible Department(s)	Public Works – Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	Fire, Police, Development Services, Maintenance Services					
Funding Source(s)	General Fund, Grants					
19. Energy Assurance Plan Update. The City shall review and update (as necessary) the Energy Assurance Plan every five years. <i>[Source: New Program; City Staff] (MPSP)</i>						
Implements Which Policy(ies)	CS-5.7			✓		

Table CS COMMUNITY SAFETY Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
Responsible Department(s)	Public Works – Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	Fire, Police, Development Services, Maintenance Services					
Funding Source(s)	General Fund, Grants					

Table NR NATURAL RESOURCES ELEMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
5. Green Building Ordinance. The City shall review and update (as necessary) requirements in the Green Building Ordinance every five years to reflect new construction standards and practices and new building materials and products. <i>[Source: New Program, City staff] (RDR)</i>						
Implements Which Policy(ies)	NR-4.9	✓		✓		
Responsible Department(s)	Development Services					
Supporting Department(s)/ Partner(s)	Public Works – Utilities and Environmental Services					
Funding Source(s)	General Fund					
6. Recycled Water Program. The City shall construct facilities to deliver recycled water to customers within specified proximity to the Water Pollution Control Facility. <i>[Source: New Program, City staff] (MPSP)</i>						
Implements Which Policy(ies)	NR-6.9 through NR-6.13					
Responsible Department(s)	Public Works – Utilities and Environmental Services			✓		
Supporting Department(s)/ Partner(s)	Development Services					
Funding Source(s)	Wastewater System Improvement Fund, Grants					
7. Water Conservation Standards. The City shall develop and adopt Water Conservation Standards within the Municipal Code for households, businesses, industries, and public infrastructure. Water conservation standards may include the following: <ul style="list-style-type: none"> ▪ Require low-flow appliances and fixtures in all new development; ▪ Provide incentive programs that encourage retrofitting existing development with low-flow water fixtures; ▪ Require new development and landscaped public areas to utilize state-of-the-art irrigation systems that reduce water consumption, consistent with the Bay-Friendly Efficient Landscape Ordinance; ▪ Encourage use of drought-tolerant and native vegetation; 		✓				

Table NR NATURAL RESOURCES ELEMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
<ul style="list-style-type: none"> ▪ Require new plantings to be grouped by hydrozones of water needs listed in the Water Use Classifications of Landscape Species III (WUCOLS) developed by the Department of Water Resources and the University of California Cooperative Extension (or successor document); and ▪ Require development project approvals to include a finding that all feasible and cost-effective options for conservation and water reuse are incorporated into project design. <i>[Source: New Program, City staff] (RDR)</i> 						
Implements Which Policy(ies)	NR-6.9 through NR-6.16					
Responsible Department(s)	Public Works – Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	Development Services					
Funding Source(s)	Water Enterprise Fund					
<p>8. NPDES Permit Compliance. The City shall continue to comply with the San Francisco Bay Region National Pollutant Discharge Elimination System (NPDES) Municipal Regional Stormwater Permit and continue to implement the following actions:</p> <ul style="list-style-type: none"> ▪ Maintain municipal infrastructure (sewer systems, roads, corporation yards, buildings) to reduce pollutants that flow into water courses; ▪ Require development to comply with the Alameda County Stormwater Quality Control Requirements; ▪ Work with developers to ensure compliance with the City’s minimum standards and NPDES requirements; ▪ Encourage all projects to use pervious pavements, cluster structures, disconnect downspouts, minimize land disturbance, and use micro-detention, such as Low Impact Development (LID) techniques; ▪ Require businesses to have adequate source control measures to limit pollution generation; ▪ Require businesses that may be susceptible to polluting stormwater to implement best management practices (BMPs); ▪ Inspect contamination sites to prevent illicit discharges; ▪ Inspect municipal storm drains to eliminate illicit discharges and prevent illegal dumping; ▪ Educate the public about stormwater pollution prevention methods and 						✓

Table NR NATURAL RESOURCES ELEMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
provide incentives for public participation; <ul style="list-style-type: none"> ▪ Advocate integrated pest management through public education; ▪ Manage waste generated from the cleaning and treating of copper architectural features including copper roofs; ▪ Adopt a local ordinance requiring the installation of a sanitary sewer connection for pools, spas, and fountains to prohibit discharges of copper-based chemicals or other fungicides into storm drains; and ▪ Maintain the City’s street sweeping program. <i>[Source: New Program, City staff] (RDR)</i>						
Implements Which Policy(ies)	NR-6.8					
Responsible Department(s)	Public Works – Engineering and Transportation					
Supporting Department(s)/ Partner(s)	Development Services, Maintenance Services					
Funding Source(s)	General Fund					
9.🌐 Residential Energy Performance Audit and Disclosure Ordinance. The City shall adopt a Residential Energy Performance Audit and Disclosure (EPAD) Ordinance for detached single-family homes and multi-family homes. The EPAD Ordinance shall require energy performance disclosures at determined trigger points or thresholds and improved energy efficiency and energy conservation in residential buildings. The EPAD’s required efficiency improvements shall be those that are determined to be affordable and cost-effective. <i>[Source: New Program; revised Residential Energy Conservation Ordinance (RECO); Climate Action Plan] (RDR)</i>			✓	✓		
Implements Which Policy(ies)	NR-2.4, NR-2.6					
Responsible Department(s)	Public Works – Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	Development Services					
Funding Source(s)	General Fund					

Table NR NATURAL RESOURCES ELEMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
10.🌐 Commercial Energy Performance Audit and Disclosure Ordinance. The City shall adopt a Commercial Energy Performance Audit and Disclosure (CPAD) Ordinance for detached single-family homes and multi-family homes. The CPAD Ordinance shall require energy performance disclosures at determined trigger points or thresholds and improved energy efficiency and energy conservation in commercial buildings. The CPAD's required efficiency improvements shall be those that are determined to be affordable and cost-effective. <i>[Source: New Program; revised Commercial Energy Conservation Ordinance (CECO); Climate Action Plan] (RDR)</i>			✓	✓		
Implements Which Policy(ies)	NR-2.4, NR-2.6					
Responsible Department(s)	Public Works – Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	Development Services					
Funding Source(s)	General Fund					
11.🌐 Energy Reduction Initiative and Annual Report. The City shall develop and implement a public information and education campaign to encourage every household and every business to reduce their energy consumption by 20 percent by 2020. The City shall evaluate and report to the City Council annually on the community's progress in achieving the ten percent goal, and recommend additional efforts as necessary to ensure the goal is met. <i>[Source: New Program, Climate Action Plan] (MPSP/PSR/PI)</i>		✓			✓	
Implements Which Policy(ies)	NR-4.1, NR-4.13					
Responsible Department(s)	Public Works – Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	City Manager, Development Services, PG&E					
Funding Source(s)	General Fund, Grants					
12.🌐 Home Energy Monitors and Annual Report. The City shall develop a program to encourage the installation of Home Energy Monitors in existing homes to allow residents to monitor energy use and receive feedback on their real-time and long-term average energy consumption. The City shall evaluate and report to the City Council annually on the community's participation in the program, and any additional reductions in energy use that result from implementation of the program. <i>[Source: New Program, Climate Action Plan] (MPSP/PSR)</i>			✓		✓	
Implements Which Policy(ies)	NR-4.13					
Responsible Department(s)	Public Works – Utilities and Environmental Services					

Table NR NATURAL RESOURCES ELEMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
Supporting Department(s)/ Partner(s)	City Manager, Development Services, PG&E					
Funding Source(s)	General Fund, Grants					
13.🌐 Financing Program for Residential Energy Efficiency Retrofits. The City shall work with regional agencies and organizations to develop a residential energy efficiency retrofit financing program for single-family and multi-family homes. <i>[Source: New Program, Climate Action Plan] (MPSP/FB)</i>						
Implements Which Policy(ies)	NR-4.14	✓				✓
Responsible Department(s)	Public Works – Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	City Manager, Development Services, Finance					
Funding Source(s)	General Fund, Grants					
14.🌐 Financing Program for Commercial Energy Efficiency Retrofits. The City shall work with regional agencies and organizations to develop a commercial energy efficiency retrofit financing program for commercial and industrial properties. <i>[Source: New Program, Climate Action Plan] (MPSP/FB)</i>						
Implements Which Policy(ies)	NR-4.2, NR-4.14	✓				✓
Responsible Department(s)	Public Works – Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	City Manager, Development Services, Finance					
Funding Source(s)	General Fund, Grants					
15.🌐 Energy Conservation Master Plan. The City shall develop and adopt an Energy Conservation Master Plan to improve energy efficiency of City-owned buildings. <i>[Source: New Program, Climate Action Plan] (MPSP)</i>						
Implements Which Policy(ies)	NR-4.4			✓		
Responsible Department(s)	Public Works – Utilities and Environmental Services, Maintenance Services					
Supporting Department(s)/ Partner(s)	Development Services					
Funding Source(s)	General Fund, Grants					
16.🌐 Energy Conservation Master Plan Review and Update. The City shall review and update (as necessary) the Energy Conservation Master Plan every five years. <i>[Source: New Program, Climate Action Plan] (MPSP)</i>						
Implements Which Policy(ies)	NR-4.4			✓		
Responsible Department(s)	Public Works – Utilities and Environmental Services, Maintenance Services					

Table NR NATURAL RESOURCES ELEMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
Supporting Department(s)/ Partner(s)	Development Services					
Funding Source(s)	General Fund, Grants					
17.🌐 City Building Audits and Reports. The City shall conduct an energy efficiency audit of City-owned buildings every five years to identify opportunities for efficiency improvements from both operations and equipment upgrades. The City shall prepare and submit a report to the City Council that summarizes the results of the audit and makes recommendations for improvements that will improve energy efficiency. <i>[Source: New Program, Climate Action Plan] (PSR)</i>				✓		
Implements Which Policy(ies)	NR-4.4					
Responsible Department(s)	Public Works – Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	Development Services, Maintenance Services, City Manager					
Funding Source(s)	General Fund, Grants					
18.🌐 Financing Program for the Installation of Residential Renewable Energy Systems. The City shall work with regional agencies and organizations to develop a financing program for the installation of renewable energy systems on single-family and multi-family residential buildings and mobile homes. <i>[Source: New Program, Climate Action Plan] (FB/IGC/MPSP)</i>			✓			✓
Implements Which Policy(ies)	NR-4.2, NR-4.6, NR-4.9					
Responsible Department(s)	Public Works – Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	Development Services, Finance					
Funding Source(s)	General Fund, Grants					
19.🌐 Financing Program for the Installation of Commercial Renewable Energy Systems. The City shall work with regional agencies and organizations to develop a financing program for the installation of renewable energy systems on commercial and industrial properties. <i>[Source: New Program, Climate Action Plan] (FB/IGC/MPSP)</i>			✓			✓
Implements Which Policy(ies)	NR-4.2, 4.6, NR-4.9, NR-4.15					
Responsible Department(s)	Public Works – Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	Development Services, Finance					
Funding Source(s)	General Fund, Grants					

Table NR		NATURAL RESOURCES ELEMENT Implementation Programs			2014-2016	2017-2019	2020-2040	Annual	Ongoing
<p>20.🌍 Renewable Energy Generation Potential. The City shall conduct a city-wide study to estimate the total potential for renewable energy generation on City facilities and the estimated costs and benefits of developing that potential. Based on findings from the study, the City shall develop a plan to develop cost effective renewable energy projects. <i>[Source: New Program, Climate Action Plan] (PSR)</i></p>							✓		
Implements Which Policy(ies)	NR-4.6, NR-4.9, NR-4.6								
Responsible Department(s)	Maintenance Services, Public Works – Utilities and Environmental Services								
Supporting Department(s)/ Partner(s)	Development Services, City Manager								
Funding Source(s)	Grants, General Fund								
<p>21.🌍 Carbon Management Activities Program. The City shall develop and implement a program to maximize carbon sequestration activities on private and public lands, such as planting trees or managing wetlands. <i>[Source: New Program, Climate Action Plan] (MPSP)</i></p>									
Implements Which Policy(ies)	NR-3.1 through NR 3.5, NR-4.12								
Responsible Department(s)	Public Works – Utilities and Environmental Services, Maintenance Services	✓							✓
Supporting Department(s)/ Partner(s)	Development Services, Hayward Area Recreation and Park District, East bay Regional Park District								
Funding Source(s)	General Fund, Grants								
<p>22.🌍 Green Portal. The City shall develop and maintain a stand-alone Green Portal, or website, that serves as the City’s hub for all things green. The portal should contain a dedicated area for green building; all programs related to the climate action plan, conservation, and efficiency; and information about local green jobs and training. The portal will ensure that all residents and businesses have access to information on the City’s climate-related initiatives. <i>[Source: New Program, Climate Action Plan] (PI)</i></p>									
Implements Which Policy(ies)	NR-4.11								
Responsible Department(s)	Public Works – Utilities and Environmental Services, Information Technology								
Supporting Department(s)/ Partner(s)	Development Services								
Funding Source(s)	General Fund, Grants	✓							✓

Table NR		NATURAL RESOURCES ELEMENT Implementation Programs			2014-2016	2017-2019	2020-2040	Annual	Ongoing
<p>23.🌐 Business Engagement in Climate Programs. The City shall engage local businesses and business organizations (e.g., Chamber of Commerce, the Keep Hayward Clean and Green Taskforce, the Alameda County Green Business Program) in climate-related programs that provide a benefit for both local government and businesses, provide businesses with information on local, State, and Federal emissions reduction programs, and solicit input from businesses on ways local government could help streamline their efforts to reduce emissions. <i>[Source: New Program, Climate Action Plan] (IGC/JP/PI/MPSP)</i></p>									✓
Implements Which Policy(ies)	NR-4.2								
Responsible Department(s)	City Manager, Public Works – Utilities and Environmental Services								
Supporting Department(s)/ Partner(s)	Development Services, Chamber of Commerce, KHCG, Alameda County								
Funding Source(s)	General Fund, Grants								
<p>24.🌐 Environmental Education Programs. The City shall coordinate with Alameda County, Pacific Gas & Electric Company, non-profit organizations, and other agencies and businesses to develop and implement an Environmental Education Program that reaches all sectors of the community. <i>[Source: New Program, Climate Action Plan] (IGC/PI/MPSP)</i></p>									
Implements Which Policy(ies)	NR-1.1 through NR-1.12 and NR-3.1 through NR- 3.5, PFS-7.23				✓				
Responsible Department(s)	City Manager, Development Services								
Supporting Department(s)/ Partner(s)	Public Works – Utilities and Environmental Services, Alameda County, EBMUD, PG&E, Alameda County Waste Management Authority								
Funding Source(s)	General Fund, Grants								

Table HAZ		HAZARDS Implementation Programs			2014-2016	2017-2019	2020-2040	Annual	Ongoing
<p>6. Flood Plain Management Ordinance Comprehensive Update. The City shall prepare a comprehensive update to the Floodplain Management Ordinance. The update shall identify procedures, development standards, and flood disclosure requirements for development projects within areas subject to flood hazards as a result of climate change and rising sea levels. <i>[Source: New Program; City Staff] (RDR)</i></p>						✓			
Implements Which Policy(ies)	HAZ-3.2, HAZ-3.3, HAZ-3.4, HAZ-4.5								

Table HAZ HAZARDS Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
Responsible Department(s)	Public Works – Engineering and Transportation, Development Services					
Supporting Department(s)/ Partner(s)	City Manager, Public Works – Utilities and Environmental Services, Alameda County Flood Control and Water Conservation District					
Funding Source(s)	General Fund, Grants					

Table HQL COMMUNITY HEALTH AND QUALITY OF LIFE ELEMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
3. Food Policy Council. The City shall work with Healthy Eating Active Living Cities Campaign (HEAL) to develop and maintain a Food Policy Council or task force to advance healthy food options within the city. <i>[Source: New Program, City Staff] (IGC/PI)</i>						
Implements Which Policy(ies)	HQL-3.1					
Responsible Department(s)	Library and Community Services		✓			✓
Supporting Department(s)/ Partner(s)	City Manager, Development Services, Public Works – Utilities and Environmental Services, Healthy Eating Active Living Cities					
Funding Source(s)	General Fund					
5. Urban Forest Management Plan. The City shall develop and adopt an Urban Forest Management Plan. <i>[Source: New Program, City Staff] (MPSP)</i>						
Implements Which Policy(ies)	HQL-8.1, HQL-8.2					
Responsible Department(s)	Maintenance Services		✓			
Supporting Department(s)/ Partner(s)	Development Services, Public Works – Utilities and Environmental Services, City Manager					
Funding Source(s)	General Fund, Grants					
6. Urban Forest Management Plan Review and Update. The City shall review and update (as necessary) the Urban Forest Management Plan every five years. <i>[Source: New Program, City Staff] (MPSP)</i>						
Implements Which Policy(ies)	HQL-8.1, HQL-8.2					
Responsible Department(s)	Maintenance Services			✓		
Supporting Department(s)/ Partner(s)	Development Services, Public Works – Utilities and Environmental Services, City Manager					

Table HQL COMMUNITY HEALTH AND QUALITY OF LIFE ELEMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
Funding Source(s)	General Fund Grants					
7. ☎ Climate Change Vulnerability Assessment Strategy and Annual Report. The City shall prepare a climate change vulnerability assessment strategy to evaluate the cities susceptibility to climate change impacts and identify tools and strategies to mitigate impacts and create a more resilient city. The City shall submit an annual report to the City Council on implementation of the strategy. <i>[Source: New Program, City Staff] (MPSP)</i>						
Implements Which Policy(ies)	HQL-9.1, HQL-9.7, HQL-9.8			✓	✓	
Responsible Department(s)	Public Works – Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	City Manager, Development Services					
Funding Source(s)	General Fund, Grants					
8. ☎ Climate Change Vulnerability Assessment Strategy Review and Update. The City shall review and update, as necessary, the climate change vulnerability assessment strategy every five years. <i>[Source: New Program, City Staff] (MPSP)</i>						
Implements Which Policy(ies)	HQL-9.1, HQL-9.7, HQL-9.8			✓		
Responsible Department(s)	Public Works – Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	City Manager, Development Services					
Funding Source(s)	General Fund, Grants					

Table PFS PUBLIC FACILITIES AND SERVICES ELEMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
4. Urban Water Management Plan. The City shall review and update (as necessary) the Urban Water Management Plan every five years, as required by the Urban Water Management Planning Act. <i>[Source: Existing Program.] (MPSP)</i>						
Implements Which Policy(ies)	PFS-3.2	✓		✓		
Responsible Department(s)	Public Works-Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	Development Services, EBMUD					
Funding Source(s)	Water Enterprise Fund					

Table PFS PUBLIC FACILITIES AND SERVICES ELEMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
5. Water Shortage Contingency Plan Review and Update. The City shall review and update (as necessary) the Water Shortage Contingency Plan every five years to address climate conditions or other water shortage emergencies. <i>[Source: New Program, City staff] (MPSP)</i>						
Implements Which Policy(ies)	PFS-3.3, PFS-3.4		✓	✓		✓
Responsible Department(s)	Public Works-Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	Development Services, EBMUD					
Funding Source(s)	Water Enterprise Fund					
6. Water Conservation Programs. The City shall regularly prepare on an on-going basis cost effective conservation programs that decrease water use, including providing incentives for implementation of water efficiency measures to achieve water use targets as defined in the City’s 2010 Urban Water Management Plan and required by the State’s Water Conservation Act of 2009. <i>[Source: New Program, City staff] (MPSP)</i>						✓
Implements Which Policy(ies)	PFS-3.15					
Responsible Department(s)	Public Works-Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	Development Services, EBMUD					
Funding Source(s)	Water Enterprise Fund					
13.🌐 Construction and Demolition Debris Recycling Ordinance. The City shall revise the Construction and Demolition Debris Recycling Ordinance to be consistent with the processing capabilities Alameda County transfer stations and waste facilities. The ordinance revision shall also consider additional requirements and provisions included in other local recycling ordinances. <i>[Source: New Program, Climate Action Plan] (RDR)</i>		✓				
Implements Which Policy(ies)	PFS-7.4, PFS-7.12					
Responsible Department(s)	Public Works-Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	Development Services, Alameda County Waste management Authority, City’s franchisee for solid waste and recycling					
Funding Source(s)	Recycling Fund					
14.🌐 Construction and Demolition Debris Recycling Ordinance Review and Update. The City shall review and update the Construction and Demolition Debris Recycling Ordinance every ten years. <i>[Source: New Program, Climate Action Plan] (MPSP)</i>				✓		
Implements Which Policy(ies)	PFS-7.4, PFS-7.12					

Table PFS PUBLIC FACILITIES AND SERVICES ELEMENT Implementation Programs		2014-2016	2017-2019	2020-2040	Annual	Ongoing
Responsible Department(s)	Public Works-Utilities and Environmental Services					
Supporting Department(s)/ Partner(s)	Development Services, Alameda County Waste management Authority, City's franchisee for solid waste and recycling					
Funding Source(s)	Recycling Fund					
15.🌍 Rainwater Harvesting and Greywater Systems. The City shall study the feasibility of amending the City's building and development codes to encourage rainwater harvesting and greywater systems. Based on findings from the study, the City shall prepare and submit recommendations to the City Council to amend the building and development codes as necessary, [Source: New Program, Climate Action Plan] (PSR)			✓			
Implements Which Policy(ies)	PFS-5.4, PFS-5.9					
Responsible Department(s)	Public Works-Utilities and Environmental Services, Development Services					
Supporting Department(s)/ Partner(s)	City Manager					
Funding Source(s)	Water Enterprise Fund					

Original CAP Action Number	CAP Actions Presented to Sustainability Committee on July 10, 2013						Draft General Plan Policy	Draft General Plan Program	
	New CAP Action Number	Title	2013 Revised Emissions Reductions (metric tons CO2e)			Actions/Descriptions			(Proposed) Revised Year to Begin Implementation
			2020	2040	2050				
Strategy 1 – Transportation and Land Use: Reduce Vehicle Miles Traveled									
<i>Community-wide Actions</i>									
<i>Increase the Use of Alternative Modes of Transportation</i>									
Action 1.1	1.1	Commuter Benefits	1,806	2,221	2,456	Assist businesses in developing and implementing commuter benefits programs . A commuter benefits program might consist of an offer to provide discounted or subsidized transit passes, emergency ride home programs, participation in commuter rideshare programs, parking cash-out or parking pricing programs, or tax credits for bike commuters.	2014	M-8.1 Increase Vehicle Occupancy M-8.2 Citywide TDM Plan M-8.3 Employer-based Strategies M-8.4 Automobile Commute Trip Reduction M-8.5 Commuter Benefits Programs M-8.7 Public-Private Transportation Partnerships M-8.8 Regional TDM Program	M-20 Citywide TDM Plan M-21 Citywide TDM Plan Review and Update
Action 1.2	1.2	Car/Bike Sharing	4,475	5,570	6,118	Assist businesses in developing and implementing car and bike sharing programs. Encourage large employers such as the colleges and Hayward Unified School District (HUSD) and the BART stations to implement such programs. Car sharing programs may include Zip Car® or City Car Share. <u>Bike sharing programs may be modeled after the Regional Bicycle Share Pilot Project (http://www.baaqmd.gov/Divisions/Strategic-Incentives/Alternative-Transportation/Bike-Share-Pilot.aspx)</u>	2015	M-8.6 Car/Bike Sharing Programs	
Action 1.2.1	1.3	Car Sharing - Public				Assist businesses in developing and implementing car and bike sharing programs. Encourage large employers such as the colleges and Hayward Unified School District (HUSD) and the BART stations to implement such programs. Car sharing programs may include Zip Car® or City Car Share. <u>Bike sharing programs may be modeled after the Regional Bicycle Share Pilot Project (http://www.baaqmd.gov/Divisions/Strategic-Incentives/Alternative-Transportation/Bike-Share-Pilot.aspx)</u>	2015	M-8.6 Car/Bike Sharing Programs	
Action 1.3	1.4	Parking Strategies	356	1,139	1,260	Modify City parking ordinances to incentivize walking, biking, and public transit by employing parking strategies that include adding bicycle parking, increasing the number of parking spots with time limits, adjusting parking time limits to correspond with adjacent building uses, increasing the number of paid parking spaces, and making space location and fees consistent with demand targets.	2015	M-9.4 Parking Management M-9.8 Downtown Parking M-9.10 Unbundled Multifamily Parking	M-25 Off-Street Parking Regulations Comprehensive Update
<i>Improve Effectiveness of Transportation Circulation System</i>									
Action 1.4	1.5	Buses and Shuttles				Collaborate with BART and AC Transit to explore short- and long-term opportunities to expand services (for example, to extend rapid bus service from Bay Fair to the South Hayward BART Station and pursue a hydrogen fueling station for both buses and personal vehicle use, and improve transit stations by expanding amenities at stations. <u>Study feasibility of establishing a shuttle service operated by a public/private partnership.</u>	2014	M-7.3 Transit Service Expansion M-7.11 Shuttle Service	M-15 Shuttle Service Study
Action 1.5	1.6	Bicycle Master Plan	244	9,162	10,133	Continue to implement and expand the City-wide bicycle master plan through aggressive pursuit of grants and other sources of funding which could be used to expand bike lanes and bike parking facilities. Assist businesses in creating or expanding bike-to-work incentive programs, including bike sharing, adequate secure bike parking, bike maps of the City, bike safety classes, and other incentives that reward bikers.	ongoing	M-6.1 Bikeway System M-6.2 Encourage Bicycle Use	M-14 Bicycle Master Plan Review and Update
Action 1.6	1.7	Pedestrian Master Plan	6,008	7,389	8,172	Develop and implement a City-wide pedestrian master plan that improves the convenience, safety, and attractiveness of and access to pedestrian ways. Update the plan on a regular basis to ensure that walkability improves over time.	2014	M-5.1 Pedestrian Needs M-5.2 Pedestrian System	M-12 Pedestrian Master Plan M-13 Pedestrian Master Plan Review and Update
Action 1.7	1.8	Circulation Element				Update the City's Circulation Element of the General Plan to locate, evaluate appropriate transit modes such as street car, bus rapid transit, or other modes that eventually decrease the need for personal vehicles for travel within the City. The Plan should integrate pedestrian, bicycles, and transit modes with motor and other vehicles. When proposing changes to the transportation system, the City should consider the climate impacts and give preference to solutions that reduce auto dependency and minimize GHG emissions.	2014	M-1.6 Bicycling, Walking, and Transit Amenities	
Action 1.8	1.9	Improve Traffic Flow				Improve traffic flow and reduce vehicle idling by means of synchronized signals, transit and emergency signal priority, and other traffic flow management techniques. When developing the program, Hayward should work with the Metropolitan Transportation Commission and the Alameda County Congestion Management Agency to expand roadway and intersection performance metrics to include pedestrian, bicycle, and level of service criteria to action quantitative and qualitative metrics such as accessibility, intersection crossing times, and other relevant data. It is recommended that Hayward use evaluation criteria that consider costs and GHG reduction benefits of biking, walking, carpooling, and public transit.	ongoing		M-10 Improved Traffic Flow Program
<i>Utilize Zoning & Land-use Mechanisms to Minimize Need for Transportation</i>									
Action 1.9	1.10	Smart Growth				In order to encourage non-automotive modes of travel, continue to implement and update the General Plan Circulation and Land Use Elements pertaining to smart growth principles that support higher-density, mixed-use, and well-designed development in areas within ½ mile of transit stations and ¼ mile of major bus routes. Amend the Municipal Code Zoning, Subdivision, and Off-Street Parking Standards to incorporate smart growth principles, policies, and development standards consistent with recommendations provided in the Appendix H and I of the CAP.	ongoing	LU-1.5 Transit-Oriented Development NR-2.6 Greenhouse Gas Reduction in New Development	
Action 1.10	1.11	Zoning & Development Standards				Explore the development of zoning and development standards that consider both the land uses and the urban design and form of buildings and public space, where the new standards will result in reduced GHG emissions.	ongoing	LU-1.9 Development Standards and Greenhouse Gas Emissions	LU-1 Comprehensive Zoning Ordinance Update
Action 1.11	1.12	Live & Work in Hayward				To minimize the need for automobile travel, the City shall explore potential strategies to increase the number of people who reside in Hayward and are employed in Hayward. Such strategies may include: related to 1) the creation of additional affordable housing to sell to buyers employed in Hayward but who currently reside in other areas and commute to work in Hayward; and 2) <u>improvements in the academic performance of local schools so that people employed in Hayward will choose to live in Hayward. For example, consider implementing a community land trust to purchase and resell foreclosed properties. The program could potentially be coordinated with local businesses.</u>	ongoing	ED-1.19 Local Hiring	ED-8 Local Hire Incentives
<i>Municipal Actions</i>									
Action 1.13	1.13	Commuter Benefits - City Employees	Supporting Action 1.1			Reinstate Continue to offer commuter benefits such as Tran Ben or Commuter Checks to City employees, and when possible expand or develop other commuter benefits programs such as parking cash-out or parking pricing programs, or taking advantage of the new tax credit for biking to work. The City will amend Administrative Rule 2.26 to reflect current transportation demand management opportunities. <u>Continue to promote benefits to City employees and seek improvements that make programs more user friendly.</u>	ongoing	M-8.8 Regional TDM Program	M-23 City Commuter Benefits M-24 TDM Amendments
Action 1.14	1.14	Car Sharing for City Employees	Supporting Action 1.2			Explore options in developing a car-sharing and/or bike sharing program for City employees. If private organizations like Zip Car are not interested in managing the car sharing program, it could be administered by the City as a benefit available to City employees only. A bike share program would also be administered by the City as a benefit to City employees.	2015	M-8.6 Car/Bike Sharing Programs	M-22 City Employee Car/Bike Share Programs
Action 1.15	1.15	Location of New City Facilities				When making decisions about where to rent or build new City facilities, give preference to locations that are accessible to an existing public transit line <u>or ensure that public transit links (e.g. bus lines) are extended to the new locations.</u>	ongoing	M-7.10 New Facilities M-8.9 City Facility Locations PFS-2.6 City Facilities Near Transit	

Original CAP Action Number	CAP Actions Presented to Sustainability Committee on July 10, 2013						(Proposed) Revised Year to Begin Implementation	Draft General Plan Policy	Draft General Plan Program
	New CAP Action Number	Title	2013 Revised (metric tons CO2e)			Actions/Descriptions			
			2020	2040	2050				
Strategy 2 – Transportation: Decrease Carbon-Intensity of Vehicles									
<i>Community-wide Actions</i>									
Action 2.1	2.1	Preferential Parking for Low-Carbon Vehicles				Replace current action with: "Require private parking lots to grant low-carbon vehicles access to preferred parking spaces. Require private parking lots to provide electric vehicle charging facilities." (implement in 2016)	2016	M-9.9 Alternative Fuel Vehicle Parking	M-25 Off-Street Parking Regulations Comprehensive Update
Action 2.2	2.2	Promote Alternative Fuels				Plan an active role in collaborating with regional, state, and federal entities to promote the use of alternative fuels and increased vehicle fuel efficiency standards. For example, Hayward may advocate for higher fuel-economy standards, or contribute to regional and state marketing and outreach efforts.	ongoing	NR-2.11 Zero-Emission and Low-Emission Vehicle Advocacy	
Action 2.3	2.3	EV Charging Facilities				New Action: Consider requiring EV charging facilities in new multiple family development.	2015	M-9.11 Multifamily Charging Stations	
<i>Municipal Actions</i>									
Action 2.34	2.4	Improve City's Vehicle Fleet				Continue to procure fuel-efficient and alternative fuel vehicles for municipal vehicle fleet.	ongoing	NR-2.9 Fleet Operations	
Action 2.45	2.5	Alternative Fuels in City Contracts				Continue to, whenever possible, negotiate an alternative fuel requirement into new services provided by the City's franchisee.	ongoing	NR-2.12 Preference for Reduced-Emission Equipment PFS-2.5 Alternative Fuels	
Action 2.6	2.6	EV Charging in Public Lots				New action: Provide electric vehicle charging facilities in public parking lots. (continuous)	ongoing	NR-2.10 Zero-Emission and Low-Emission Vehicle Use	
Strategy 3 – Energy: Improve Energy Performance of Existing Buildings									
<i>Community-wide Actions</i>									
Action 3.1	3.1	RECO for Single-Family Homes				Develop and implement a Residential Energy Conservation Ordinance (RECO) for detached single-family homes which would require improved energy efficiency and energy conservation in residential buildings. Update the RECO on a regular basis to ensure buildings become more energy efficient over time. Typical energy efficiency improvements may include updates to the lighting, heating, ventilation, and air conditioning systems and improvements that lead to water conservation. Remove 2012 as the implementation date. Keep action as is and add the following notes regarding implementation: 1) to be implemented when financing and evidence of cost-effectiveness become available 2) financing should have terms that allow energy savings to be equal to or exceed loan payments and be paid off prior to end of life of improvements	ongoing (see note)		NR-9 Residential Energy Performance Audit and Disclosure Ordinance
Action 3.2	3.2	RECO for Multi-Family Homes				Develop and implement a Residential Energy Conservation Ordinance (RECO) for multiple-unit homes which would require improved energy efficiency and energy conservation in residential buildings. Update the RECO on a regular basis to ensure buildings become more energy efficient over time. Typical energy efficiency improvements may include updates to the lighting, heating, ventilation, and air conditioning systems and improvements that lead to water conservation. Remove 2012 as the implementation date. Keep action as is and add the following notes regarding implementation: 1) to be implemented when financing and evidence of cost-effectiveness become available 2) financing should have terms that allow energy savings to be equal to or exceed loan payments and be paid off prior to end of life of improvements	ongoing (see note)		NR-9 Residential Energy Performance Audit and Disclosure Ordinance
Action 3.3	3.3	CECO				Develop a Commercial Energy Conservation Ordinance (CECO) which would require improved energy efficiency and energy conservation in commercial buildings. Continuously update the CECO to ensure buildings become more energy efficient over time. Typical energy efficiency improvements may include updates to the lighting, heating, ventilation, and air conditioning systems and improvements that lead to water conservation.	2015		NR -10 Commercial Energy Performance Audit and Disclosure Ordinance
Action 3.4	3.4	Weatherization Assistance Program				Actively participate in local low-income weatherization initiatives with the goal of weatherizing all qualifying low-income homes in Hayward.	ongoing	NR-4.2 Energy Efficiency Collaboration NR-4.14 Energy Efficiency Retrofits	
Action 3.5	3.5	Reduce Energy 10%				Develop public information and education campaign to encourage every household and every business to reduce their energy consumption by 10 percent over ten years.	ongoing		NR-11 Energy Reduction Initiative and Annual Report
Action 3.6	3.6	Home Energy Monitors				Develop a program to encourage or require installation of Home Energy Monitors in existing residences. Home Energy Monitors monitor energy use and provide building occupants with feedback on their real-time and long-term average energy consumption. This may be done in conjunction with Actions 3.1, 3.2, or 3.4 or 3.5.	ongoing		NR-12 Home Energy Monitors and Annual Report
Action 3.7	3.7	EE Financing for Single-Family Homes	1,458	6,705	11,055	Develop a residential energy efficiency retrofit financing program and/or collaborate with regional entities and others to develop a residential energy efficiency retrofit financing program for single unit homes.	2015		NR-13 Energy Efficiency Retrofits Financing Program
Action 3.8	3.8	EE Financing for Multi-Family Homes	1,488	6,796	11,635	Develop a energy efficiency retrofit financing program and/or collaborate with regional entities and others to promote financing programs for energy efficiency retrofits in multiple unit homes. Collaborative programs may include PG&E's on-bill financing and the CaliforniaFIRST PACE program.	ongoing		NR-13 Energy Efficiency Retrofits Financing Program
Action 3.9	3.9	EE Financing for Commercial	556	8,638	17,544	Replace current action with: Collaborate with regional entities and others to promote financing programs for energy efficiency retrofits such as PG&E's on-bill financing and the CaliforniaFIRST PACE program.	ongoing		Program will be added.

Original CAP Action Number	CAP Actions Presented to Sustainability Committee on July 10, 2013						Draft General Plan Policy	Draft General Plan Program	
	New CAP Action Number	Title	2013 Revised (metric tons CO2e)			Actions/Descriptions			(Proposed) Revised Year to Begin Implementation
			2020	2040	2050				
Action 3.10	3.10	Residential Energy Use Sharing				New Action: For single-family homes, encourage occupants to voluntarily share their energy use data and/or ratings such as the Home Energy Rating System (HERS) or the Home Energy Score.	2014	NR-4.13 Energy Use Data	
Action 3.11	3.11	Residential Energy Disclosure				New Action: For single-family homes, require disclosure of energy use and/or an energy rating at time of sale.	2016	NR-4.13 Energy Use Data	
Action 3.12	3.12	Commercial and Multi-Family Energy Disclosure				New Action: For commercial and multi-family residential properties, require disclosure of energy use and/or an energy rating at time of sale.	2016	NR-4.13 Energy Use Data	
Action 3.13	3.13	Promote EE Incentives				New Action: Collaborate with regional entities and others to promote incentive programs for energy efficiency retrofits such as the Energy Upgrade California program for residential properties, programs offered by the East Bay Energy Watch for commercial properties, and the Bay Area Regional Energy Network for new programs for single-family and multi-family residential properties.	ongoing	NR-4.2 Energy Efficiency Collaboration	
Action 3.14	3.14	Promote Benchmarking				New Action: Promote use of the Energy Star Portfolio Manager program and energy benchmarking training for nonresidential building owners.	ongoing	NR-4.15 Energy Efficiency Programs	
Municipal Actions									
Action 3.10	3.15	CEC Financing				Take advantage of California Energy Commission's low interest loans for efficiency retrofits and LED street lighting	ongoing		NR-14 Energy Conservation Master Plan
Action 3.11	3.16	EE in City Facilities				Continue to implement energy conservation practices in City-owned buildings. Prepare an energy conservation plan and update it on a regular basis.	ongoing	NR-4.4 Energy Resource Conservation in Public Buildings PFS-2.7 Energy Efficient Buildings and Infrastructure	NR-14 Energy Conservation Master Plan NR-15 Energy Conservation Master Plan Review and Update
Action 3.12	3.17	Audit City Buildings				Improve energy performance of City buildings. Begin by auditing city buildings to identify opportunities for efficiency improvements from both operations and equipment upgrades.	ongoing	PFS-2.7 Energy Efficient Buildings and Infrastructure	NR-16 City Building Audits and Reports
Strategy 4 – Energy: Improve Energy Performance of New Buildings									
Community-wide Actions									
Action 4.1	4.1					Continue to implement the Private Development Green Building Ordinance for residential buildings. Evaluate the program on a regular basis to ensure new buildings are getting more efficient over time.		NR-4.1 Energy Efficiency Measures NR-4.3 Efficient Construction and Development Practices NR-4.11 Green Building Standards	NR-5 Green Building Ordinance
Action 4.2	4.2					Continue to implement the Private Development Green Building Ordinance for commercial and industrial buildings. Evaluate the program on a regular basis to ensure new buildings are getting more efficient over time.		NR-4.1 Energy Efficiency Measures NR-4.3 Efficient Construction and Development Practices NR-4.11 Green Building Standards EDL-3.3 Sustainable Design	NR-5 Green Building Ordinance
Municipal Actions									
Action 4.3	4.3	Municipal Green Building Ordinance				Continue to implement the Municipal Green Building Ordinance . Evaluate the program every 5 years to ensure buildings are becoming more efficient over time.	ongoing	PFS-2.7 Energy Efficient Buildings and Infrastructure	
Strategy 5 – Energy: Use Renewable Energy									
Community-wide Actions									
Action 5.1	5.1	Finance Renewable Energy - Residential	657	1,854	1,854	Collaborate with regional entities and others to develop a program for the financing and installation of photovoltaic renewable energy systems on residential building including single and multiple family residential buildings and mobile homes. Set a target for total MW to be installed.	2015	NR-4.9 Renewable Energy Financing Programs	NR-17 Residential Renewable Energy Systems Program
Action 5.2	5.2	Finance Renewable Energy - Commercial	8,320	19,692	19,692	New Action: Collaborate with regional entities and others to promote financing programs for renewable energy systems such as the CaliforniaFIRST PACE program.	ongoing	NR-4.9 Renewable Energy Financing Programs	Program will be added.
Action 5.4	5.3	Increase Renewable Energy Generation	61,431	71,438	78,520	Increase the renewable portion of utility electricity generation by advocating for increased state-wide renewable portfolio standards ; and consider participating in community choice aggregation , or other means.	ongoing	NR-4.6 Renewable Energy NR-4.7 Renewable Portfolio Standards NR-4.8 Community Choice Aggregation PFS-8.8 Renewable Energy Integration	
Action 5_	5.4	PG&E Green Power Option	Not quantified to avoid double counting with Action 5.3 (CCA)			New Action: Participate in collaborative efforts aimed at encouraging PG&E to offer green power options to local customers.	ongoing	NR-4.7 Renewable Portfolio Standards	
Municipal Actions									
Action 5.5	5.5	City-Wide Renewable Energy Assessment				Conduct a city-wide renewable energy assessment to estimate the total renewable energy potential and costs and benefits of developing that potential within City bounds. Develop a plan for capturing all cost-effective opportunities. Install renewable energy at City facilities where feasible.		NR-4.10 Public Renewable Energy Generation	NR-18 Renewable Energy Generation Potential
Action 5.6	5.6	Renewable Energy on New City Facilities				Ensure that all new City owned facilities are built with PV and/or solar hot water systems as appropriate to their functions.	ongoing	NR-4.10 Public Renewable Energy Generation	
Action 5_	5.7	Renewable Energy at City Facilities	737	737	737	Install renewable energy at City-owned facilities where feasible.		NR-4.10 Public Renewable Energy Generation PFS-4.12 Renewable Energy	

Original CAP Action Number	CAP Actions Presented to Sustainability Committee on July 10, 2013						Draft General Plan Policy	Draft General Plan Program	
	New CAP Action Number	Title	2013 Revised (metric tons CO2e)			Actions/Descriptions			(Proposed) Revised Year to Begin Implementation
			2020	2040	2050				
Strategy 6 – Solid Waste: Increase Waste Reduction and Recycling Consumption, Waste & Recycling									
<i>Community-wide Actions</i>									
Action 6.1	6.1	Solid Waste Diversion	2,099	2,449	2,624	Replace Current Action with: <u>Work with StopWaste.org to provide technical assistance to businesses to implement mandatory recycling.</u>	PFS-7.4 Solid Waste Diversion		
Action 6.2	6.2	Food Scraps Collection				Continue to implement and promote food scraps collection for single-family homes. Over time, expand food-scraps collection programs with the goal of minimizing organic waste in the landfill.	ongoing PFS-7.16 Organics Collection PFS-7.20 Food Scraps Collection		
Action 6.3	6.3	C & D Debris Recycling				Improve the City's construction and demolition debris recycling ordinance by evaluating other jurisdictions' provisions, as well as the processing capabilities of the various transfer stations and facilities in Alameda County and adjacent counties.	2015 PFS-7.12 Construction and Demolition Waste Recycling	PFS-13 Construction and Demolition Debris Recycling Ordinance PFS-14 Construction and Demolition Debris Recycling Ordinance Review and Update	
Action 6.5	6.4	Increase Participation in Residential Recycling				Replace Current Action with: <u>Work with StopWaste.org to monitor participation in residential recycling programs and educate the community regarding actual composition of waste being sent to the landfill.</u>	2014 PFS-7.13 Residential Recycling PFS-7.15 Yard Clippings Reduction		
Action 6.6	6.5	Increase Participation in Commercial & Multi-Family Residential Recycling				Develop program that encourages overall reduction of waste in residential and commercial sectors. This would include <u>Work with StopWaste</u> to increase participation in recycling services at multi-family and commercial properties and to continue to implement mandatory recycling for large businesses and eventually make recycling for all commercial businesses mandatory for commercial and multi-family properties.	ongoing PFS-7.14 Commercial Recycling PFS-7.21 Mandatory Recycling		
Action 6.7	6.6	Waste to Energy				Advocate for waste management strategies that aim to maximize the useful value of solid waste by, for example, utilizing landfill gas to create electricity.	ongoing PFS-7.17 Waste-to-Energy Generation Systems PFS-7.22 Maximize Solid Waste Value		
Action 6.11	6.7	Reduce Consumption				New Action: <u>Educate the community about the benefits of reducing overall consumption.</u>	PFS-7.23 Consumption Reduction		
Action 6.12	6.8	Conserve Water	327	381	409	New Action: <u>Implement water conservation strategies and programs to achieve water use targets in accordance with the Water Conservation Act of 2009, as defined in the City's 2010 Urban Water Management Plan. Strategies may include a mix of financial incentives, legislative actions, and education.</u>	NR-6.9 Water Conservation PFS-3.2 Urban Water Management Plan PFS-3.15 Water Conservation Programs	NR-7 Water Conservation Standards PFS-4 Urban Water Management Plan PFS-5 Water Shortage Contingency Plan Review and Update PFS-6 Water Conservation Programs	
Action 6.13	6.9	Expand Use of Recycled Water				New Action: <u>Work with regional partners to encourage expansion of recycled water infrastructure.</u>	NR-6.10 Water Recycling NR-6.13 Water Recycling Program Advocacy PFS-3.16 Recycled Water	NR-6 Recycled Water Program	
Action 6.14	6.10	Rainwater Harvesting & Greywater				New Action: <u>Consider amending the City's building and development codes to encourage rainwater harvesting and greywater systems.</u>	NR-6.11 Reclaimed Water Usage NR-6.12 Dual Plumbing Systems PFS-5.9 Rainwater Harvesting	PFS-15 Rainwater Harvesting and Greywater Systems	
<i>Municipal Actions</i>									
Action 6.8	6.11	Recycling in City Facilities				Continue to implement recycling programs in City-occupied municipal buildings.	PFS-7.8 Recycling Collection at City Facilities and Parks		
Action 6.9	6.12	Organics Collection in City Facilities				Continue to implement organics collection in City-occupied municipal buildings.	PFS-7.7 Municipal Collection of Recyclables and Organics		
Action 6.10	6.13	Environmentally Preferred Purchasing				Continue to implement the City's Environmentally Friendly Preferred Purchasing Policy.	PFS-2.3 Sustainable Practices PFS-7.5 Municipal Waste Reduction PFS-7.6 Municipal Reuse PFS-7.9 City Contracts PFS-7.10 Recycled Products or Processes for Capital Projects PFS-7.11 Disposable, Toxic, or Non-Renewable Products		

Original CAP Action Number	CAP Actions Presented to Sustainability Committee on July 10, 2013						Actions/Descriptions	(Proposed) Revised Year to Begin Implementation	Draft General Plan Policy	Draft General Plan Program
	New CAP Action Number	Title	2013 Revised (metric tons CO2e)							
			2020	2040	2050					
Strategy 7 – Sequester Carbon										
<i>Community-wide Actions</i>										
Action 7.1	7.1	Carbon Sequestration	-	385	385	Develop and implement a program to maximize carbon sequestration activities occurring within Hayward. Activities may include planting trees or managing wetlands.		HQL-8.2 Urban Forest Management Plan NR-4.12 Urban Forestry	NR-19 Carbon Management Activities Program HQL-5 Urban Forest Management Plan	
<i>Municipal Actions</i>										
Action 7.2	7.2	Carbon Sequestration on City Property	-	44	44	Develop a protocol for maximizing carbon sequestration on municipal property by way of planting trees or other methods.			NR-19 Carbon Management Activities Program	
Strategy 8 – Climate Change Adaptation										
<i>Community-wide Actions</i>										
Action 8.1	8.1					adaptation to be addressed elsewhere in General Plan		HAZ-4.1 Monitor Rising Sea Level HAZ-4.2 Adapting to Rising Tides HAZ-4.3 Shore Realignment Master Plan HAZ-4.4 FIRM Maps HAZ-4.5 Rising Sea Level Disclosures HQL-8.4 Urban Heat Island Effects HQL-9.6 Energy Resiliency HQL-9.7 Climate Adaptation Planning HQL-9.9 Reduce Impacts of Climate Change on Vulnerable Populations	HAZ-6 Flood Plain Management Ordinance Comprehensive Update HQL-7 Climate Change Vulnerability Assessment Strategy and Annual Report HQL-8 Climate Change Vulnerability Assessment Strategy Review and Update	
<i>Municipal Actions</i>										
Action 8.2	8.2					adaptation to be addressed elsewhere in General Plan		HQL-9.8 Climate Adaptation in Plans PFS- 1.7 Adaptive Infrastructure		
Strategy 9 – Engage and Educate Community										
<i>Community-wide Actions</i>										
Action 9.1	9.1	Green Hayward Website				Create and continuously maintain and improve a stand-alone Green Portal, or website, that would serve as the City's hub for all things green. The site would contain a dedicated area for green building, all programs related to the climate action plan, and information about local green jobs and training. The portal will ensure that all residents and businesses have access to information on the City's climate-related initiatives.			NR-20 Green Portal	
Action 9.2	9.2	Engage Residents				Develop and implement a plan that aims to continuously engage residents in the City-wide effort to reduce emissions. The plan will be designed to reach residents of all ages, races, and classes on how to reduce GHG emissions and will introduce residents to City climate action programs. This plan will incorporate a long-term plan to involve K-12 schools and universities and utilize the most effective means of engaging the broader community.		HQL-2.3 Education about Walking, Cycling and Using Public Transit	NR-22 Environmental Education Programs	
Action 9.3	9.3	Engage Businesses				Develop and implement an outreach plan to engage local businesses in climate-related programs. This program should provide a benefit for both local government and businesses: the City, will aim to provide businesses with information on local, state, and federal programs, and businesses should be given the opportunity to provide input on ways local government could help streamline their efforts to reduce emissions. In developing this plan, the City will explore options for engaging the Chamber of Commerce, the Keep Hayward Clean and Green Taskforce, the Alameda County Green Business Program, and other business councils.			NR-22 Environmental Education Programs	
<i>Municipal Actions</i>										
Action 9.4	9.4	Engage City Employees				Offer a GHG reductions education program in which employees will learn about programs the City already offers or will offer in the future to residents and businesses.				
Action 9.5	9.5	City Leadership				Show leadership by setting targets to reduce municipal emissions and work diligently to meet targets.		NR-2.5 Municipal Greenhouse Gas Reduction		
Action 9.6	9.6	City Contracts				When awarding contracts, professional service agreements, grants, etc. to businesses or non-profit agencies, the City will request proposals or applications to include information about the sustainability practices of the organization.		NR-4.5 Energy Efficient Contractors PFS-2.4 Sustainable Contracting		
Economic Development										
Action 10.1	10.1	Expand Green Business Program				New Action: <u>Work with Alameda County to expand Green Business Program.</u>		ED-6.11 Expand and Promote the Green Business Program		
Action 10.2	10.2	Promote Green Business Program				New Action: <u>Work with local businesses to promote the Green Business Program.</u>		ED-6.11 Expand and Promote the Green Business Program	NR-21 Business Engagement in Climate Programs	
Action 10.3	10.3	Attract Businesses that Focus on Energy and Sustainability				New Action: <u>Work with the Chamber of Commerce and the East Bay Economic Development Alliance to attract more businesses in the renewable and energy efficiency sector.</u>			ED-4 Energy and Sustainability Businesses Program	
Quality of Life										
Action 11.1	11.1	Support Community Gardening				New Action: <u>Consider modifying land use regulations and partner with community groups to support community gardening.</u>		HQL-3.5 Community Garden Target HQL-3.6 Community Gardens in Multi-Family Housing Developments		
Action 11.2	11.2	Support Farmers Markets				New Action: <u>Consider modifying land use regulations and partner with community groups to support additional farmers markets.</u>		HQL-3.4 Partnerships for Farmers' Markets		
Action 11.3	11.3	Reduce Stormwater Pollution				New Action: <u>"Continue to work with regional partners/Alameda County Clean Water Program to reduce stormwater pollution."</u>		PFS-5.4 Green Stormwater Infrastructure	NR-8 NPDES Permit Compliance	



CITY OF
HAYWARD
HEART OF THE BAY

DATE: October 2, 2013
TO: City Council Sustainability Committee
FROM: Director of Public Works – Utilities and Environmental Services
SUBJECT: Sustainability Circle – A Comprehensive Program for Sustainable Business Practices

RECOMMENDATION

That the Committee reviews and comments on this report.

BACKGROUND AND DISCUSSION

True Market Solutions (TMS) has received funding from PG&E to facilitate a Sustainability Circle, which is a six-month course for local businesses. Each participating entity will develop a Sustainability Plan with assistance from a TMS coach and the expertise of fellow participants. Each Plan will address both mechanical and behavioral change so that the participating business can embed sustainable practices into their organization. The program will be a series of six full-day meetings between October and February.

TMS is a small firm whose employees have expertise in business, energy efficiency, and sustainability. TMS has conducted approximately twelve Sustainability Circles in Ohio, Iowa, and California with participants such as Siemens, the City of Burlington, Iowa, and Mi Rancho Tortilla Factory in San Leandro. TMS is currently also offering Sustainability Circles in Los Angeles and San Diego.

Because of the City’s commitment to sustainability both in municipal operations and in the community, the City of Hayward has been invited to participate in the Hayward/East Bay Sustainability Circle. TMS would like to have Hayward participate so that the group may learn from the City’s sustainability initiatives and so that the City may benefit from the knowledge base offered by the private sector. Staff expects that participating in the program will result in a Sustainability Plan that will help identify opportunities to make internal operations of the City more sustainable as well as cost-efficient. The Plan will assist staff with implementation of the Climate Action Plan, specifically with CAP actions addressing the environmentally preferred purchasing policy, waste reduction, and energy efficiency.

Confirmed participants for the Hayward/East Bay Sustainability Circle include CourseCo, Inc., a golf course management and development company, Columbus Foods, Drakes Brewing Company, and Metropolitan Golf Links. For the Hayward/East Bay Sustainability Circle, PG&E

is paying half of the \$7,500 enrollment fee for all participants. TMS has offered to pay the remaining half for the City so that there will be no cost to the City of Hayward.

Elliot Hoffman, co-founder and CEO of TMS, will attend the October 2 Committee meeting to make a brief presentation.

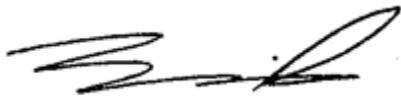
NEXT STEPS

The first meetings of the Hayward Sustainability Circle will be on October 14 and 15. Staff will present Hayward's Sustainability Plan to the Committee when it is completed in 2014.

Prepared by: Erik J. Pearson, AICP, Environmental Services Manager

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

Approved by:



Fran David, City Manager

DATE: October 2, 2013

TO: City Council Sustainability Committee

FROM: Director of Public Works – Utilities and Environment Services

SUBJECT: “Pay as You Save” (PAYS®) Pilot On-Bill Conservation and Efficiency Financing System - Memorandum of Understanding and Concept Paper

RECOMMENDATION

That the Committee reviews and comments on the “Pay As You Save ®” Concept Paper and recommends that the City Council authorizes the City Manager to execute a Memorandum of Understanding between the City and the Sonoma County Regional Climate Protection Agency.

SUMMARY

The City of Hayward has received funding from the Bay Area Regional Energy Network (BayREN) to design a “Pay As You Save®” (PAYS®) on-bill financing system to allow multifamily property owners to install water conservation and energy efficiency measures with no up-front costs. The costs of efficiency improvements are repaid over time through a surcharge on the customer’s water bill. A draft Memorandum of Understanding between the City and the Sonoma County Regional Climate Protection Agency (RCPA) outlines the roles, responsibilities, and deliverables for the PAYS® design process. RCPA has secured funding from the California Public Utilities Commission (CPUC) through an application by the Association of Bay Area Governments as part of the BayREN to fund the development of pilot programs to utilize water and energy efficiently. RCPA has also presented the City with an initial PAYS® “Concept Paper” to provide a high level description of the pilot program.

BACKGROUND

The City of Hayward has been awarded a grant by the BayREN to design a PAYS® system. PAYS® allows eligible property owners to have water and energy-saving measures installed 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.

“Pay as You Save” (PAYS®) – The concept for PAYS® was developed in 1999 by the Energy Efficiency Institute, a resource efficiency consultant, and has since been implemented in Hawaii, Kansas, Kentucky, and New Hampshire. The most recent data shows that approximately \$18M in resource efficiency measures have been installed through PAYS® nationwide. The PAYS®

system is currently being piloted in the Town of Windsor in Sonoma County, and with the initial success of that pilot, the Sonoma County RCPA and ABAG were awarded BayREN funding to support the expansion of the PAYS® pilot to other Bay Area water utilities. This funding will cover program design costs, technical assistance, and will offset some start-up costs for up to three water utilities seeking to implement the program. Currently, the City of Hayward and the Town of Windsor were selected to receive funding, and the East Bay Municipal Utility District (EBMUD) and the San Francisco Public Utility District (SFPUC) are also in preliminary discussions to implement their own PAYS® systems. The Town of Windsor has received funding to expand their program to include commercial properties.

Hayward staff submitted a non-binding “letter of intent” on May 15, 2013 to RCPA to indicate interest in the system and apply for grant funding. The BayREN selection committee determined that Hayward was a suitable candidate for the funding and responded with a “partnership letter” on May 22, 2013, formally selecting Hayward to begin program design. A preliminary PAYS® overview was presented to the Committee on July 1, 2013¹.

DISCUSSION

The PAYS® system would align with the efforts already undertaken by staff in the areas of water conservation, energy efficiency, and greenhouse gas reductions.

Staff has been working closely with the PAYS® design team to draft a Memorandum of Understanding (see Attachment I) between RCPA and the City to define roles, responsibilities, and deliverables. On September 3, 2013, the PAYS® design team submitted a Draft Concept Paper (see Attachment II), which provides a high-level description of the pilot program, including information about:

- The target market and scale of a pilot program
- Potentially feasible efficiency measures
- Recommended program outreach and marketing
- Roles and responsibilities of key program partners
- Preliminary ideas about capital requirements

RCPA Memorandum of Understanding - The purpose of the Memorandum of Understanding between the City and RCPA is to define the expectations for the program and initiate a partnership to design a PAYS® Pilot with the goal of requesting the City Council consider approval of the pilot for implementation in 2014. RCPA was created in 2009 to improve coordination on climate change issues and establish a clearinghouse for efforts to reduce greenhouse gas (GHG) emissions in Sonoma County. Currently, they are the representing agency for Sonoma County in the BayREN. RCPA secured funding from the California Public Utilities Commission (CPUC) through an application by ABAG as part of the BayREN to fund the development of pilot programs to utilize water and energy efficiently, thereby charging the agency with expanding the PAYS® system.

¹ See Item # 4 at <http://www.ci.hayward.ca.us/CITY-GOVERNMENT/COUNCIL-STANDING-COMMITTEES/COUNCIL-SUSTAINABILITY-COMMITTEE/2013/CSC-CCSC071013full.pdf>

The proposed scope of work and schedule has been carefully designed to allow for appropriate Committee and Council involvement at key steps, including review of the final Program Design in January 2014. Staff is requesting that the Committee review and comment on the draft Memorandum of Understanding. Staff is seeking a recommendation from the Committee to the City Council to authorize the City Manager to execute the Memorandum of Understanding.

PAYS® Concept Paper – The purpose of the Concept Paper is to provide a high-level description of the pilot program, with the goal of resolving key issues before a comprehensive Program Design is undertaken. The Concept Paper will be revised based on feedback received from the Committee and the City Council and will be expanded into a Program Design. The Program Design, if approved by the City Council, will serve as an “Implementation Manual.” Below are summaries of key program components discussed in the Concept Paper. Staff is requesting that the Committee review and comment on the Concept Paper, particularly on the aspects highlighted below.

Target Market – The target market for this pilot is multifamily complexes with 20 or more units (although buildings with fewer units will also be eligible). The concept paper outlines a goal of 2,000 units served during the one year pilot. Other characteristics about the target market are:

- Master-metered water service and central water heating systems;
- Toilets that use 3.5 or more gallons per flush (gpf);
- Per-unit water usage that is higher than the national average,
- Property owners who express interest in installing energy- and water-saving measures without incurring undue risk or increasing their debt load; and,
- Customers in good account standing

Pilot Measures – Under the Hayward Efficiency PAYS® system, efficiency measures must follow the 80% rule, which requires that the annual surcharge payments not exceed 80% of the estimated annual utility bill savings and that the maximum term of the monthly payment amount does not exceed 80% of the useful life of the measure.

Measure cost effectiveness can be determined once savings estimates and costs are known for an identified measure. This involves a simple annual percentage rate (APR) calculation, the same methodology used to calculate mortgage or financing payments, with three primary variables: cost (including costs associated with program oversight, permits, and measure assessment less any rebates), interest rate, and term. The term will be set using the 80% rule, but will be limited to ten years or 60 bimonthly billing cycles. The interest rate will be set at Hayward’s cost of capital. As long as the annual payments are less than 80% of the estimated annual utility bill savings, the project can qualify for the tariff with no upfront co-pay.

There will be basic, custom, and municipal measures explored for the pilot. Basic Measures require no upfront co-payment and consist of the following:

- High efficiency showerheads - 1.5 gallons per minute (gpm)
- High efficiency aerators -1.0 gpm for bathrooms and 1.5 gpm for kitchen
- High efficiency toilets - 0.84 gallon per flush

- LED light bulbs – to be provided to the tenant in exchange for their cooperation in implementing the measures.

The current State Building Code requires new toilets to be 1.6 gallons per flush or less. The City has an existing high efficiency toilet rebate program that provides a \$100 rebate per toilet for replacement of the older 3.6 gallon per flush toilet when replaced with a qualified model (1.28 gallons per flush). The number of rebates are limited to three rebates per living unit and ten rebates per account.

Custom measures require a Pilot-approved assessment to determine anticipated resource savings based on pre-existing equipment, usage, and utility rates. Custom measures will deliver primarily energy savings with high quality professional installations. Due to the highly technical nature of determining the potential for energy savings in multifamily buildings, a Custom Measure Assessor will evaluate a potential custom measure (including the appropriateness of the measure for the property and its savings). The Custom Measure Assessor would not be City staff, and rather a part of the “Certification Agent” team, compensated through a “program fee” added onto each surcharge. Examples of a custom measure could include but are not limited to clothes washers, space cooling and heating measures, landscaping, and duct measures.

Additionally, as part of the detailed Program Design, the Design Team will work with City staff to evaluate the potential for the Pilot to help municipal and community entities purchase solar hot water or photovoltaic systems, and also help Hayward test a recommended weather-based irrigation controller that might qualify with little or no rebate funding.

Marketing and Outreach – While “Hayward Efficiency PAYS®” is used throughout this Concept Paper, it has not been officially adopted as the program name. Before launching the marketing and outreach program for the pilot, a brand name needs to be identified and approved. Staff welcomes the Committee’s input on the name for the program, and suggests the following options:

- Hayward Efficiency PAYS®
- Hayward Water/Energy PAYS®
- Hayward Green PAYS®

Currently, two phases of marketing and outreach are proposed. In Phase 1, the Design Team recommends that Hayward staff first meet with interested property owner groups such as the Rental Housing Association with the goal of:

- Developing trust in the program;
- Explaining how the pilot will reduce costs for participants;
- Showing how the pilot provides customers with a practical way to reduce energy and water usage, save money, and reduce harmful environmental impacts;
- Generating interest from attendees by noting that they are among the few allowed to participate in this limited pilot; and
- Collecting the names of building owners who indicate that they want or don’t want to be contacted by the Certification Agent.

In Phase 2, once Hayward staff has contacted property owners, the Certification Agent will contact individual high-use multifamily building owners to explain how the program works. Printed materials (e.g., a brochure with Hayward and program logos) would be available to send to potential participants. The Design Team anticipates that the Certification Agent will need to meet on site with interested customers to:

- Explain the program;
- Tailor the Multifamily Measure Performance Screen to mirror the property owner's assessments;
- Gather accurate data about the building to determine rebates and estimate savings, and;
- Gauge the owner's interest in Custom Measures.

Certification Agent – The Certification Agent will be responsible for daily implementation of the pilot and fulfill three basic functions:

- 1. Marketing** - Upon referral from Hayward's initial contact, the Certification Agent will be responsible for conveying the pilot's offer to interested Hayward multifamily property owners and contractors.
- 2. Ensuring measures are appropriate, cost effective, and correctly installed** - The Certification Agent is responsible for approving all projects prior to any work being done, for making sure participants understand the offer, the measures, and the basis for savings estimates, and for assessing the appropriateness of the work. The Certification Agent is responsible for ensuring projects meet the 80% rule. The Certification Agent also performs quality control after project installation.
- 3. Ensuring paperwork and data are complete and accurate** - The Certification Agent is responsible for making sure that all agreements are complete and signed, all forms required for a specific job are complete and accurate, and that all data on forms and agreements are correct based on quality control verification.

During development of the Program Design, the duties and responsibilities of the Certification Agent will be delineated, contracts finalized to institutionalize these duties and responsibilities. The Certification Agent will be selected using a RFP process. As mentioned at the July meeting, StopWaste has expressed interest in serving as the Certification Agent. Numerous private consulting firms would also be qualified to bid for the role of Certification Agent. The procurement process for selection of a Certification Agent will follow the standard Request for Proposal process.

Capital – In order to obtain the needed capital to run the PAYS® system, the City will need to decide whether to self-fund or seek a loan. The details of self-funding the program are still being studied. However, the option is a viable one, particularly in the beginning stages of the program, given that if it is successful, the City would likely have an easier time seeking additional financing beyond the initial “pilot” phase. The source of self-funding would be water enterprise funds, not General Fund monies. If the decision is made to utilize third-party funding in lieu of self-funding,

the Design Team recommends that Hayward seek a Non-Revolving Guidance Line of Credit of up to \$4,000,000. The Line of Credit would allow Hayward to make up to fifteen draws in one year (monthly draws for multifamily building projects and up to three draws for community solar projects and, if necessary, the weather-based irrigation controller to be tested). Except for an origination fee, which will vary by lender, the City of Hayward's financial obligations would be incurred only when it draws down funds to pay the Certification Agent and vendors for approved, completed projects. There would be no obligation to pay for unused funds made available by the Capital Provider for this pilot.

Hayward would sign a Non-Revolving Guidance Line of Credit with a Capital Provider. Each month, Hayward would issue checks to the Certification Agent, Certified Contractors, and Certified Suppliers based on the number of measures installed in approved completed projects, after drawing down funds from the Line of Credit. Hayward would add PAYS® charges to participants' bi-monthly bills and track their payments. In addition, the City would repay the Capital Provider on a monthly or bi-monthly basis regardless of its collections from customers.

Bad Debt – To date, based on the data from the rather limited implementation, all programs based on the PAYS system have experienced higher than normal utility customer payment rates with minimal program-associated bad debt. To ensure similarly high payment rates for this pilot, the City will follow its normal collection protocol, and to clearly define the eligibility requirements of participating customers. For example, the City could require that only customers in “good standing” may participate. “Good standing” would be defined as current, and without delinquencies within the past year. It is important to note that bad debt, if any, will be the responsibility of the City of Hayward. If there is any bad debt, some could be recovered by extending the payment term at the project location if the measure is still functioning. Another option that will be studied will be the ability to add this surcharge to the property tax bill, an option currently available for delinquent water and sewer charges. This would entail modifying the ordinance which authorizes placement of delinquent charges to include this specific surcharge.

ECONOMIC IMPACT

A PAYS® system 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 would also benefit from the increased workload from efficiency measure installations.

FISCAL IMPACT

The BayREN grant that the City received will cover most of the costs associated with design of the PAYS® system for implementation. The Capital requirements to run the program, as mentioned previously, are currently being explored, and include the option of obtaining outside funding, as well as the option of utilizing enterprise resources to fund the program. This system would not utilize any monies from the General Fund. Ultimately, the principal amount of funding for the system is paid back over time by customers.

Related to staff resources, this program would require efforts from not only Utilities and Environmental Services staff, but also Finance staff. Logistically, the surcharge would be added as a line item to a participant's water bill once the project is complete. With respect to payment of contractors, the Certification Agent would issue an invoice to the City for the work completed. Initial setup of the program would require contract and purchase order initiation for the approved contractors and Certification Agent, in order to facilitate the invoice process. Customer service inquiries, marketing, and outreach related to this program will also require staff attention. The processes already in place for non-payment of the utility bill would be applied to this program as well.

PUBLIC CONTACT

Given that the initial pilot program is limited to multifamily complexes, Staff made an initial presentation to the Rental Housing Association on August 13, 2013 to gauge interest and collect initial input. Members were skeptical about using ultra low flow toilets, but indicated a strong interest in water conservation in landscaping. Staff will continue to communicate with the Rental Housing Association and individual multi-family property owners during the development of the Program Design. Once program design is launched, staff will engage qualified property owners and occupants through a comprehensive marketing and outreach plan.

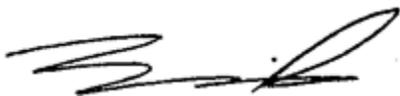
NEXT STEPS

Staff is tentatively scheduled to present the Memorandum of Understanding and Concept Paper to the City Council on October 15, 2013, incorporating any comments received from the Committee at that time. If approved, a final Program Design would be presented to the Committee and the City Council in January 2014.

Prepared by: Corinne Ferreyra, Administrative Analyst I

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

Approved by:



Fran David, City Manager

Attachments:

Attachment I
Attachment II

Draft Memorandum of Understanding
PAYS® Concept Paper – September 23, 2013

MEMORANDUM OF UNDERSTANDING

IN SUPPORT OF THE

BayREN PAYS® Pilot

The Sonoma County Regional Climate Protection Authority (RCPA, Lead) and the City of Hayward, California (Partner Agency) are entering into this Memorandum of Understanding (MOU) to support the development of a Bay Area Regional Energy Network (BayREN) “Pay As You Save”® (PAYS®) Pilot. The BayREN is composed of county-level public agencies representing the Association of Bay Area Government’s (ABAG) nine-county region, with Stopwaste acting as the representing agency for Alameda County. RCPA was created in 2009 to improve coordination on climate change issues and establish a clearinghouse for efforts to reduce greenhouse gas (GHG) emissions in Sonoma County. RCPA is the representing agency for Sonoma County in the BayREN.

RECITALS

WHEREAS, the purpose of the City of Hayward’s Climate Action Plan (CAP), adopted in 2009, is to make Hayward a more environmentally and socially sustainable community by reducing Greenhouse Gas emissions, decreasing the community’s dependence on non-renewable resources, increasing Hayward's potential for "green" economic development, and enhancing the health of all who live and work in Hayward; and

WHEREAS, the CAP calls for the creation of financing programs to support energy efficiency improvements in existing buildings; and

WHEREAS, the City of Hayward provides water and wastewater services to retail customers in Hayward, including single family residences, multiple family dwellings, and commercial properties, as well as electric power for municipal uses; and

WHEREAS, the RCPA has secured funding from the California Public Utilities Commission through an application by the Association of Bay Area Governments as part of the San Francisco Bay Area Regional Energy Network (BayREN) to fund the development of pilot programs to utilize water and energy efficiently; and

WHEREAS, the RCPA is charged with expanding the “Pay As You Save”® (PAYS®) system through BayREN with the PAYS® design team comprised of Bevilaqua Knight, Inc. (BKl) and the Energy Efficiency Institute (EEI), and has engaged the City of Hayward to support the design and implementation of a pilot water and energy efficiency program in Hayward that builds upon the RCPA’s experience in developing a similar program for the Town of Windsor in Sonoma County; and

WHEREAS, the City of Hayward is willing to initiate a partnership with the RCPA to design a

PAYS® Pilot with the goal of having the Hayward City Council consider approval of the pilot for implementation in 2014;

NOW, THEREFORE, it is mutually understood and agreed as follows:

SECTION 1: SCOPE OF WORK UNDER THIS MOU

Activities, Milestones and Associated Expectations

Through the BayREN PAYS® Pilot, the RCPA and the City of Hayward will lead the following activities and deliverables as so identified.

1. One Draft Program Concept Paper and Draft Contracts – RCPA

- a. This deliverable would provide a high-level description for one way a tariffed on-bill resource efficiency program might be developed for Hayward. The Concept Paper will briefly describe:
 - target market and scale suggested by Hayward that RCPA believes is feasible,
 - potential program measures,
 - recommended program outreach and marketing,
 - suggested implementers and their roles and responsibilities, and
 - preliminary capital requirements, and the sources of financing likely to best meet those requirements.

The Concept Paper will include:

- a preliminary cost effectiveness analysis for potential program measures based on Hayward provided water and PG&E rates (i.e., either current or proposed rates and the tiers most target customers are likely subject to)
 - preliminary estimates of baseline equipment and usage by the target market in order to provide Hayward with sufficient cost and savings data to evaluate whether implementing a pilot is viable.
 - Draft Contracts (collectively covered under the Intellectual Property agreement already signed by Hayward, and based upon existing contracts from previous PAYS® pilots) to reflect the preliminary roles and responsibilities for program implementer as identified within the Concept Paper.
- b. Expectations of City of Hayward Staff: Hayward, through its assigned point of contact Erik Pearson or his designate, will provide timely responses to RCPA information requests and follow-up requests for clarification, and timely introduction to any additional points of contact for persons in its service area who might be able to provide required information that would help ensure relevant data informs RCPA development of the Program Concept. In the absence of Hayward-provided information, RCPA will use more generic information already in its possession.

2. One Concept Paper Review Meeting - RCPA

- a. Attended by the RCPA Team to provide an opportunity to discuss main points of Concept Paper with Hayward staff and answer questions, identify elements of Concept Paper needing further clarification, identify elements of Concept Paper that need to be changed, and answer preliminary questions about roles and responsibilities within the Draft Contracts.
 - b. Expectations of City of Hayward Staff: Hayward staff will coordinate internal discussions so that individuals/departments needing to review the Concept Paper and Draft Contracts are aware of Hayward’s reasons for participation in this Program Concept development and any background information Hayward deems important. Hayward staff attending the review meeting will have read the Concept Paper and Draft Contracts (as necessary) prior to the meeting.
- 3. One Revision of the Concept Paper - RCPA**
- a. RCPA team will provide one revision of the Concept Paper, incorporating feedback from the Review Meeting.
 - b. Expectations of City of Hayward Staff: Hayward staff will provide timely response to RCPA information requests, if any, and follow up requests for clarification as necessitated by feedback from the Review Meeting.
- 4. Council Sustainability Committee Review of Concept Paper and MOU with RCPA – City of Hayward**
- a. The Council Sustainability Committee will review and consider the Concept Paper and MOU with RCPA and make a recommendation to the City Council.
- 5. City Council Review of Concept Paper and MOU with RCPA – City of Hayward**
- a. The City Council will review and consider approval of the Concept Paper and MOU with RCPA.
- 6. One Draft Program Design, Draft RFPs, and Second Draft of Contracts - RCPA**
- a. Written as an implementation manual to be based upon vetted Program Concept Paper. Will include:
 - i. protocols to be followed by implementers (capital provider, contractors, marketers, the certification agent, and key utility staff),
 - ii. customized forms and contracts that define the relationships between these entities and customers for the program,
 - iii. draft RFPs to procure implementers
 - iv. training agendas for certification agent, utility, and contractors’ staff,
 - v. recommended changes to utility billing and collection procedures, and
 - vi. recommendations for program evaluation and data management (including cellular tablet based web based systems if appropriate).
 - b. Expectations of City of Hayward Staff: Hayward staff will provide timely response to RCPA information requests and follow up requests for clarification as similarly outlined above.

- 7. Second Draft of Program Design and Final RFPs/Procurement Strategy– RCPA**
 - a. Based upon comments on the Draft Program Design from Hayward Staff, the RCPA Team will provide an updated and current Program Design. In addition to updated forms and contracts, this will include final RFPs and a recruitment strategy to be used by Hayward in its implementer procurement process.
 - b. Expectations of City of Hayward Staff: Hayward staff is asked to maintain the Program Design (and supporting forms, contracts, and other implementation documents), inform EEI of changes to these documents, and keep them current to the program as it is implemented.

- 8. Procurement Process – City of Hayward**
 - a. Based upon the Procurement Strategy, the RCPA Team will provide draft content for RFPs (or other similar documents typically used by Hayward for procurement of services) and will work with Hayward staff to develop a strategy to recruit interested implementers (contractors, vendors, etc.), issue any RFPs, and conduct the review of bids received. As appropriate, the RCPA Team can assist with evaluation of bids received.
 - b. Expectations of City of Hayward Staff: Hayward staff would directly manage any procurement process.

- 9. Council Sustainability Committee Review of Program Design – City of Hayward**
 - a. City staff will facilitate Council Sustainability Committee review of the Program Design. The Committee will make a recommendation to the City Council.

- 10. City Council Review of Program Design – City of Hayward**
 - a. City staff will facilitate City Council review of the Program Design. The City Council will consider the Program Design for final approval.

- 11. Marketing Collateral and Messaging - RCPA**
 - a. Aligned with marketing plan as outlined within the Program Design, RCPA will help Hayward integrate BayREN PAYS® Pilot marketing collateral and messaging with existing Hayward programs and resources and the BayREN Multi-Family program. Hayward can use the established brand name, Hayward Efficiency PAYS® or a brand name of its choosing.
 - b. Expectations of City of Hayward Staff: Hayward staff will provide details on any City protocols and requirements for marketing and outreach. Hayward staff will participate in meetings required to develop logos, branding, and other program messaging, and will facilitate internal approvals as necessary and in a timely way to facilitate a February 2014 start date.

- 12. Final Draft of the Program Design - RCPA**
 - a. Based upon final comments on the Draft Program Design from Hayward staff, Council Sustainability Committee, and City Council, and coordination details worked out in the course of implementer on-boarding and training, the RCPA

Team will provide an updated and current Program Design (and supporting forms, contracts, and other implementation documents) to serve as the final reference document for program implementation.

- b. Expectations of City of Hayward Staff: Hayward staff is asked to maintain the Program Design (and supporting forms, contracts, and other implementation documents), inform EEI of changes to these documents, and keep them current to the program as it is implemented.

13. Technical Assistance: One Training for Program Implementers - RCPA

- a. Developed and delivered by RCPA Team in coordination with Hayward staff.

Training will address:

- i. Roles and responsibilities for each implementer as outlined in the Program Design
- ii. Protocols and procedures to facilitate coordination of implementer roles
- iii. Recommendations for marketing and guidelines for use of program marketing collateral
- iv. Guidelines for referral to, or recommendation of, existing Hayward programs and services aligned with the goals of the Hayward BayREN PAYS® Pilot.

The training curriculum would be provided to Hayward for use in any future trainings that may be required.

- b. Expectations of City of Hayward Staff: Hayward staff would secure venue for the training and coordinate communications with, and attendance of, program implementers.

14. Technical Assistance: Ongoing - RCPA

- a. Offered through the first year of program field operations, or December 31, 2014, whichever comes first. The RCPA Team will be available to Hayward staff as necessary to answer questions regarding:

- i. implementation of the Program Design,
- ii. customized forms, contracts, and other implementation documents, and
- iii. billing and/or data management systems and protocols as related to the Hayward BayREN PAYS® pilot.

- b. Expectations of City of Hayward Staff: Through the first year of program field operations, or December 31, 2014, whichever comes first, quarterly reporting to the RCPA on program participation and performance metrics and coordination with RCPA on BayREN related needs for Evaluation, Measurement, and Verification.

Additional Clarifications Regarding RCPA Commitments

RCPA is committed to partnering with Hayward to develop a program design that will “lead to final City Council consideration for approval and implementation of a successful pilot based on the PAYS® system,” so long as Hayward is able to meet the expectations identified above.

- As Hayward identifies specific information needs or communications that would assist in securing such approval, the RCPA Team will do its best to provide such information or language.
- The RCPA has allocated limited funding to help offset hard costs that Hayward may encounter in the set-up and launch of any BayREN PAYS® Pilot. RCPA designates RCPA Team member BKi as the primary party to negotiate and issue payment for such costs.
- The timeline in Section 2 outlines anticipated dates for the major milestones outlined above. These dates are contingent upon Hayward meeting the associated expectations outlined above and may need to be adjusted in accordance with approvals that Hayward may require for program implementation.

SECTION 2: PROPOSED TIMELINE FOR SCOPE OF WORK

Activity	Anticipated Start	Anticipated End
Milestone 1 - Program Concept Paper and Contracts	1-Aug-13	2-Sep-13
Hayward Review of Program Concept Paper and Contracts – 2 weeks		Sept. 2-9, 2013
Milestone 2 - Concept Paper Review Meeting	9-Sep-13	13-Sep-13
Milestone 3 – Revision of Concept Paper	13-Sep-13	20-Sep-13
Milestone 4 – Council Sustainability Committee Review of Concept Paper and MOU		2-Oct-13
Milestone 5 – City Council Review of Concept Paper and MOU		15-Oct-13
Milestone 6 – Draft Program Design, Draft RFPs, and 2nd Draft Contracts	20-Sep-13	1-Nov-13
Hayward Staff Review of Program Design/RFPs/Contracts– 2 weeks	1-Nov-13	15-Nov-13
Milestone 7 – 2nd Draft Program Design, Final RFPs/Procurement Strategy, Contracts for Procurement	15-Nov-13	1-Dec-13
Milestone 8 - Procurement Process		Dec. 2013 - Jan. 2014
Hayward Releases RFPs		2-Dec-13
Hayward hosts RFP Meetings		13-Dec-13
RFP Due Date		6-Jan-14
Hayward Review of RFPs/Procurement Process		Jan. 2014
Milestone 9 – Council Sustainability Committee Review of Program Design		15-Jan-14
Milestone 10 – City Council Review of Program Design		28-Jan-14
Milestone 11 - Marketing Collateral and Messaging	1-Jan-14	1-Feb-14
Milestone 12 – Final Draft of Program Design		20-Feb-14
Milestone 13 – Technical Assistance: Training for Program Implementers		20-Feb-14

Program Launch		1-Mar-14
Milestone 14 – Technical Assistance: Ongoing		31-Dec-14

SECTION 3: GENERAL PROVISIONS

3.1 Term: This MOU automatically terminates upon completion of the scope of work in Section 1, December 31, 2014, or termination of BayREN funding for the PAYS® Pilot, whichever may come first.

3.2 Termination for Convenience: Either Party to this MOU may terminate its involvement for convenience and without cause at any time by giving thirty (30) days written notice of such termination to the other Party.

3.3 Authorized Representatives:

<u>Organization:</u> Sonoma County Regional Climate Protection Authority
<u>Address:</u> 490 Mendocino Ave., Suite 206
<u>Authorized Representative:</u> Suzanne Smith
<u>Telephone:</u> 707-565-5373
<u>Email:</u> suzsmith@sctainfo.org

<u>Organization:</u> City of Hayward
<u>Address:</u> 777 B Street, Hayward, CA 94541-5007
<u>Authorized Representative:</u> Erik Pearson
<u>Telephone:</u> 510-583-4770
<u>Email:</u> erik.person@hayward-ca.gov

3.4 Information Disclosure/Privacy Terms: Information related to water use data is confidential and shall not be shared with any outside parties or utilized for any purpose other than program design and marketing of the PAYS® system. Specifically, names and addresses of water customers may not be shared without written consent by the City of Hayward.

Notwithstanding the foregoing, City acknowledges that RCPA is subject to the provisions of the California Public Records Act (Government Code section 6250 et seq., the “Act”). RCPA will endeavor to restrict distribution of material designated as confidential to only those individuals involved in the administration of this MOU. Notwithstanding the foregoing, City of Hayward expressly acknowledges understands that materials designated as confidential may nevertheless be subject to disclosure under the Act. RCPA will provide City with five (5) days written notice of any request for disclosure of such material under the Act. In the event RCPA withholds such materials at the direction of City, City shall indemnify, defend and hold harmless RCPA, its officers, agents and employees from and against any request, action or proceeding of any nature and any damages or liability of any nature, specifically including attorneys' fees awarded under the Act, arising out of, concerning or in any way involving any materials or

information that City has labeled as confidential, proprietary or otherwise not subject to disclosure as a public record.

In WITNESS WHEREOF, the Parties have executed this Memorandum of Understanding by their duly authorized representatives

Dated: _____ SONOMA COUNTY REGIONAL CLIMATE PROTECTION AUTHORITY

SUZANNE SMITH, EXECUTIVE DIRECTOR

Dated: _____ CITY OF HAYWARD

FRANCES DAVID, CITY MANAGER

APPROVED AS TO FORM:
MICHAEL S. LAWSON, CITY ATTORNEY

BY: _____
MICHAEL VIGILIA, ASSISTANT CITY ATTORNEY

Hayward Efficiency PAYS[®]

a Pay As You Save[®] (PAYS[®]) Pilot Program Concept

prepared for

**City of Hayward
Department of Public Works
Utilities and Environmental Services**

September 20, 2013

The Energy Efficiency Institute, Inc.

Colchester, Vermont

BKi

Oakland, California

Purpose of this Hayward Efficiency PAYS[®] Pilot¹ Concept Paper

This Concept Paper provides a high-level description of a tariffed on-bill resource efficiency pilot program that might be operated in the City of Hayward. This description includes:

- the target market and scale of a pilot program,
- potentially feasible measures,
- recommended program outreach and marketing,
- the roles and responsibilities of key program partners, and
- preliminary ideas about capital requirements and potential sources of financing.

By sketching out critical program elements, this Concept Paper is intended to focus discussion among the program partners about a Hayward Efficiency PAYS[®] pilot program with the goal of resolving key issues before a comprehensive Program Design is undertaken. For example, there is no way to finalize which program measures could be offered with no up-front cost until mechanisms to leverage rebates from other programs (e.g., the BayREN Multifamily program) have been established. Similarly, preliminary ideas about capital requirements in this Concept Paper will be refined as the target market and program measures are finalized.

The Concept Paper will be revised based on feedback from City of Hayward staff, the City's Sustainability Committee, and the City Council. Once accepted by the City, the Concept Paper will be expanded into a comprehensive Program Design which, pending City of Hayward approval, will serve as an Implementation Manual for Hayward Efficiency PAYS.

¹ While "Hayward Efficiency PAYS" is used throughout this Concept Paper, it has not been adopted as the program name. Before launching the MEO program for the pilot, a brand name needs to be identified and approved by Hayward.

Table of Contents

1.	Executive Summary	1
2.	Program Roles	2
3.	Target Market	3
4.	Pilot Measures.....	5
5.	Leveraging BayREN Multifamily Program	7
6.	Marketing, Education & Outreach (MEO).....	9
7.	Certification Agent	12
8.	Certified Contractors.....	13
9.	Customer Offer.....	16
10.	Capital	17
11.	Bad Debt.....	19
12.	Billing Program Charges	19
13.	Training.....	20
14.	Evaluation.....	20
15.	Timeline.....	22
16.	Glossary of Terms.....	23

Appendices

Appendix A Multifamily Measure Screen

Appendix B Multifamily Measure Performance Screen

1. Executive Summary

The City of Hayward (Hayward) is working with the Sonoma County Regional Climate Protection Authority (RCPA) to design and implement a tariffed on-bill resource efficiency pilot program. The pilot's goal is to retrofit 2,000 multifamily housing units in Hayward with an array of resource efficiency measures that will help multifamily property owners reduce their water and energy use.

The RCPA leads the pilot's Design Team on behalf of Hayward and the Bay Area Regional Energy Network (BayREN), with funding provided to BayREN by the California Public Utilities Commission (CPUC). The purpose of the funding is to investigate the potential for energy savings, both direct and indirect, from tariffed on-bill programs operated by water utilities.

The pilot will be based on the Energy Efficiency Institute, Inc.'s (EEI's) Pay As You Save® (PAYS®) system. PAYS is a market-based system in which customers, vendors, and capital providers acting in their own interests produce unprecedented resource efficiency investment that is also in society's interest. The key to the success of the PAYS system is "an offer that works" – an offer that allows customers to purchase cost-effective measures with:

- no up-front payment, no new debt obligation, no credit checks, no liens;
- a guarantee that their monthly tariffed charge is lower than their estimated savings;
- the assurance they will pay only while they remain customers at the location;
- none of the typical risks associated with contracting for or installing measures; and
- a promise that failed measures will be repaired or the payment obligation will end.

The Hayward Efficiency PAYS® pilot will target multifamily buildings with:

- 20 or more units;
- master-metered water service and central water heating systems;
- primarily toilets that use 3.5 or more gallons per flush (gpf);
- higher than average per-unit water usage, and;
- property owners who express interest in installing energy- and water-saving measures without incurring undue risk or increasing their debt load.

This pilot concept has already stimulated interest from potential capital providers, contractors, measure distributors, and certification agents. Measures will be selected and payments structured so that for every \$0.80 in Hayward Efficiency PAYS on-bill charges, there is estimated customer-bill savings of at least \$1.00.

Residential solar installations are not discussed in this Concept Paper because at current energy rates and measure costs, solar typically has a payback term longer than ten years. However, at the request of Hayward staff the Design Team will also examine the potential for the pilot to help municipal and community entities implement solar hot water or photovoltaic systems and help Hayward test the viability of a specific weather-based irrigation controller as a program measure in future pilots.

The current schedule calls for the pilot to begin operation in February 2014.

2. Program Roles

Hayward Efficiency PAYS involves the interaction and cooperation of a number of key players so that the development and implementation of the program delivers widespread resource efficiency in Hayward.

Utility

Hayward's water utility will provide three basic program functions: 1) general program oversight including oversight of the Certification Agent; 2) preliminary program outreach including initial customer and community contacts; and 3) financial management including securing program capital, making program payments, and billing and collection of the PAYS tarified charge² from customers.

Capital Provider

If third-party capital (rather than self-financing) is to be used to fund the pilot, Hayward will seek a Non-Revolving Guidance Line of Credit of up to \$4,000,000 using a request for proposals (RFP) process. Hayward will repay the Capital Provider(s) with interest paid only on the capital drawn.

Certification Agent

A Certification Agent, selected using an RFP process, will be responsible for day-to-day operations including marketing, project approvals and contracts, and program data collection.

Custom Measure Assessor

The Custom Measure Assessor, selected using an RFP process, will be responsible for evaluating Custom Measures for the tariff.

Certified Contractors

Only Certified Contractors may install measures during the pilot. The Pilot's initial Basic and Custom Measure Contractors will be selected using an RFP process. "Customer Choice" contractors brought to the program by Property Owners are also eligible to become Certified Contractors. To become certified, a contractor must agree to the pilot's terms and provide evidence of successful projects involving comparable installations.

Certified Suppliers

Manufactures and distributors of the pilot's pre-qualified Basic Measures will be selected based upon measure quality and performance.

Property Owners

Owners of multifamily buildings (and if appropriate, their building managers) with master metered water service and central hot water who agree to the pilot's terms.

Tenants

Property owners (or their representatives) will coordinate with tenants to allow Certified Contractors to enter their units and install measures. Tenants will receive up to five LED light bulbs for allowing access to their units.

² The utility authorized charge at the meter location where certified Hayward Efficiency PAYS measures have been installed.

Design Team

The Sonoma County Regional Climate Protection Authority (RCPA), on behalf of the Bay Area Regional Energy Network as funded by the California Public Utilities Commission, leads a consultant team that is developing pilot programs that conserve water and energy.

BKi is the project manager. BKi oversees the work of the Design Team and assists BayREN in meeting its responsibilities to the CPUC.

Energy Efficiency Institute, Inc. (EEI), the developers of the PAYS system, are helping develop Hayward Efficiency PAYS into a program that effectively meets the needs of Hayward’s multifamily property owners and their residents.

Resource Performance Partners (RPP) is providing EEI and Hayward with economic as well as water and energy savings analyses to ensure Hayward’s program benefits participants.

Implementer summary

Role	Procurement Method	Contracted To	Paid By ³
Capital Provider	RFP	City of Hayward	Repaid by City of Hayward
Certification Agent	RFP or selected directly by City of Hayward	City of Hayward	City of Hayward
Custom Measure Assessor	RFP	Certification Agent	City of Hayward
Certified Contractor	RFP for initial contractors; customer choice contractors to be certified by Certification Agent	Certification Agent	City of Hayward
Certified Suppliers	RFP	Certification Agent	City of Hayward

3. Target Market

The Hayward Efficiency PAYS pilot will target multifamily buildings that have:

- 20 or more units as primary target, 5-19 units as secondary target⁴;
- master-metered water service and central water heating systems;
- primarily toilets that use 3.5 or more gallons per flush (gpf)⁵;

³ The City of Hayward will make upfront payments to pay for all pilot services. These costs will be re-paid over time by those customers benefiting from installed measures by paying the Hayward Efficiency PAYS® charges on their water utility bills.

⁴ Preliminary analysis indicates that for buildings with 20 or more units, there will be sufficient savings to cover all program costs associated with installing Basic Measures without copays. It is possible that there may be sufficient savings to qualify installation of Basic Measures in buildings with fewer than 20 units without copays.

- higher than national average per-unit water usage, and;
- property owners who express interest in installing energy- and water-saving measures without incurring undue risk or increasing their debt load.

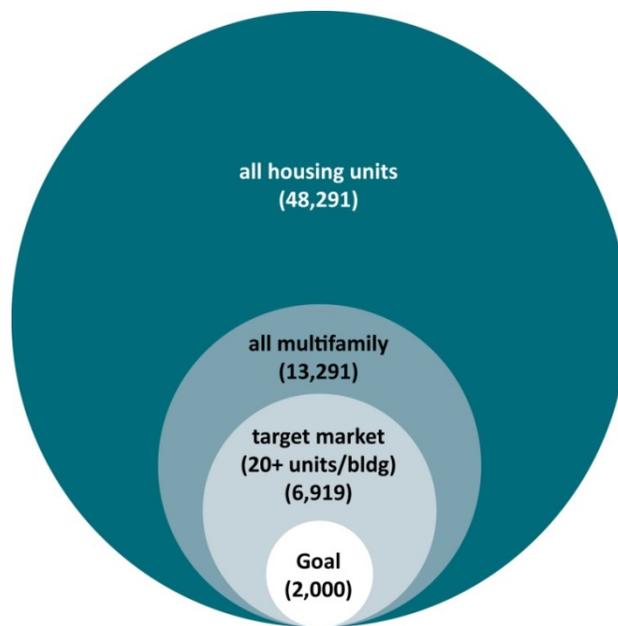
Participating building owners must agree to program terms, including that they:

- pay for measures over time (out of their savings);
- disclose the payment obligation to successor owners or building managers, and;
- maintain and not damage the measures.

Building owners (or their representative) must coordinate with tenants to allow Certified Contractors to enter the living units and install measures. Tenants will receive up to five LED light bulbs for allowing access to their units. At this time, the Design Team does not envision requiring tenants to sign agreements, since they are already legally obligated not to destroy or remove fixtures in units.

EI recommends that Hayward evaluate its pilot after serving approximately 2,000 units or completes one year of operation, whichever comes first. There are about 7,000 housing units in buildings with 20 or more units in Hayward, so 2,000 units represent more than 25% of Hayward’s target building stock.⁶

Number of target housing units in the PAYS program



Source: U.S. Census Bureau

Assuming an average building size of 30 units, meeting this goal would require providing pilot services to 67 target buildings in Hayward. Assuming a 20-unit minimum, the greatest number of buildings required

⁵ During the Program Design stage, the Design Team will verify its preliminary conclusion that it will often be cost effective to replace some 1.6 gpf toilets by packaging them with a number of other measures, ensuring these retrofits provide participants with immediate net savings on their utility bills.

⁶ U.S. Census Bureau American Community Survey 2011 5-Year Estimates, Table DP04

to meet this goal would be 100 buildings (i.e., 2,000 units ÷ 20 units per building = 100 buildings). Preliminary analysis of Hayward's building stock and initial outreach with multifamily building owners indicate that these participation goals may be reasonable given the conditions listed above.

4. Pilot Measures

Pilot measures, their cost, and their eligibility criteria will be finalized as part of the detailed Program Design and the recommended bidding process. The measures identified in this section are based on preliminary analysis by EEI and its subcontractor, RPP. EEI anticipates manufacturer and contractor responses to RFPs will result in prices at or below RPP's estimates. The Pilot's Basic Measures will be selected based on Hayward's assessment of measure quality, suppliers' willingness to take back unused units at no additional cost, extended warranties, price, and availability.

Measures eligible for the Hayward Efficiency PAYS tariff must screen as cost effective under the *80% rule*: annual payments cannot exceed 80% of the estimated annual utility bill savings and the maximum term of the monthly payment amount cannot exceed 80% of the useful life of the measure. Since the 80% rule provides the minimum threshold for measures to be eligible for the tariff, many participants will receive greater savings for a longer period of time than the 80% rule suggests.

Measure cost effectiveness can be determined once savings estimates and costs are known for an identified measure. This involves a simple annual percentage rate (APR) calculation, the same methodology used to calculate mortgage or financing payments, with three primary variables: cost (including costs associated with program oversight, permits, and measure assessment less any rebates), interest rate, and term. The term will be set using the 80% rule, but will be limited to ten years or 60 bi-monthly billing cycles. The interest rate will be set at Hayward's cost of capital. As long as the annual payments are less than 80% of the estimated annual utility bill savings, the project can qualify for the tariff with no upfront co-pay.

The Design Team will supply Hayward and its partners with two Excel workbooks with which to evaluate a measure or package of measures:

- The Multifamily Measure Screen determines whether Basic Measure packages qualify based on variables that include: the number of units, vacancy, average number of tenants per unit, number of 3.5 gpf toilets per unit, etc.
- The PAYS Custom Measure Screen determines whether Custom Measures qualify based on variables such as measure and labor costs, rebates, program fees, utility rates, cost for capital, etc.

Because usage varies depending on the occupants' behavior, to assure customer savings the Pilot will use occupant behavior assumptions that are based on a conservative estimate for existing annual water usage: 75% of national estimates for average tenant water usage. Participating Customers will be able to use the PAYS Multifamily Measure Screen to rescreen Basic measure cost effectiveness based on their own assumptions about occupancy and tenant water usage if they desire. The Certification Agent and Certified Contractors will explain how monthly PG&E and bi-monthly Hayward water bills will vary, but that over time, the participant will receive savings on these bills that are significantly greater than the PAYS charge.

Eligible Measures

Eligible measures will save water, gas, electricity, or a combination of these resources. All measures will be permanent measures that must remain in the building and be maintained. In the case of measure

failure due to product malfunction or improper installation (and not Participant damage, misuse, or lack of maintenance), measures will be repaired or the associated payment obligation will end.⁷

Basic Measures

Basic Measures, if eligible, must be installed in each tenant's unit, unless there are medical reasons or pre-existing conditions⁸ preventing installation, if the participating building owner wants to install Custom Measures in the building. Basic Measures require no upfront co-payment and consist of the following:

- **High efficiency showerheads:** Contractors will install a chrome 1.5 gpm showerhead to replace any existing showerhead. Customers may choose between either a wall-mounted or hand-held showerhead that uses 1.5 gallons per minute (gpm).
- **High efficiency aerators:** Contractors will install 1.0 gpm pressure compensating bathroom aerators and 1.5 gpm pressure compensating kitchen aerators unless tenants refuse them or installation is not possible.
- **High efficiency toilets:** Contractors will install a 0.84 gallon per flush toilet to replace any existing toilet in the building that uses 3.5 gpf or more.
- **LED light bulbs:** Dimmable LED bulbs will be installed in tenants' units as an incentive for their participation and to allow them to share in the savings. A maximum of 5 LEDs will be installed, each saving about \$15 per year (not including avoided bulb replacement savings). If there are any property owner supplied ceiling fixtures in units, LEDs will be installed there first. If possible, bids should be used to obtain lower costs and extended warranties for the bulbs.

Custom Measures

Custom measures require a Pilot-approved assessment to determine anticipated resource savings based on pre-existing equipment, usage, and utility rates. Using measure costs, including assessment costs, and the PAYS Measure Screen, the Certification Agent can easily determine which Custom measures and how much of their cost are eligible for the tariff and how much, if any, copay would be required.

Custom measures will deliver primarily energy savings with high quality professional installations. Due to the highly technical nature of determining the potential for energy savings in multifamily buildings, the Custom Measure Assessor will evaluate a potential custom measure (including the appropriateness of the measure for the property and its savings) so the Certification Agent can determine whether the measure qualifies for the tariff; the table on Page 8 lists a range of measures which could be eligible for a PAYS tariff.

⁷ This scenario has not occurred to date in programs based upon the PAYS system because repair costs for PAYS measures can be recovered by extending the payment term for the measure, provided the new payment term does not exceed the measure's useful life. However, it is possible for example that a toilet, with a ten year payment term, might fail after nine and a half years of service. Were the repair necessary to fix the toilet so expensive that the repair costs would require extending the payment term beyond the useful life of the toilet, then the remaining payment obligation would instead be cancelled.

⁸ Pre-existing conditions include, but are not limited to, rotting bathroom floor boards, waste water lines with a history of clogging or root penetration, and corroded pipes or faucets that would prevent easy removal of the existing equipment.

If possible, the Custom Measure Assessor should assess hot water measures which typically are cost effective in multifamily buildings: hot water demand control systems and insulation of accessible existing hot water supply and return pipes. Significant energy is often wasted if water heating systems circulate water all the time to ensure hot water is available on demand. Energy savings can be attained by a control system that limits hot water circulation to times when return water is below a set temperature or when a unit is calling for hot water.

Measure Costs and Rebates

The Multifamily Measure Screen and Custom Measure Screen will determine the portion of program measure costs eligible for the Pilot tariff. Costs for certain measures (including showerheads and aerators in the Basic Measure category) will be eligible for the tariff and as a result will require no up-front cost to participants. For other measures, the portion of their cost deemed not eligible for the tariff must be met by a combination of customer co-pay up front and/or available rebates.

Conversion of inefficient toilets to high efficiency toilets will require using the existing Hayward toilet rebate in order to make this installation available to most participants with no up-front cost. During Program Design, the Design Team will work with Hayward staff to determine the most efficient use of rebate funding to assure the greatest number of toilet upgrades.⁹

Most Custom Measures will have a portion of the cost that must be met with a co-pay or a rebate. Customers who value benefits provided by these products that are unrelated to savings or who expect water or energy rates to increase may still want to install such measures. The Design Team is working on ways to deploy existing rebates, including those offered by the BayREN Multifamily Pilot, in a way that allows multifamily property owners with central hot water and/or space heating to install eligible Custom Measures with no co-pay.

Municipal Solar and Landscaping Measures (to be evaluated)

Additionally, as part of the detailed Program Design, the Design Team will work with Hayward staff to evaluate the potential for the Pilot to help municipal and community entities purchase solar hot water or photovoltaic systems, and also help Hayward test a recommended weather-based irrigation controller that might qualify with little or no rebate funding as a measure for multifamily, municipal, and commercial customers. Key attributes sought by the Design Team for technology to reduce water used to irrigate an existing landscape include:

- minimum lifecycle cost per gallon of water saved;
- simplicity of installation and programming; and
- water-saving performance that does not depend on purchasing support services.

5. Leveraging BayREN Multifamily Program

Hayward Efficiency PAYS may leverage the rebates available through the Bay Area Regional Energy Network Multifamily Subprogram (MF Program) in order to expand the scope and quantity of energy saving projects completed in the PAYS program. The MF Program rebates will help “buy down” the total cost of installing these additional energy-saving measures, making them eligible for the PAYS tariff with no (or a greatly reduced) customer co-pay.

⁹ The PAYS system allows current rebates for most measures to be significantly reduced or eliminated even as customer take-up rates increase.

The MF Program provides incentives for comprehensive energy upgrades in multifamily buildings throughout the nine Bay Area counties by offering no-cost technical assistance and a rebate of \$750 per unit for any upgrade package that reduces modeled energy use (combined electricity and natural gas) by 10% or more. The MF Program seeks to upgrade 5,000 dwelling units in 225 buildings by the end of 2014. More information about the MF Program is available at <https://multifamily.energyupgradeca.org/>.

Upgrade Measures

The MF Program encompasses all upgrade measures that save electricity or natural gas, whether for the tenant or property owner, and whose energy savings can be captured by the program’s energy modeling and custom calculation techniques. Hayward Efficiency PAYS helps multifamily building owners install measures that reduce the property owner’s utility bills, including measures that reduce water use.

Because of these different criteria (MF Program includes measures that save tenants money, but excludes water measures; PAYS excludes measures that save tenants money, but includes water measures), not all MF Program measures are eligible for the PAYS tariff, and not all PAYS measures will qualify for an MF Program rebate. Further, some energy saving measures may not be eligible for the PAYS tariff based on who the utility payer is (i.e., which in-unit water and energy usages are paid by the property owner).

The following table identifies measures that apply to the MF Program, Hayward Efficiency PAYS, or both, assuming the Pilot’s target utility payment configuration (property owner pays for in-unit water, water heating, and all common area utilities, and tenant pays for in-unit electricity, space heating, and appliance fuel). Measures that apply to both programs are highlighted in blue. Some measures that are potentially eligible for the PAYS tariff may require a large co-pay to fulfill the 80% rule.

Upgrade measures potentially applicable to Hayward Efficiency PAYS and/or MF Program¹⁰

Measure	Measure end-use location	Eligible for PAYS (reduces property owner utility bills)	Eligible for BayREN MF rebate (reduces energy use)
Building envelope measures	In-unit	No	Yes
Clothes washer	Common	Yes	Yes
Clothes washer	In-unit	Yes	Yes
Duct replacement/sealing/insulation	Common	Yes	Yes
Duct replacement/sealing/insulation	In-unit	No	Yes
Faucet aerator	In-unit	Yes	Yes
Fridge	In-unit	No	Yes
Lighting	Common	Yes	Yes
Lighting	In-unit	No	Yes
Pool cover/heating	Common	Yes	Yes
Pool lighting/pumps	Common	Yes	Yes
Showerhead	In-unit	Yes	Yes
Space cooling measures	Common	Yes	Yes
Space cooling measures	In-unit	No	Yes
Space heating measures	Common	Yes	Yes
Space heating measures	In-unit	No	Yes
Standard landscaping	Common	Yes	No

¹⁰ Assumes pilot’s target utility payment configuration: property owner pays for in-unit water, water heating, and all common area utilities, and tenant pays for in-unit electricity, space heating, and appliance fuel.

Toilet	In-unit	Yes	No
Vending machine controls	Common	Yes	Yes
Water heating measures	In-unit	Yes	Yes
Water heating measures	Common	Yes	Yes

Program Design

If MF Program measures are included in the Hayward Efficiency PAYS pilot, there are several aspects of program design that need to be coordinated to ensure the success of this relationship. Key opportunities for cooperation and coordination include:

- mutual marketing and outreach efforts;
- aligning data collection and documentation tools to minimize paperwork and maximize data quality;
- cross-training Certified Contractors to ensure consistent application of each program’s guidelines;
- cross-training assessors and technical assistance staff to ensure resource savings evaluations and scope of work recommendations meet the needs of both programs;
- cross-training on-site inspectors so one field inspection can meet the needs of both programs; and
- determining how to assign claimed energy savings for each program for the purpose of reporting to the CPUC for upgrade measures installed on one property under both the MF Program and Hayward Efficiency PAYS pilot.

Additional Research Needed

The Design Team is currently working with MF Program staff to evaluate whether the MF Program’s modeled energy savings estimates can be used to reliably calculate PAYS eligibility. If and when it is determined that the MF Program energy savings estimates meet Hayward Efficiency PAYS pilot standards, the Design Team will work further with the MF Program implementers to coordinate program designs.

6. Marketing, Education & Outreach (MEO)

Creating an offer that works requires a well thought out, strategic marketing plan. The MEO activities for this pilot should be rooted in the objective to enroll sufficient properties to meet the pilot’s target of 2,000 units served. The MEO will be launched in two-phases. First, a direct contact by Hayward staff to familiarize eligible customers with this unique offer will determine whether there is interest. Second, a follow-up contact by the Certification Agent will market specific goods and services and bring in Certified Contractors as appropriate when the customer is ready to discuss product, installation, and cost specifics.

Brand Name

While Hayward Efficiency PAYS is used throughout this Concept Paper, it has not been adopted as the program name. Before launching the MEO program for the pilot, a brand name needs to be identified and approved by Hayward. A group discussion with representatives of Hayward, the Design Team, and others as appropriate should be conducted to address and adopt a brand name.

Key Messages and Communications Goal

The key message for the program will be its focus on an offer that works: an opportunity to purchase resource efficiency products with no upfront payment, no new debt, and none of the risks property owners are likely to associate with contractors installing measures in their buildings or installing products based on future savings.

The communication goal for the pilot should follow the marketing principle outlined in Lawrence Berkeley National Laboratory's *Driving Demand* study: "one touch is not enough. A message must be delivered multiple times before a consumer will engage in learning more about a product or service."

A Focused MEO Campaign

The MEO plan recommended for Hayward Efficiency PAYS will try to avoid broad-based marketing yet be effective at securing participation. It is possible that by targeting high users and serving buildings with an average of 100 units, the pilot could reach its goal of retrofitting 2,000 units by serving only twenty buildings (2,000 units ÷ buildings with 100 units = 20 buildings). However, because customers are not familiar with the pilot's offer, the Design Team wants to caution Hayward that it may prove necessary to supplement the proposed MEO with a broader effort to create confidence and interest in the pilot offer. Early monitoring of pilot uptake will help ensure that there will still be time to implement a full-fledged customer education campaign if necessary.

Phase 1: Hayward Outreach

The Design Team recommends that Hayward staff first meet with interested property owner groups such as the Rental Owners Association with the goal of:

- creating trust in the program;
- explaining how the pilot will reduce costs for participants;
- showing how the pilot provides customers with a practical way to reduce energy and water usage, save money, and reduce harmful environmental impacts;
- generating interest in attendees being among the few allowed to participate in this limited pilot; and
- collecting the names of building owners who indicate that they want or don't want to be contacted by the Certification Agent.

Then, Hayward staff should contact eligible high-using multifamily building customers by phone to secure permission for the Certification Agent to call them to explain the program and determine their interest. If phone calls prove too time consuming, Hayward will send a letter to groups of customers (to avoid over subscription) informing them of the program and allowing them to reply indicating that they do not want to be contacted by the Certification Agent. Finally, if these efforts are not sufficient to generate understanding of an offer that works and interest in participating in the pilot, Hayward may send out bill stuffers, approve robo-calls by the Certification Agent, and issue press releases as part of its education efforts.

In Phase 1, it is also recommended that Hayward create a subpage within its own website that provides general information on the program, including the program offer, eligible measures, information for how to participate and how to contact the Certification Agent, a list of Certified Contractors, and responses to FAQs.

Phase 2: Certification Agent Marketing and Outreach to Customers

Once Hayward staff have contacted property owners, the Certification Agent will contact individual high-use multifamily building customers to explain to them how the program works. Printed materials (e.g., a brochure with Hayward and program logos) should be available to send to potential participants who want to think about the offer and verify its legitimacy.

If Contractors (either Basic or Custom Measure contractors) seek to market the pilot, their marketing effort should be approved only if would-be participants will be adequately informed of the utility bill savings opportunities from both Basic and Custom Measures. Custom Measure contractors must explain that Basic Measures must be installed. Basic Measure Contractors must explain a Custom Measure Assessor will assess which Custom Measures can be installed.

Experience has shown that when two contractors are necessarily involved (e.g., one to install LED lights and toilets in units and another to work on space and water heating systems), coordination problems undermine program success. It is for this reason that the Design Team recommends that the Certification Agent handle the majority of marketing for the pilot and approve any Contractor marketing to ensure clear communication with potential participants, provide accurate information, and facilitate installation of both Basic and Custom Measures.

The Design Team anticipates that the Certification Agent will need to meet on site with interested customers to:

- explain the program (especially the use of national averages);
- tailor the Multifamily Measure Performance Screen to mirror the property owner’s assessments;
- gather accurate data about the building to determine rebates and estimate savings; and
- gauge the owner’s interest in Custom Measures.

The Certification Agent should decide whether to invite the Custom Measure Assessor or the Basic Measure Contractor to this meeting based on a the building owner’s level of interest. While BayREN Multifamily rebates are available, it is likely the Certification Agent will bring the appropriate BayREN Multifamily program staff to this meeting.

A Broad MEO Campaign

If Hayward decides to expand the pilot to all multifamily customers at some future time, a more traditional, well-organized and thorough consumer education phase will need to be added. An offer too good to refuse is likely to sound like an offer too good to be true, especially if the first time a customer hears the offer it is delivered by an unknown Certification Agent or contractor. If the pilot is expanded, the consumer education campaign should utilize “trusted messengers” such as local media and community and opinion leaders.

With an expanded program, utility bill stuffers and web sites must announce, explain, and inform customers about the program. Having tenants contact their property owners will further help the customer education effort.

As part of the development of an expanded education campaign, Hayward staff and program partners would also need to identify, meet with, and seek support from key local business and community leaders such as Chambers of Commerce, churches, or civic organizations to enroll them in promoting the pilot to their community (e.g., setting up meetings for utility managers, presentations to service organizations with invitations to help, letters to editor, etc.). The support of local community leaders

who customers know and respect should lend credibility and create confidence in the program. During development of the education campaign, thought should be given to which local groups within each pilot city/town, if any, would be most helpful to create trust and excitement.

Again, at this time the Design Team does not recommend a broad ME&O campaign for this pilot, as such activity could create greater demand than can be met before Hayward has the opportunity to evaluate the costs and issues associated with implementing programs based on the PAYS system.

7. Certification Agent

The Certification Agent is the gatekeeper to all Hayward Efficiency PAYS program activity and needs to be widely trusted by customers. Hayward participants need to know there is someone to whom they can turn if something goes wrong who has the power to make it right, and who will make it right. Hayward needs the Certification Agent to field all customer inquiries and resolve issues so Hayward's staff is not burdened by customer questions or complaints about the pilot.

The Certification Agent will be responsible for daily implementation of the pilot and fulfill three basic functions:

- **Marketing:** Upon referral from Hayward's initial contact, the Certification Agent will be responsible for conveying the pilot's offer to interested Hayward multifamily property owners and contractors. To the extent potential participants understand the offer that works and contractors fully understand the responsibilities of being a Certified Contractor, the pilot should be able to meet its goals.
- **Ensuring measures are appropriate, cost effective, and correctly installed:** The Certification Agent is responsible for approving all projects prior to any work being done, for making sure participants understand the offer, the measures, and the basis for savings estimates, and for assessing the appropriateness of the work. The Certification Agent is responsible for ensuring projects meet the 80% rule. The Certification Agent performs quality control after project installation.
- **Ensuring paperwork and data are complete and accurate:** The Certification Agent is responsible for making sure that all Agreements are complete and signed, all forms required for a specific job are complete and accurate (and signed if appropriate), and that all data on forms and agreements are correct based on quality control verification. Estimated participant savings and bi-monthly payments will be based on agreements and forms.

Potential purchasers of measures installed in a program based on the PAYS system must have confidence that there will be savings and that measures will last throughout the payment term. Independent verification of product savings estimates is crucial to creating consumer confidence. Additionally, customers need to know that products meet standards for operability, safety and efficiency; are appropriate for the customer's application; and are properly installed. Certification also assures the water utility of a reliable payment stream from installed products that produce reliable savings for enough years to recover all costs.

The Certification Agent will provide customers with the following services:

- Certification of program contractors, including arranging for them to sign contracts, verifying insurance coverage and bonding that protects owners/customers for the duration of payments, and training contractors to meet program standards.

- Verification by telephone and selected on-site pre-inspections that measures qualify and that measures are appropriate for the building.
- Verification that contractors' savings estimates are accurate, that no other savings or performance claims beyond those approved by Hayward have been made, that the 80% rule has been met, and that the Multifamily Measure Performance Screen and Customer Measure Screen have calculated the correct PAYS charge.
- Verification of appropriate measure installation by telephone or on-site, post-installation inspection. All participants will receive telephone inspections. On-site inspections will be budgeted for about twenty percent of participants. Contractors whose performance necessitates additional on-site inspections will pay for unbudgeted inspections.
- Assurance that program limits on participation and funding (e.g., the \$4,000,000 cap on available capital) are not exceeded and that contractors abide by rules.
- Help resolving disputes with contractors and assistance in obtaining relief if measures fail (i.e., effecting cost-effective repairs or payment cessation) for reasons other than property owner or tenant fault.
- Requiring manufacturers to make good on their warranties.
- Requiring contractors (or their bonding agent) to make good on their contracts, including paying penalties for failed inspections.
- Determining disbursements to Certified Contractors for measure installations and repairs.
- Notifying Hayward to initiate billing of tariffs (including the amount and type of charges) and when to stop charges if measures fail and cannot be repaired.

One office/field staff person (i.e., one FTE) should be able to handle the Certification Agent responsibilities for this pilot. Even if the pilot meets its goal of retrofitting 2,000 units, the maximum number of projects is about 100. It is more likely the number of buildings served will be closer to the minimum of 20 buildings depending on the number of units in each building. If this pilot produces the same offer acceptance rate (i.e., 50% or higher) as every other program based on the PAYS system, the maximum number of initial customer contacts will be between 40 and 200. The Design Team estimates this staff person would be able to provide visits to up to 300 buildings especially if it uses the recommended process of using telephone calls to screen participants to avoid wasted visits. The Program Design will likely call for 20% on-site post-installation inspections.

During development of the Program Design, the duties and responsibilities of the Certification Agent will be delineated, contracts finalized to institutionalize these duties and responsibilities, and a Certification Agent will be selected using an RFP process. The Design Team has verified that there is interest among one or more qualified entities in serving as the Certification Agent.

8. Certified Contractors

To participate in the pilot, contractors must be certified by the pilot's Certification Agent. Certification requires:

- demonstrating that staff understand the pilot rules and protocols prior to undertaking any work;
- having required insurance and bonding (or an irrevocable letter of credit);
- signing a Contractor's Agreement that allows the Certification Agent to act as the participant's Agent; and

- providing evidence of successful comparable projects.

The Program Design will establish clear criteria for certifying contractors to access the PAYS tariff to offer quality assurance to Hayward and its customers. All Certified Contractors must agree to sign a Contractor Agreement and abide by all program rules.

There will be three types of Certified Contractors:

The Pilot’s Basic Measures Contractor. A Basic Measures Contractor will be selected based on an RFP process. The pilot’s Contractor will be selected based on its price, references, and demonstrated success installing the pilot’s water-saving measures in multifamily buildings. This Contractor will be recommended to property owners to install Basic Measures in customers’ buildings.

The Pilot’s Custom Measures Contractor(s). One or more Custom Measures Contractors will be selected based on an RFP process. The pilot’s Contractor(s) will be selected based on its price, references, and demonstrated success installing typical water heating, space heating, and other efficiency measures in multifamily buildings. This (these) contractor(s) will be recommended to property owners to install eligible custom measures. It is possible more than one Custom Measure Contractor will be required if one contractor does not fulfill all identified program skills and certifications.

Customer-Choice Contractors. Participating customers may select a their own contractor to install Basic and/or Custom Measures in their building providing the Contractor is willing to sign a Contractor Agreement and meet Pilot contractor certification requirements (i.e., provide the required level of insurance, bonding, etc.). If a Customer-Choice Contractor installs Basic Measures, it must do so for the established program price or the property owner must pay the difference (treating any additional cost as a co-pay). The Customer-Choice Contractor must be willing to meet with the Certification Agent on site prior to starting any work or incurring any expense to go over program guidelines (i.e., to be trained). There will be a one-time cost (training fee) paid by the interested contractor to the Certification Agent for this meeting.

Contractor summary

	Basic Measure Contractor	Custom Measure Contractor	Customer-Choice Contractors
Procurement Method	RFP	RFP	Customer selection
Customer Assurances	Licensed for measures installed Insured and bonded to program requirements Minimum 1-year parts and labor warranty		
Pricing	Standard price set by RFP for Basic Measures	Variable by project	Standard price set by RFP for Basic Measures Variable by project
Training	Trained by Program Design Team as part of launch	Trained by Program Design Team as part of launch	Trained on site by Certification Agent (fee)

Participants must understand that Basic and Custom Measures installed by Customer-Choice Contractors will not be provided the same quality assurances as other PAYS-eligible Basic and Custom Measures. When measures are installed by Customer-Choice Contractors, Hayward

- will repair failed measures and extend the term of payments when there is reasonable expectation the measures will continue to function for the extended term;

- will not stop the PAYS charge if these measures cannot be repaired in order to avoid disputes about the cause of measure failure (i.e., for measures installed by Customer-Choice Contractors, the customer must continue to pay the charges even if the measure is not working); and
- will require a disclosure lien be filed with the property's records - the lien will notify successor customers that the payment obligation will automatically transfer to them if they purchase the building, unless they or the building owner pay off the remaining obligation and repay Hayward for any rebates or other expenses associated with installing measures at this location. The disclosure lien will also notify the successor customer that if they accept the charges, they must agree in writing to adhere to all conditions in the Purchase Agreement and Exhibits (i.e., available from the City of Hayward).

Contractor Agreement

The Contractor Agreement will require Certified Contractors to provide a high level of assurance to customers. The detailed Program Design and the accompanying Contractor Agreement will specify Certified Contractor responsibilities, which will include agreeing to:

- be bonded or provide an irrevocable letter of credit from a bank to assure compliance;
- provide labor warranties;
- be responsible for the quality of its workmanship and compliance with federal, state and local standards;
- be responsible for identifying any pre-existing conditions that would preclude installation of program measures (e.g., rotted floor boards at the toilet rough-out or corroded shower pipes);
- secure required permits and include this cost in their proposed project price;
- pay any required training fees and any penalties related to failed program inspections, which will be used to pay for additional quality control inspections; and
- successfully complete required training in order to be allowed to make offers to customers.

Contractor Selection

The Design Team proposes using RFPs both to select two Certified Contractors: one Basic Measures and one Recommended Custom Measures contractor. These RFPs will also be used to establish fixed prices for the installation of Basic Measures. There has been sufficient contractor interest in the pilot, the PAYS offer, and the responsibilities outlined above to expect that one or more contractors will respond to the RFP. It is likely that final selection after initial screening will require an interview and references check.

Although the Certification Agent will recommend the use of these selected contractors, any customer that prefers that another contractor install measures may do so and pay for the installation through the tariff, providing that their contractor is willing meet the requirements for the Customer-Choice Contractor.

The Pilot's Program Design will provide further detail for how to make the customer experience as simple and easy as possible (as few contractor visits and contracts signed as possible) yet provide customers with access to contractors able to offer all the products customers might want.

9. Customer Offer

Once the Certification Agent receives a list from Hayward of the high-use multifamily building customers that have been contacted and have not opted out, it will contact each building owner and explain the Hayward Efficiency PAYS offer prior to visiting the building. If owner expresses interest, the Certification Agent will meet the owner at the site bringing along the appropriate contractors and the Custom Measure Assessor.

The purpose of this visit is to determine which Basic Measures qualify for the PAYS tariff and to make an offer to the customer. If the customer is ready to go ahead with the project, the Certification Agent may leave with a signed Purchase Agreement for Basic Measures. If not, the agreement can be left behind and signed when the customer is ready.

Additionally, the Custom Measure Assessor, if present, will review the opportunities for installation of Custom Measures and determine the owner's interest. If the owner is interested, the Custom Measure Assessor will gather needed information to analyze Custom Measures including a firm price from the contractor. The Custom Measure Assessor will get back to owner once the analysis is completed and send a Purchase Agreement for any qualifying measures.

Once customers accept the pilot offer as legitimate, the Certification Agent or a Certified Contractor with an offer "too good to refuse" should be all that is required to market measures in this PAYS pilot. Certified Contractors should have no trouble closing the deal when they are able to offer customers installations with the following offer:

- I install measures and you pay me nothing. Your water utility pays me.
- After a waiting period of 45 days from project completion, you will see a PAYS charge on your water utility bill. However, your total utility bills, even with the new charge, will be significantly less each year than what they would have been without installing the measures; the tariff is designed to provide the bill payer at this location with immediate net savings.
- You and your building have no loan, no lien, and no debt associated with this obligation; just lower utility bills.
- If you sell the building at any time, your payment obligation ends (except for Custom Measures installed by a Customer-Choice Contractor); the next bill payer at this location gets the remaining savings and makes the remaining payments.
- If you report that a measure fails at any time during the payment period and it is not repaired, your payment obligation ends (except for Custom Measures installed by a Customer-Choice Contractor).
- If a Basic or Custom Measure installed by the program contractor fails, you did not damage it, and it can be repaired, you will not pay for the repair at that time. The payment term will be extended to recover repair costs; whoever is in the location at that time will continue to pay a little longer but only if the measure continues to function.
- If, at any time during the payment period, it is discovered that I put in the wrong measure, put it in incorrectly, or failed to get required permits, the utility has required my company be bonded for the duration of the payments. That means I or another contractor will fix the deficiency at no cost to you, even if I go out of business.

During development of the Program Design, the Design Team will develop protocols for how Contractors may adjust this offer to account for co-pays and custom measures.

Referral to Other Programs

Certified Contractors will be trained about other program opportunities that might be appropriate for customers or that might enable participants to supplement their installation of Basic Measures.

Program materials will be prepared and left with all participating customers. This approach could be used to promote Energy Upgrade California, California Solar Initiative, Energy Savers and Energy Assistance Programs, the BayREN Multifamily Program, and other such initiatives.¹¹

10. Capital

To sufficiently fund Hayward's pilot, the Design Team recommends Hayward secure access to up to \$4,000,000.¹² If Hayward determines it will seek third-party capital in this amount, the Design Team further recommends that Hayward seek a Non-Revolving Guidance Line of Credit with terms that will work for the pilot. The Line of Credit will need to allow Hayward to make up to 15 draws in one year (monthly draws for multifamily building projects and up to 3 draws for community solar projects and, if necessary, the weather-based irrigation controller to be tested). Except for an origination fee, the City of Hayward's financial obligations will be incurred only when it draws down funds to pay the Certification Agent and vendors for approved, completed projects. There will be no obligation to pay for unused funds made available by the Capital Provider for this pilot.

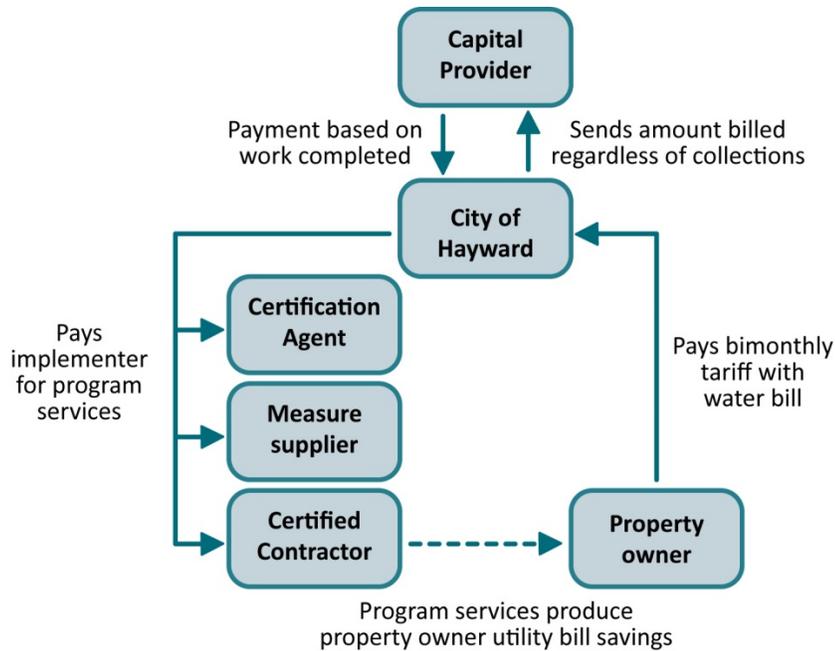
Any third-party Capital Provider will be selected based on an RFP process to ensure the lowest possible rate and most flexible terms (e.g., origination fees and the duration of quoted interest rates). Capital Providers will bid the interest rate for its funds, the duration (up to one year) that they will make funds available at that interest rate, and the minimum duration between any changes to the interest rate.

Hayward would sign a Non-Revolving Guidance Line of Credit with a Capital Provider. Each month Hayward would issue checks to the Certification Agent, Certified Contractors, and Certified Suppliers based on the number of measures installed in approved completed projects, after drawing down funds from the Line of Credit. Hayward would add PAYS charges to participants' bi-monthly bills and track their payments. And it would repay the Capital Provider on a monthly or bi-monthly basis regardless of its collections from customers.

¹¹ This approach led to Energy Upgrade referrals in Windsor Efficiency PAYS.

¹² RCPA successfully obtained a commitment for a Non-Revolving Guidance Line of Credit from an interested capital provider for up to \$4,000,000 for the Windsor Efficiency PAYS pilot that would have required up to 15 year payment terms, two draws every month, and three different payment streams (or 72 different loans in per year). Hayward's pilot will serve more financially stable customers (multifamily property owners compared to single family customers) and require only 15 draws with all but three of them for the same payment term. The \$4,000,000 estimate for Hayward was based on using the Multifamily Measure Performance Screen to evaluate different scenarios. This analysis is available upon request.

Capital flow in the PAYS program



At Hayward’s request, the Design Team has initiated conversations with capital providers including a local bank. Prior to further discussions during the Program Design phase with potential capital providers, Hayward should decide whether it will self-finance its pilot. If Hayward decides to use third party capital the RFP process will establish the rates and mechanics for capital availability. Variable rates will not be acceptable. Any amount of at least \$4 million (or more if additional measures are added by Hayward during the design phase) will be acceptable. The Capital Provider will be required to provide at least 90 days notice of any interest rate increase before it takes effect. The Program Design process will involve working with potential capital providers to assess credit quality and Hayward’s needs using readily available information. Any interest rate below or equal to 7% will easily facilitate an offer that works. The final selection of one or more Capital Providers will be made by Hayward.

Alternatively, Hayward could self-finance its pilot. The Town of Windsor self-financed its PAYS pilot, which allowed Windsor to repay itself for the cost of capital rather than repay interest to a third-party capital provider, to increase revenues on money now held in banks, avoid a third-party origination fee, and create a rate stabilization fund.

Final estimated capital needs will be determined during development of the detailed Program Design. However actual capital requirements will depend on variables including:

- the number of participating buildings;
- the specific measures that qualify;
- the bid prices for installation of these measures;
- whether there are any funds available from the BayREN Multifamily pilot (which should generate a significant amount of the financing required to meet the customer’s out of pocket expense for energy saving measures); and
- whether customers are interested in Custom and Co-pay measures.

11. Bad Debt

To date, all programs based on the PAYS system have experienced higher than normal utility customer payment rates with minimal program-associated bad debt¹³. To ensure similarly high payment rates for this pilot, Hayward is urged to follow its normal collection protocols including disconnection for non-payment and referral of any customers to credit and collection agencies.

Bad debt, if any, will be the responsibility of Hayward. If there is any bad debt, some could be recovered by extending the payment term at the project location if the measure is still functioning. To minimize this risk, eligible customers will be required to be in good standing with their Hayward utility billing account.¹⁴

12. Billing Program Charges

The Hayward Efficiency PAYS pilot will limit initial on-bill charges for multifamily participants to a single, ten year duration to simplify pilot administration and access to third-party capital. Final payment durations will be determined by measure performance and bill payments made. At this point, the Design Team estimates that:

- Basic measure payments will be spread over 10 years;
- Custom measure payments will be spread over 10 years¹⁵; and
- Custom and Basic measures likely will require separate charges on the customer's bill;

If available, community solar projects will be spread over 12 years. The Design Team encourages Hayward's billing and information staff to work with staff at the Town of Windsor and Tyler Technologies to make sure the Eden modules developed for Windsor Efficiency PAYS meet Hayward's needs or are quickly modified to do so.

Finally, if Hayward were to make programs based on the PAYS system available to single family customers, the Design Team recommends that Hayward move to water and sewer bills based on single-gallon units rather than CCF (748 gallons). The CCF billing increment is too large to accurately reflect single customer water savings on a monthly basis, and single-gallon billing would better measure (and reward) savings. Additionally, single gallon volumetric wastewater billing will increase the value of installing water saving measures to participants.

¹³ Of the eleven programs based on the PAYS system operating in five states, the combination of disconnection for non-payment, rigid standards for Certified Contractors, oversight by a Certification Agent, and the ability to repair measures have resulted in bad debt from all programs combined of less than one-thousandth of one percent of the \$18 million total installed costs for customer-purchased efficiency measures.

¹⁴ "Good standing" will be further defined in the Program Design based upon discussion with Hayward utility billing.

¹⁵ While BayREN's Multifamily rebate program is available, a high percentage of customers should accept Custom Measures; absent the rebates, there is no way to estimate how many, if any, Custom Measure projects participants will implement.

13. Training

Training modules developed during the Program Design phase for everyone involved in delivering pilot services ensure that program guidelines are followed, resulting in an effective pilot. All key players must know and understand the protocols they are supposed to follow and that their contracts require them to follow. The Program Design is intended to provide these guidelines so the implementing utilities and their program associates make all policy decisions in advance rather than in the field. Staff and Contractor's goals or immediate needs may or may not be in alignment with this pilot so it is important that all key policy decisions be aligned with the Program Design.

The Design Team recommends training Certification Agent staff, Certified Contractors, and each utility's customer service (or the individuals who may respond to customer enquiries) and billing staff to ensure that protocols will be followed and to allow these individuals to propose and help develop better responses to typical questions and customer issues. The training will also help key program partners to develop effective and consistent approaches for explaining:

- an offer that works and eligible measures;
- why Hayward is implementing this new approach;
- why customers should accept the new offer; and
- customer rights and responsibilities if they accept Hayward Efficiency PAYS measures.

The Design Team will prepare detailed training agendas and lists of recommended materials for manuals for the trainings.

14. Evaluation

Hayward's billing system, and the pilot's Measure screens and forms will provide significant data on the energy, water, and customer bill savings achieved by pilot participants.

In addition to this information, as a matter of best practice all programs should receive two types of evaluation. Process evaluation is required to identify program process refinements and make the program better for potential participants, contractors, and key staff. Impact evaluation, provided if possible by a party without an interest in the results, is required to determine the results of a pilot. The Design Team recommends evaluation as follows.

Process Evaluation

Process evaluation should occur four months after pilot start-up. Typically process evaluation is an internal process, however, if funds are available for a skilled outside process evaluator, that is preferred. At a minimum the process evaluation should include:

- a survey of impacted utility staff, Certification Agent staff, Certified Contractors, and community leaders; and
- a focus group of customers who chose to participate and those who did not.

Surveys and focus groups should be structured to answer the following questions:

- Does the program overcome the key market barriers to customer installation of efficiency measures?

- Do more customers accept installation of targeted measures with PAYS than with other programs?
- What, if any, utility bad debt was associated with the tariff?
- Has any customer been disconnected because of pilot related bad debt?
- What worked well and what could be improved?
- What comments, if any, have been received from pilot participants?
- What would make customers accept more and or bigger offers?
- What, if any, problems have customers experienced with contractors?
- What, if any, bill problems have been experienced by customers?
- Were there adequate sources of capital for efficiency measures?
- Can the utilities document that all capital providers were paid on time?
- Do customers want specific measures to be added to the program?
- Would customers recommend the program to other building owners?
- What improvements should be made to the pilot delivery structure?

If program goals are not being met (i.e., the pilot is not on track to retrofit 2,000 units via sufficient multifamily customers accepting offers and at least 35% of bona fide offers accepted, the minimum acceptance rate to meet program goals) the process evaluation should attempt to identify the reasons why not.

Impact Evaluation

Programs based on the PAYS system require the Certification Agent to review and approve every project. If part of the approval process is a requirement to enter data needed for evaluation into a spreadsheet, evaluation will be easy at any time throughout the program and for impact evaluation. Impact evaluation should report the:

- Number of customers receiving bona fide offers
- Number of customers accepting bona fide offers to install measures
- Number and type of measures installed
- Total cost of measures installed (includes rebates and up-front customer co-payments)
- Total cost of installed measures financed by tariff, including program fees
- Total yearly payments (assuming a full year regardless of when payments started)
- Percent of each measure installed per unit and per building
- Percent of each eligible measure installed per unit and per building (e.g., existing or medical conditions may preclude eligible measures from being installed)
- Total amount of up-front co-payments

To keep impact costs affordable, unless the CPUC or another source provides grant funds, cost savings data should be based on engineering estimates (to be provided by EEI and RPP during the detailed program design) recorded at the time customers participate by the Certification Agent and

supplemented by contractor reported replaced measure data (e.g., actual watts, gallons per flush, and gallons per minute removed). Estimated savings should be recorded for water, gas, and electricity. If feasible, estimated savings should be reported for units, common areas, and central water and space heating retrofits.

Furthermore, if possible, all data should be put into three groups to identify whether start-up or winding down operations had significant impact on program results:

- Customers who participated during the first five months
- Customers who participated in months five through ten
- Customers who participated in months ten through twelve (important if pilot is not continued)

While all program's results suffer from start-up hiccups and winding down operations, segregating savings data as recommended above will better enable other utilities to estimate results should they replicate this program over a number of years (i.e., minimizing the impact of start-up and winding down on overall program results if, in fact, they are significant).

15. Timeline

The Design team has worked with Hayward staff to establish the following milestones in order to meet the goal of a February 2014 pilot start-up and ensure the Design Team's availability to complete work on this project with current CPUC funding.

Concept Paper and Contracts/Forms: Staff Review & Revision

Date: September 20, 2013

A review of this Concept Paper and draft Contracts and Forms by Hayward staff by September 13, 2013 followed by revisions made to this Concept Paper by the Design Team by September 20, 2013 should facilitate approvals by City of Hayward Council and the Sustainability Council.

City Council & Sustainability Council Approval of Concept Paper

Date: October 15, 2013

Approval of this Concept Paper by the City of Hayward Council and the Sustainability Council, and discussion thereof will inform the Design Team's development of a detailed Program Design.

Delivery of a Program Design and Revised Contracts/Forms

Date: November 1, 2013

The Design Team will necessarily begin work on the Program Design upon submission of this Concept Paper on September 3, 2013. It will continue to work with potential contractors and measure suppliers, and will incorporate suggestions from staff, the Sustainability Council and the Town Council as appropriate to maintain the program's offer to customers.

Contract/Forms Review and Approval

Date: November 15, 2013

Lawyers and other interested parties need to review the Design Team's proposed suite of contracts, forms, and worksheets to ensure that there is time to make any changes required by California law and to meet the needs of the City of Hayward. This review should be started as soon as possible to ensure required reviews are completed and any needed changes are made, leaving time for copies to be printed and for the package to be available as part of the procurement process.

Release of RFPs

Date: December 2, 2013

The Design Team will work with Hayward Staff through the course of Program Design activities to develop RFPs for key program roles, including a Certification Agent, Capital Provider, Basic and Custom Measures Contractors, and Basic Measures Suppliers.

Review of Proposals in Response to RFPs

Date: January 20, 2014

At the direction of Hayward staff, the Design Team will offer input in the review of RFPs to help facilitate Hayward's selection of a Certification Agent, Capital Provider, Basic and Custom Measures Contractors, Basic Measures Suppliers and other key program parties.

Approval of Program Design

Date: January 28, 2014

The Hayward Efficiency PAYS pilot will only be implemented if the Program Design is approved by the Sustainability Council and City of Hayward Council by January 28, 2014.

Training

Date: February 20, 2014

As part of the Program Design, the Design Team will include recommendations for training agendas and training manual materials for the Certification Agent, Hayward Staff, and Certified Contractors. Training will be produced and presented by the Design Team with assistance from key program parties.

Implementation

Date: February, 2014

The pilot as described in the final draft of the Program Design to be submitted on February 20, 2014 will be ready for implementation.

16. Glossary of Terms

80% rule

When calculating PAYS tariffed charges and payment terms a measure, the 80% rule dictates that the customer's annual payments cannot exceed 80% of the estimated annual utility bill savings from installation of the measure, and the maximum repayment term cannot exceed 80% of the useful life of the measure.

BayREN

Bay Area Regional Energy Network. BayREN is a joint effort of the Association of Bay Area Governments and the nine Bay Area counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. BayREN represents 20% of the state's population and half the population within the Pacific Gas and Electric Company (PG&E) service territory.

Customer

A City of Hayward water utility customer.

Participant

A City of Hayward water utility customer that participates in the Hayward Efficiency PAYS pilot.

Property owner

The owner of a multifamily property in Hayward that is the pilot's primary target market.

Tenant

A resident of a unit within a multifamily property.

Unit

One apartment within a multifamily property.

DATE: October 2, 2013
TO: Council Sustainability Committee
FROM: Director of Public Works – Engineering & Transportation
SUBJECT: Update on Commuter Benefits Programs

RECOMMENDATION

That the Council Sustainability Committee reviews and comments on this report.

BACKGROUND

On July 28, 2009, the Council adopted the City’s Climate Action Plan. The Plan contained two actions related to commuter benefits:

- Action 1.1 - Assisting Businesses with Establishing Commuter Benefits Programs.
- Action 1.13 - Establishment of Commuter Benefits for City Employees.

The City has addressed Action 1.13 by contracting with TranBenfor City employee commuter benefits. This program is administered through the Human Resources Department as an employee benefit.

DISCUSSION

Action 1.1 – The BAAQMD and the Alameda County Transportation Commission (CTC), through the Hayward Chamber of Commerce, have promoted AC Transit’s Easy Pass¹ to Hayward businesses. Easy Pass can be an employee benefit offered by employers and can help both employers and employees pay lower taxes.

Senate Bill 1339, signed by the Governor in fall 2012, provides for the Bay Area Air Quality Management District (BAAQMD) and the Metropolitan Transportation Commission (MTC) to jointly adopt a regional program to promote the use of alternative commute modes. The Program would require employers with 50 or more full-time employees to offer one of the following benefits:

- Option 1 - Pre-Tax Option: Allow employees to pay for their transit or vanpooling expenses with pre-tax dollars, as permitted by current federal law;

¹ <http://www.actransit.org/rider-info/easypass/easypass-for-employers/>

- Option 2 - Employer-Provided Subsidy: A transit or vanpool subsidy to reduce or cover the employees' monthly transit or vanpool costs;
- Option 3 - Employer-Provided Transit: A free or low-cost bus, shuttle or vanpool service (operated by or for the employer); or
- Option 4 - Alternative Commuter Benefit: An alternative method that would be as effective as the other options in reducing single-occupant vehicle trips (and/or vehicle emissions).

The City's TranBen program would fall under Option 1 and would thus meet the requirements of the rule when it is adopted. The Easy Pass program mentioned above would be one way for employers to comply with Option 2.

The BAAQMD is currently developing the rule, called Regulation 14, to implement this program. A public workshop on the rule is scheduled for Monday, October 7, 2:00 PM - 4:00 PM at the Joseph P. Bort Metro Center Auditorium, 101 8th Street, Oakland. The BAAQMD anticipates adopting the rule in early 2014.

The City can assist businesses in the effort to provide commuter benefits by providing information to employer groups such as the Chamber of Commerce and by making information available regarding public transit and commuter benefit programs on the City's website.

Action 1.13 – Several years ago, the Department of Public Works administered an employee commuter benefits program called the STRIDES program. The program provided for employees who used public transit for a majority of their home to work commutes to receive a "Commuter Check" which could be used to purchase BART, AC Transit or other public transit tickets or passes. Despite City Hall's proximity to Downtown BART station, the program suffered from low usage. The maximum utilization for STRIDES program was about 25 employees per month. In addition, the entire cost of the Commuter Check program was born by the Department, and was subsequently dropped due to budget reductions.

The City recently established a similar program through TranBen. This program allows for a pre-tax withdrawal from an employee's paycheck for the purchase of public transit tickets or passes. The program is currently being utilized by approximately nine (9) City employees. One reason for the low participation rate may be partially due to the fact that the program issues paper vouchers that must be redeemed in person at limited locations. The City is in the process of transitioning to E Flex, which is similar to TranBen, but does allow electronic fund transfers to the Clipper Card².

PUBLIC CONTACT

The draft rule for Senate Bill 1339 (Regulation 14) can be found on BAAQMD's website: www.baaqmd.gov

Interested parties are invited to submit comments or questions on the draft rule. To do so, please email commuterbenefits@baaqmd.gov, call 415-749-8671, or send written comments to: David Burch, BAAQMD, 939 Ellis Street, San Francisco, CA 94109 by November 7, 2013. Following the

² Clipper Card can be used on Muni, BART, AC Transit, VTA, SamTrans, CalTrain, and Golden Gate Transit and Ferry.

workshops and the close of the public comment period, BAAQMD staff will assess the need for changes to the draft rule, and may consider further workshops, or may proceed to a public hearing before the Air District's Board of Director's and MTC's Commissioners in early 2014.

NEXT STEPS

Upon adoption of Regulation 14, staff will work with BAAQMD, MTC, and Alameda CTC to promote awareness of commuter benefit requirements. Staff will seek to incorporate materials into continuing outreach efforts to local business, including the Green Business program.

Prepared by: Don Frascinella, Transportation Manager

Recommended by: Morad Fakhrai, Director of Public Works – Engineering & Transportation

Approved by:



Fran David, City Manager



CITY OF
HAYWARD
HEART OF THE BAY

DATE: October 2, 2013
TO: Council Sustainability Committee
FROM: Director of Public Works – Utilities and Environmental Services
SUBJECT: Summary of Community-Wide and Municipal Energy Use and Efforts to Improve Efficiency

RECOMMENDATION

That Committee receives and comments on this report.

SUMMARY

While other reports have provided updates on overall implementation of the Climate Action Plan, this report focuses on City-wide electricity and natural gas use and efficiency. This report has four main sections:

- Energy Efficiency Programs for the Community
- Energy Use by the Community
- Energy Efficiency at City Facilities
- Energy Use at City Facilities

BACKGROUND

The City's Climate Action Plan (CAP) was adopted by Council in July 2009; however, energy efficiency and generation of renewable energy have been a priority for much longer. Following is a list of key actions the City has taken to reduce energy use.

- On April 8, 2005, the City of Hayward became a participant in the U.S. Mayors Climate Protection Agreement and committed to reducing greenhouse gas (GHG) emissions seven percent below 1990 levels by 2012.
- In June 2006, the City of Hayward joined the Alameda County Climate Protection Project and ICLEI's Cities for Climate Protection Campaign.
- In 2006, the first GHG emission inventory was completed for both community-wide activities and municipal operations.
- In 2007, the Mayor formed the City Council Sustainability Committee.
- In 2008, the City adopted a Green Building Ordinance requiring LEED Silver certification for new municipal facilities.
- In 2008, the City adopted a Green Building Ordinance related to private development.
- 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 2011, “Green” was moved from a supporting Council priority to a primary Council priority and the Public Works Department was reorganized into two Departments. Public Works – Utilities and Environmental Services was created with Environmental Services Division staff focused on CAP implementation, water conservation and energy efficiency, solid waste and recycling, and water pollution control programs.
- In 2013, jurisdictions throughout Alameda County worked with staff at StopWaste to establish the Alameda County Energy Council so that cities and the County may work together to secure grant funding and partner on CAP implementation programs.

DISCUSSION

Energy Efficiency Programs for the Community – Staff has partnered with several entities including PG&E, the Department of Energy, StopWaste, and the East Bay Energy Watch to offer energy efficiency programs to homeowners and businesses in Hayward.

Energy Efficiency and Conservation Block Grant Programs – In 2009, Hayward was awarded a \$1,361,900 formula-based Energy Efficiency and Conservation Block Grant (EECBG) from the U.S. Department of Energy through the American Recovery and Reinvestment Act (ARRA). As required by terms of the program, grant funds were spent during calendar years 2010 through 2012. The City hired QuEST to serve as its contract Sustainability Coordinator to help administer the grant as well as assist with general CAP implementation.

Implementation of the CAP included a number of activities including exploration and initial development of a Residential Energy Conservation Ordinance (RECO) and Commercial Energy Conservation Ordinance (CECO), and implementation of a number of City sponsored energy efficiency programs. Energy efficiency program activities such as Large Energy Users, Non-profit and Government Agencies, Residential, and LED streetlights are covered in detail in a separate report by PG&E (see Attachment I). While Council ultimately decided to not adopt a RECO, addressing energy use by the City’s existing housing stock will be critical to meeting overall GHG reduction targets. Staff is still committed to addressing this issue and has included new policy language in the draft General Plan (see related report on the Committee’s October 2 agenda).

A total of \$618,425 in energy efficiency incentives were provided to business and homeowners through the EECBG. The programs assisted Large Energy Users, Non-profit and Government Agencies, and single-family homes. An additional \$136,085 in incentives was used by the City for installation of LED streetlights. When combined with matching incentives from PG&E, a total of \$1,182,867 in incentives were provided to business and home owners as well as the City. These incentives helped drive more than \$1,918,500 in energy efficiency investments. As a result of these investments, participants are saving \$639,146 in energy expenses while reducing 1,176 tonnes of CO₂ per year. Table 1 summarizes the spending, project costs, and energy savings for each of the programs funded by the EECBG.

Table 1. Summary of EECBG-Funded Programs

Programs	Savings		Cost/Incentives					Task Spending
	Electricity Savings (kWh)	Natural Gas Savings (therms)	Cost Savings	Project Costs	Hayward Incentives	PG&E Incentives	Total Incentives	
Large Energy Users	2,653,226	91,838	\$489,822	\$1,084,931	\$238,305	\$357,196	\$595,502	\$238,305
Non-Profits & Governmental Agencies	892,590	353	\$142,814	\$378,039	\$251,885	\$71,160	\$323,045	\$251,885
Residential	3,709	5,525	\$4,654	\$319,526	\$128,236		\$128,236	\$128,236
LED Streetlights	136,085	-	\$1,856	\$136,085	\$136,085		\$136,085	\$136,085
Energy Eff. & Conservation Strategy Development								\$21,189
Green Cities California Membership								\$6,750
Sustainability Coordinator								\$513,502
California Youth Energy Services (CYES) Program								\$15,000
Green Packages								\$49,948
Residential and Commercial Energy Audits								\$1,000
Totals	3,685,610	97,716	\$639,146	\$1,918,582	\$754,511	\$428,356	\$1,182,867	\$1,361,900

Energy Upgrade California – Hayward staff worked with other cities in Alameda County and StopWaste to support Energy Upgrade California¹. Each city in Alameda County contributed a portion of their EECBG funds (Hayward’s contribution is listed in the above table as “Green Packages”) for StopWaste to provide contractor training, marketing, and technical assistance. In addition, Hayward spent \$128,000 to provide incentives matching those provided through PG&E. There were 25 residents who received Hayward’s matching incentives and the completed projects resulted in total energy savings for all program participants of 3,709 kWh and 5,525 therms. For comparison, the average California home uses approximately 6,000 kWh and 400 therms annually.

East Bay Energy Watch – The 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 is administered by QuEST, the same firm hired as the City’s Sustainability Coordinator for 2009 through 2012. A summary of EBEW activities for the 2010 – 2012 program cycle is included as Attachment II. The programs, many of which were leveraged with the City’s EECBG funds, achieved reductions in electricity use of 9,206,775 kWh and natural gas use of 7,514 therms. Various programs served 190 non-residential customers including 29 nonprofits and 32 schools. On the residential side, the California Youth Services (CYES) program served a total of 411 households in 2010 and 2011.

¹ <https://energyupgradeca.org/overview>

Other Current and Future Energy Efficiency Programs – The following programs are currently available to Hayward residents, property owners and businesses.

- Energy Upgrade California – The incentives currently available are the “Home Upgrade” and the “Advanced Home Upgrade” programs². The Home Upgrade incentives involve installing three or more measures from a flexible menu of options. Different measures have different point values. A maximum of 250 points and \$2,500 in rebates are possible. The Advanced Home Upgrade requires a comprehensive energy assessment of the home and rebates and incentives depend on the energy savings of the project. Incentives can be up to \$4,500 for a 45% increase in efficiency.
- Home Energy Analyzer – This free online tool³ just became available to Alameda County residents in September 2013. People can log in using their PG&E login information and the website analyzes their PG&E data to provide detailed energy usage information and tips for reducing electricity and natural gas use.
- Energy Upgrade California Multifamily Program – This program, launched in July 2013, offers cash rebates and free energy consulting for multifamily properties that undertake energy upgrades. The program assists in planning energy saving improvements designed to save about 10% of a building’s energy usage and provides \$750 per unit in rebates to help pay for upgrades⁴.
- PAYS – Staff is currently developing a Pay As You Save (PAYS) program that will initially be offered to owners of multi-family properties. It will allow energy and water efficiency improvements to be installed with no upfront cost and with project costs paid for over time on water bills. An update on the PAYS program is being presented to the Committee on October 2.
- East Bay Energy Watch – The East Bay Energy Watch serves commercial customers within Alameda and Contra Costa Counties. PG&E customers are eligible for a no-cost comprehensive energy assessment of their building. Energy Watch professionals perform assessments and make recommendations for cost effective retrofits and improvements that are designed to save money on utility bills⁵.

² More details are at <http://www.pge.com/en/myhome/saveenergymoney/energysavingprograms/euca/index.page>

³ This site is available at <http://www.homeenergyanalyzer.org/>

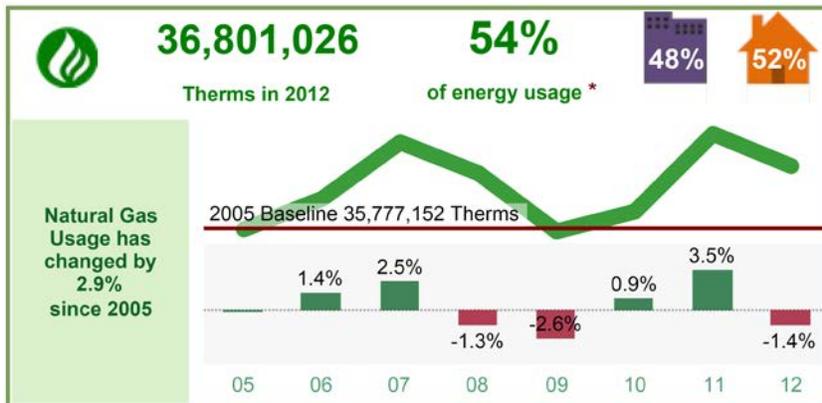
⁴ More details are at <https://multifamily.energyupgradeca.org/local#bayarea>

⁵ More information is available at <http://www.eastbayenergywatch.com/commercial>

Energy Use by the Community – Overall energy use (electricity and natural gas) has increased by approximately 1 percent between 2005 and 2012. As shown below, electricity usage decreased by 1.1 percent between 2005 and 2012.



Natural gas usage increased by 2.9 percent between 2005 and 2012.



Annual totals are provided in Attachment III and show that 926,390,000 kilowatt hours (kWh) of electricity were consumed in 2005 and 916,050,000 kWh were consumed in 2012. Community-wide, 35,780,000 therms of gas were consumed in 2005 and 36,800,000 were consumed in 2012.

Year to year changes may be due to conservation and efficiency programs, but changes in weather and economic activity are also important considerations. As shown in Attachment IV, emissions related to residential natural gas use increased by 3.2 percent from 2010 to 2011 and then decreased by 3.8% in 2012. The decrease between 2011 and 2012 could be partially due to the fact that 2012 had fewer heating degree days⁶ compared to 2011. Non-residential natural gas use increased by 3.8 percent from 2010 to 2011 and increased again by 1.4% in 2012.

⁶ "Heating degree days", or "HDD", are a measure of how much (in degrees), and for how long (in days), outside air temperature was lower than a specific "base temperature" (or "balance point"). They are used for calculations relating to the energy consumption required to heat buildings. In 2011, Hayward experienced 3,170 HDD and in 2012, 3,146 HDD.

Residential natural gas use was approximately 19,136,534 therms in 2012. As noted above, during 2010 through 2012, 25 homes⁷ participated in Hayward's incentive program and completed retrofits through the Energy Upgrade California program. These homes were responsible for 5,525 therms of natural gas savings, which is equal to a 0.03 percent of 2012 usage. Non-residential natural gas use was 17,664,492 in 2012. Efficiency programs, such as the Large Energy Users program, saved approximately 94,900 therms, or 0.54 percent in 2010 through 2012.

As shown in the Attachment IV, emissions associated with electricity increased from 2011 to 2012 by 14.6 percent and 15.9 percent respectively in the residential and non-residential sectors. However, overall electricity use increased by only 0.2 percent between 2011 and 2012. The increase is primarily due to the change in the emissions factor between 2011 and 2012. While emissions per unit of natural gas use remains constant from year to year, the GHG emission factor for electricity varies from year to year.

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, coal, 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 V has a detailed breakdown of PG&E's energy mix for 2011 and also has the emission factor for 2003 through 2011. The exact emissions factor for 2012 has not yet been published, but it is estimated to be 453, which is a 15 percent increase over 2011. 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.

Energy Efficiency at City Facilities – This section summarizes recent electricity and natural gas efficiency improvements at City facilities. The City also has several renewable energy facilities, a summary of which was provided to the Committee on July 10, 2013⁸.

Peak Day Pricing – Hayward's water system participates in PG&E's peak day pricing program, which is available for customers who can modify their electricity needs to avoid daily and seasonal peak periods. The program runs from May through October each year. In 2012, the City saved \$8,613 by participating in the peak day pricing program. Many of Hayward's water pump stations electricity meters were enrolled mid-way through the 2012 season. Savings in the 2013 season are expected to be significantly higher.

⁷ While 25 homes received incentives from the City of Hayward for completed retrofits, approximately 40 homes completed retrofits in total. Detailed energy savings for the additional 15 homes is not available.

⁸ See <http://www.hayward-ca.gov/CITY-GOVERNMENT/COUNCIL-STANDING-COMMITTEES/COUNCIL-SUSTAINABILITY-COMMITTEE/2013/CSC-CCSC071013full.pdf>

HVAC at City Hall – With assistance from the Municipal Implementation Team (MIT) program, a component of the East Bay Energy Watch, an efficiency project was completed in City Hall in 2013. The project included adjusting the heating, ventilation, and air conditioning (HVAC) operating schedule, installation of a computer control energy management system (EMS) upgrade, replacement of associated motor actuators for hot water valves and damper motors in the variable air boxes, which cuts down on the airflow in the building. This work is estimated to result in annual savings of \$77,813.

HVAC at Police Department – With assistance from the MIT program, a project with the same scope as above was completed in the Police Department in September 2013. The project also included repairing the economizer and resetting the chilled water setpoints and is estimated to save approximately \$35,000 per year.

LED Streetlights – In August 2011, City contractors completed installation of approximately 70 LED streetlights on Tennyson Road between Mission Boulevard and Tampa Avenue using EECBG funds. Since July 2013, City contractors have been replacing over 7,700 high pressure sodium streetlights (HPS) with light emitting diode (LED) throughout the City. The project is funded through a California Energy Commission (CEC) loan. Installation of the new fixtures began in early July and is expected to be completed by October 2013. The project has the potential to reduce energy costs by 60 percent and also realize a major savings in maintenance costs. In addition, the public will notice an improvement in the color and quality of light throughout the City. The CEC loan will be repaid through the energy savings, resulting in no upfront cost to the City.

Lighting Upgrades at Multiple Facilities – As authorized by the City Council on March 15, 2011, a California Energy Commission loan facilitated lighting system upgrades at the Police Department, City Hall, Fleet Maintenance building, City Hall parking garage and the Cinema Place parking garage. The lighting upgrades in the offices included occupancy sensors, energy efficient fluorescent fixtures, a computer controlled light timer, and LED exit lights. The project was supported by \$138,111 in rebates from PG&E and will result in annual energy savings worth \$111,981. The CEC loan also supported the installation of solar photovoltaic panels at the Streets Building and Utilities Building.

Lighting Upgrades at Parking Structures – Lighting upgrades in the parking garages were supported by the California Energy Commission's Energy Technology Assistance Program (ETAP), which utilized funding from Federal American Recovery and Reinvestment Act. The new system in the parking garages utilizes wireless motion and photocell sensors with a wireless mesh network to turn on the lights when the garage is occupied, and turn them off when it is not. The high-pressure sodium light poles on the top of the garages were also replaced with low-draw LED lights.

Energy Efficiency in Water and Wastewater Systems – With support from PG&E, the Cal Poly Irrigation Training and Research Center (ITRC) recently completed an audit of the City's water distribution, wastewater collection, and wastewater treatment systems. Staff intends to use the results of the audit to complete efficiency improvements in these systems in the near future.

Energy Efficiency at the Water Pollution Control Facility – Staff at the Water Pollution Control Facility (WPCF) has a long history of making improvements to operations and equipment to save energy. Since 2007, staff has operated the trickling filters on a three-hour rotating schedule. This practice avoids the need to use two trickling filters in parallel and a 250-horsepower recirculation pump, which reduces electricity demand during peak periods. In August this year, a new air compressor was installed with a project cost of approximately \$10,500 and a PG&E incentive of approximately \$4,000. The new compressor will result in annual cost savings of approximately \$5,600. Over the last several years, variable frequency drives have been installed on motors that drive the larger pumps. This equipment has resulted in significant savings as it replaced motors that operated either on or off.

In addition, several operational strategies have been put in place for larger systems aimed at offsetting peak energy costs:

- Summer and winter mode pumping schemes;
- Flow diversion during peak hours. Flows are brought back to process during low flow peak hours; and
- Methane gas storage to be used when peak hours are in force.

WPCF staff are currently investigating the possibility of reducing the run time for blowers, each of which require a 200-horsepower motor. Another process under investigation is running the digesters in various modes to attain the best digester gas production with the goal of achieving continuous production for the cogeneration system.

Finally, staff recently received an Energy Audit Report for the WPCF documenting several energy efficiency opportunities, including more efficient lighting and improved control of trickling filter pumps. The report also recommends further optimization of the plant's load management strategy. Some energy cost reductions can be achieved at relatively low investment levels while others will require substantial capital investment. Implementation of the recommended improvements will be addressed and prioritized in the WPCF Master Plan currently being prepared.

Other Efficiency Improvements – Finally, the following improvements have been made to City facilities in the last few years:

- All urinals City-wide, were replaced with “pint” urinals, using 16 ounces (1/8 of a gallon) of water per flush.
- Electric Hand Dryers were installed in all City Hall restrooms to replace paper towels.
- Illuminated “Exit” signs were replaced with LED signs.
- Stickers were added to light switches in City Hall to encourage conservation.
- Lighting in the shop at the Hesperian water pumping station was recently upgraded from sodium lights to LED fixtures, which will result in a 40% increase in efficiency.
- Cool roofs were installed on Fire Stations 2 and 4, and on the Streets building.

Upcoming Efficiency Improvements – Staff is currently working on developing the following efficiency projects:

- A cool roof is being installed on the Fleet building in September 2013.

- Staff is currently studying the feasibility of adding skylights to the Barnes Court building, which can reduce the need for artificial lights.
- Staff is currently studying the feasibility of adding photo sensors in the Weekes Branch Library so that lights near windows will automatically dim or turn off when there is adequate sunlight.

Energy Use at City Facilities – This section includes information about energy use at City facilities for 2003 through 2012.

Benchmarking of City Facilities – In 2011, staff began tracking energy use at City facilities using the Environmental Protection Agency’s ENERGY STAR Portfolio Manager online tool. On April 4, 2012, staff presented the Committee with a report⁹ including energy data for 2005 through 2011. The Portfolio Manager program can measure and track energy and water consumption, as well as greenhouse gas emissions. Benchmarking building energy provides metrics that help inform and prioritize energy efficiency opportunities. Using the online tool, energy used in each municipal building is benchmarked, meaning it is compared to that of other similar buildings engaged in similar activities nationwide. The relative rank of a building’s energy consumption can be used to classify a building as more efficient, less efficient, or as efficient as an average building.

Portfolio Manager requires a short list of inputs that include gross floor area, weekly operating hours, and number of workers that occupy a building during a shift, in addition to monthly energy data. The statistical models used in Portfolio Manager also convert all fuel types to thermal units (kBtu, or thousand British thermal units)¹⁰ as source energy¹¹, which accounts for the generation of the energy used; variability due to weather is also normalized in these models¹², enabling comparisons of energy performance for buildings in Hayward and New York City, for example.

As noted in Attachment VI, energy data from 2012 reveals that most Hayward buildings were more efficient than the national median source energy intensity (*energy use intensity* or *EUI* is calculated using kBtu per foot² of floor area). This was derived by interpreting the percent difference of each building’s energy intensity from the national median energy intensity (for that particular type of building): a negative percent difference indicates lower energy use and better energy performance than the national median, and a positive percent difference indicates higher energy use and poorer energy performance than the national median.

According to Portfolio Manager, the most efficient buildings are the City Hall Parking structure (99 percent below the national median), Cinema Place Parking structure (92 percent below the national median), Fire Station No. 8 (48 percent below), and Fire Station No. 6 (40 percent below). It is likely that the parking structures scored well because the national median may be based on underground garages with ventilation systems.

⁹ See Item #3 at <http://www.hayward-ca.gov/CITY-GOVERNMENT/COUNCIL-STANDING-COMMITTEES/COUNCIL-SUSTAINABILITY-COMMITTEE/2012/CSC-CCSC040412.pdf>

¹⁰ http://www.energystar.gov/ia/business/tools_resources/target_finder/help/Energy_Units_Conversion_Table.htm

¹¹ http://www.energystar.gov/ia/business/evaluate_performance/site_source.pdf?5077-2141

¹² http://www.energystar.gov/ia/business/evaluate_performance/Methodology_Weather_20110224.pdf

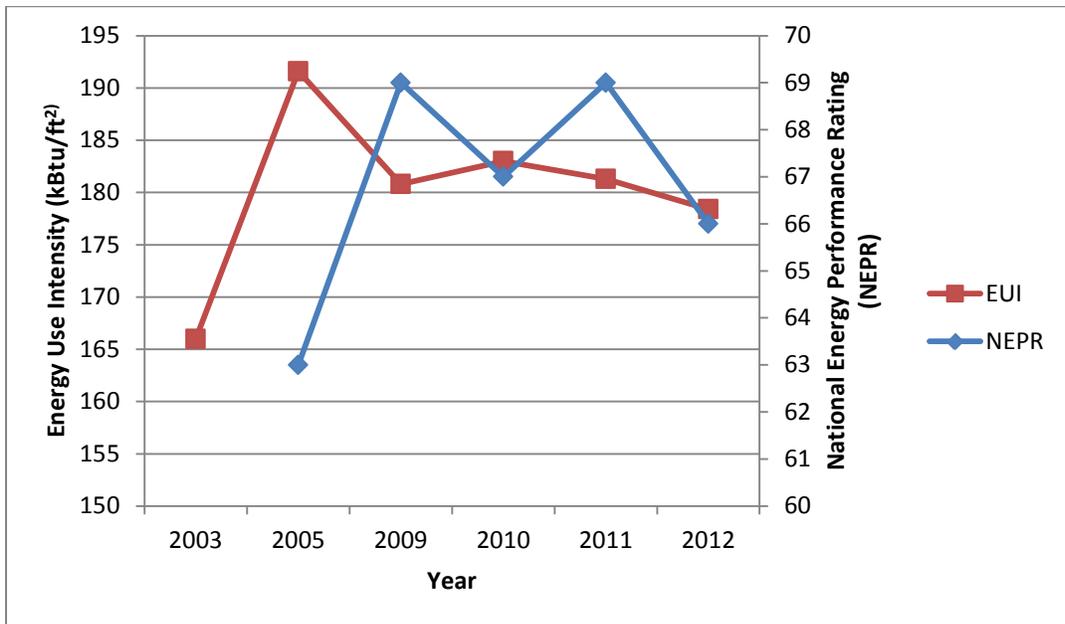
According to Portfolio Manager, the least efficient buildings are the Police Department (97 percent above the national median), Fire Station 7 (48 percent above), and Fire Station 3 (20 percent above). For the Police Department, the program uses a national median EUI of 154.4 kBtu/ft²; however, this is the same as that for used for the fire stations, so is not a very good comparison. Due to operations that occur in the Police Department, including the dispatch center, staff will investigate whether or not different standards should be used for the Police Department and the fire stations.

Clearly, there are some flaws in making national comparisons, but the program may be more useful in making year to year comparisons for each facility. Data from Portfolio Manager reveals that the Cinema Place parking structure's EUI decreased by almost half from 2011 to 2012. Fire Station No. 6 had a significant decrease from 2009 to 2010 and Stations 7 and 8 had significant increases from 2009 to 2010. Energy use at the Main Library has increased significantly over the years. This may be due to the 36 additional computers that were installed in 2006/2007. The computers serve as a public Internet access center, so they are all powered on 48 hours per week. Both the Fleet Management/Streets and the Utilities Buildings had significant decreases from 2011 to 2012, most likely because solar panels were installed on these buildings in 2012. City Hall had a significant increase in energy use from 2003 to 2005 and then steadily decreased since 2005.

Energy Star Rating for City Hall – While all building types can be ranked using EUI, certain types of buildings are eligible to also receive a National Energy Performance Rating on a 1 to 100 scale. Office buildings are one of these types and City Hall is eligible for this rating since it is categorized as an office building in Portfolio Manager. City Hall received a National Energy Performance Rating of 67 in 2010 and a rating of 69 in 2011, but then decreased to 66 in 2012 (see following Figure 1). A rating of 66 indicates that City Hall is as energy efficient as other office buildings in the 66th percentile of surveyed buildings. This rating also means that City Hall is more efficient than 65% of other office buildings. Buildings receiving National Energy Performance Ratings of 75 or higher may be eligible to apply for an ENERGY STAR award¹³.

¹³ https://www.energystar.gov/istar/pmpam/help/Applying_ENERGY_STAR_Label.htm

Figure 1. Energy Use Intensity and ENERGY STAR National Energy Performance Ratings of City Hall for 2003 - 2012



According to Figure 1 above, while EUI has declined since 2010, City Hall’s National Energy Performance Rating improved in 2011, but then went down in 2012. Because the Rating is based on a comparison to other similar buildings nationwide, City Hall will need to become more efficient at a pace that exceeds similar buildings. Staff anticipates that with the recent completion of lighting and HVAC improvements, the score for City Hall will improve during the next year. Staff is very interested in achieving a score of 75 and an ENERGY STAR designation for City Hall.

NEXT STEPS

Staff will continue to seek opportunities to improve efficiency at all City facilities as well as throughout the community. As noted above, it will be necessary to address energy efficiency in existing buildings in order to meet GHG emission reduction targets. Staff anticipates that, upon direction from the Committee and Council and direction provided in the new General Plan when it is adopted, the City will achieve emission reductions in existing buildings with increased disclosure of energy performance, financing for efficiency improvements, public awareness campaigns, and increases in the generation of renewable energy. Staff will also continue to monitor energy usage data and will provide annual updates to the Committee as data becomes available. In addition, staff will present a similar report to the full City Council in the near future.

Prepared by: Erik J. Pearson, AICP, Environmental Services Manager

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

Approved by:



Fran David, City Manager

Attachments:

- Attachment I PG&E's Solutions & Service Activity Report
- Attachment II PG&E's East Bay Energy Watch Activity Report
- Attachment III Energy Usage Summary
- Attachment IV Energy Related Emissions Summary
- Attachment V PG&E's Energy Summary for Hayward: 2005 – 2012
- Attachment VI Energy Use by City Facilities: 2003 – 2012



Energy Solutions & Service Activity Report (2010-2012 Program Cycle) City of Hayward, CA Submitted June 13, 2013

1. Executive Summary

The City of Hayward began a community-wide energy reduction campaign in 2011 and were quite innovative in their approach to reduce energy and GHG emissions. Hayward enlisted the help of QuEST and PG&E for this targeted approach and by the end of 2012 their efforts resulted in over 1.75 MW of savings.

During the 2010-2012 program cycle, Hayward was a formula recipient of the ARRA program's EECBG (Energy Efficiency and Conservation Block Grant). Hayward decided to use its EECBG to fund three different energy efficiency incentive programs. These programs focused on 1) Large Energy Users, 2) Nonprofits and Governmental Agencies, and 3) Residential building owners. All results of the commercial-based programs were tracked in order to report energy savings and GHG reduction goals back to the US Department of Energy.

2. Large Energy Users (LEU) Program

- **The Large Energy Users (LEU)** program focused on Hayward's most "energy intensive" businesses that use a minimum of 1,500,000 kWh of electricity annually. In partnership with the PG&E East Bay Account Managers, Hayward awarded up to \$50,000 per business to match PG&E incentives for those projects that saved energy through PG&E's Customized Retrofit Incentive Program. The eight beneficiaries of this matching incentive program included Berkeley Farms, Shasta Beverage, California Auto Dealers Exchange, Thermo Fusion, General Growth Properties, Pepsi Beverage, Kaiser Foundation and Morgan Advanced Ceramics. The combined savings from the LEU program was 536 kW, 3,486,910 kWh and 84,735 therms.

3. Nonprofits and Governmental Agencies (NGA) Program

- **The Nonprofits and Governmental Agencies (NGA)** program awarded up to \$10,000 per agency to assist mostly in lighting retrofits and HVAC tune-ups. This program was successful in reducing 353 kW and 892,590 kWh. It ran through the East Bay Energy Watch program. Details are outlined in that report.

4. Hayward Residential / Energy Upgrade California™ (EUC) Program

- **The Hayward Residential/Energy Upgrade CA** program matched incentives that were available to home owners who incorporated qualifying home improvement projects to lower energy use.



Energy Upgrade California™ is a program of the California Public Utilities Commission in collaboration with the California Energy Commission, California counties, cities, nonprofit organizations, and the state's investor-owned utilities. Funding for the program comes from the utilities' ratepayers under the auspices of the California Public Utilities Commission in addition to incremental funding from the Department of Energy. There were 25 residents who received Hayward's matching incentives and the completed projects resulted in energy savings of 3,709 kWh and 5,525 therms.

5. Municipal Energy Efficiency Projects

- ENERGY TECHNOLOGY ASSISTANCE PROGRAM. Along with these ARRA funded programs, the City of Hayward completed several projects to further reduce energy at their municipal sites. They participated in the CEC-funded Energy Technology Assistance Program (ETAP) and installed bi-level lighting at two of the city parking garages, Foothill and Mission. This resulted in 23.5 kW and 231,000 kWh savings. Hayward also updated lighting at City Hall, Fleet Services and the main Police Facility which afforded another 47 kW and 188,000 kWh in savings.
- LED RETROFITS. Hayward updated over 140 of the City's streetlights to LED technology for an annual savings of 60,836 kWh. Hayward is in the process of retrofitting over 7,800 streetlights city-wide in 2013.
- CITY OF HAYWARD WATER POLLUTION CONTROL FACILITY.
 - The City of Hayward Water Pollution Control Facility has been very active in working with PG&E in upgrading their facility to be more efficient. They are planning to install a new cogeneration system and have already implemented a FOG (Fats, Oils & Greases) receiving station. PG&E assisted the WPCF staff with an audit of the facility and their application for Self-Generation Incentive Program (SGIP) funding to offset the costs of the new cogeneration technology.
 - In order to advise the staff on their decisions regarding these new technologies, meetings were coordinated between the WPCF Staff and the various Customer Generation and Tariff departments within PG&E. Through these discussions and much research regarding how the plant would fare on several different rate programs, Hayward chose to switch to the RES-BCT tariff. These RES-BCT tariffs allow local governments to generate electricity at one account and based on the value of any exported electricity, transfer bill credits (in dollars) to another account owned by the same local government within the same city or county.
 - The City of Hayward has projected annual savings of \$410,000 from the new cogenerator contribution for plant usage and excess energy of 1.66 million kWh. These savings are to be spread amongst four drinking water reservoir pump stations and one



sanitary sewer lift station. The City of Hayward is the first city in the PG&E service area to apply for the Renewable Energy Self-Generation Bill Credit Transfer RES-BCT tariff.

6. Conclusions and Looking Forward to 2013-2014

Hayward has been unique in regards to the decision the city made to use its ARRA funds to directly support the businesses in their city. This has resulted in a broad partnership between the city and the school district as well as the local businesses and Hayward Chamber of Commerce. The partnership between PG&E and the City of Hayward is strong and many more initiatives are in progress this 2013-14 program cycle to further the joint goal of creating a more efficient Hayward community.



East Bay Energy Watch¹ Activity Report (2010-2012 Program Cycle) City of Hayward, CA Submitted June 13, 2013

1. Executive Summary

From January 1, 2010, through December 31, 2012, Hayward reduced electricity use by 9,206,775 kWh and natural gas use by 2,714 therms through the East Bay Energy Watch (EBEW) in partnership with Pacific Gas and Electric Company (PG&E). The energy savings taken together represent a greenhouse gas (GHG) reduction of 1,680 MT CO₂.

Energy efficiency activities, including installation and outreach efforts this past program cycle, were the following:

- **Small business outreach campaigns** provided one-stop shopping for energy efficiency upgrades, making it easier for business owners to install energy improvements to their buildings and operations. More than 40 businesses received audits during these campaigns.
- The City of Hayward is currently working to make **municipal energy efficiency improvements** to the City Hall and Police Station. These projects will be completed with help from EBEW's Municipal Implementation Team in the upcoming year and therefore fall under the 2013-2014 program cycle.
- Many of **Hayward's residents** took advantage of 'green house calls' offered through the California Youth Energy Services (CYES) program, in which energy saving devices are installed or upgraded in homes by youth.
- **Energy Star benchmarking** was completed for most City buildings and facilities, allowing the City to track its energy reduction efforts and compare energy performance with peer buildings in other cities.
- Enrollment in **My Energy**, PG&E's online tool, was completed for City energy accounts, enabling the City to monitor energy use and costs, and to track its energy reduction efforts and progress toward goals.
- The City hosted two **solar outreach events** with help from EBEW's SmartSolar program, to educate Hayward residents about the energy and financial benefits of rooftop solar systems. Through these events, thirteen residents expressed interest in solar, and three requested and received solar assessments.

¹ The East Bay Energy Watch is a Local Government Partnership managed by Pacific Gas and Electric under the auspices of the California Public Utility Commission. The East Bay Energy Watch serves both Alameda and Contra Costa Counties as well as the municipalities within each county.



The remainder of the report provides details of energy- and GHG-related accomplishments and activities for the 2010-2012 EBEW program cycle.

2. Annual Highlights and Trends

Highlights for 2010-2012 program cycle include a comparison of energy savings throughout each year as well as savings across business sectors within Hayward.

- Total energy savings in 2010 equaled 2,535,221 kWh, 2,204,958 kWh in 2011, and 4,466,596 kWh for 2012 (Table 1).
- In 2010, Offices and Manufacturing / Transportation sectors accounted for the majority of the energy savings within Hayward, at 44% and 31% respectively. In 2011, the Offices sector accounted for 29% of the energy savings. In 2012, the Retail sector accounted for 17% of the energy savings.

3. Energy Efficiency Activities Update

- ENERGY EFFICIENCY FOR BUSINESS. In partnership with PG&E and EBEW, the City launched two energy efficiency outreach campaigns during the 2010-12 period, the Nonprofit and Governmental Agency campaign and the Green Hayward campaign.
 - **Nonprofit and Governmental Agency (NGA) Energy Efficiency Incentive Program:** This program was initiated by Hayward in 2011. The city allocated \$250,000 in Energy Efficiency and Conservation Block Grant (EECBG) funds to assist NGAs with energy efficiency programs that provide energy audits and financial incentives. The NGA program awarded up to \$10,000 per agency to assist mostly in lighting retrofits and HVAC tune-ups. The Best program, administered via Kema as part of the East Bay Energy Watch, was used to target these customers and encourage installation of more efficient technologies. From the efforts of this initiative, 29 Hayward NGAs participated and implemented projects for a savings of 892,590 kWh and 353 kW and 750 therms.
 - **Hayward Unified School District Projects:** One of the biggest successes to come out of the NGA program involved the Hayward Unified School District (HUSD). HUSD was considering some much-needed lighting retrofits but the District lacked the initial investment. The City of Hayward decided to allocate \$50,000 of the NGA program funds to the Hayward Unified School District to assist them in completing a gym lighting retrofit at Mt Eden High School. HUSD maintenance staff was so satisfied with the results of this initial project that they considered other lighting projects at the schools through PG&E's On Bill Financing program. In the summer of 2012, the District, in collaboration with PG&E's 3rd party Kema/Best lighting



program, completed lighting retrofits projects at 32 schools. The overall energy savings is over 2,000,000 kWh. The synergy that developed from these lighting projects furthered a partnership between PG&E, the City and School District to reach joint energy efficiency goals.

- **Green Hayward Campaign:** The goal of this campaign was to encourage Hayward’s small and medium businesses (electric demand less than 200 kW) to install energy saving retrofits. The program was designed to directly meet the needs of Hayward’s businesses by providing one-stop shopping for their energy efficiency needs. City Manager Fran David signed a letter of support for the program with hope of increasing participation and the letter was mailed to approximately 2,000 Hayward businesses. The businesses targeted were those that had not participated in PG&E rebate programs in the past. Special attention was paid to the industrial customers that had discontinued T12 lighting technology installed in their facility. Over the course of the campaign period from October through December, 572 businesses were contacted by PG&E reps and approximately 328 audits were performed. The PG&E visits included assistance with PG&E’s “My Energy” web-based usage tool, billing & rate questions. Through this effort, 41 projects were installed with savings over 1,379,207 kWh.
- Commercial energy savings resulting from EBEW audits and project installations for the 2010-2012 program cycle totaled 9,092,152 kWh and 190 non-residential customers were served. Overall, 286 projects (some customers had multiple projects) were installed via East Bay Energy Watch programs. *Campaign contacts: Andrea Schumer (PG&E), 925.459.8033 and Tim Bankroff (QuEST), 510.981.2030.*
- **RESIDENTIAL ENERGY EFFICIENCY CAMPAIGNS.** The Rising Sun Energy Center was active in Hayward during the summers of 2010 and 2011, providing no-cost energy efficiency home visits, or ‘Green House Calls’, to local residents through the California Youth Energy Services (CYES) program. Through this program, 18 local youth were trained in energy conservation, replacing incandescent light bulbs with CFLs and offering other energy conservation measures. A total of 411 units were served.
 - **2010 CYES Highlights:** In 2010, CYES provided employment and training to nine youth, ages 15-22. These youth provided 212 households with energy savings hardware and information, 93% of which were in Hayward proper. Energy Specialists installed the following materials in Hayward homes at no cost: 1,562 compact fluorescent lamps, 297 efficient-flow showerheads & aerators, 71 retractable clotheslines, 25 CFL torchiere lamps, and 106 power strips. Of the households served in Hayward, 45% were renters, 88% were low-moderate income



households, and 38% were primarily non-English speaking. The CYES Marketing team attended many community events throughout the spring and summer. The following events were season highlights: CSU East Bay Green Expo, City of Hayward Cinco de Mayo Celebration, Alameda 4C Children's Faire, Hayward Downtown Street Party, and Hayward Farmer's Markets.

- **2011 CYES Highlights:** In 2011, CYES provided employment and training to nine youth, ages 15-22. These youth provided 199 households with energy savings hardware and information, 94% of which were in Hayward proper. Energy Specialists installed the following materials in Hayward homes at no cost: 1,081 compact fluorescent lamps, 205 efficient-flow showerheads & aerators, 31 retractable clotheslines, 41 CFL torchiere lamps, and 133 power strips. Of the households served in Hayward, 62% were renters, 87% were low-moderate income households, and 48% were primarily non-English speaking. The CYES Marketing team attended many community events throughout the spring and summer. The following events were season highlights: City of Hayward Green Expo, South Hayward Community Festival, 4C Children's Faire, and Cinco de Mayo con Orgullo.
- *Program Contact: Julia Hatton (Rising Sun Energy Center), 510.665.1501; Andrea Schumer (PG&E), 925.459.8033.*
- **MUNICIPAL ENERGY PROJECTS.** Energy efficiency projects are to be completed at the City Hall and Police Station in 2013. Some of the measures associated with these projects include HVAC scheduling, supply air reset, HVAC controls-air flow reduction, economizer repair, and chilled water reset. The projects are expected to save the City over 430,000 kWh and 4,800 therms. *MIT Contact: Brendan Havenar-Daughton (QuEST), 510.981.2065; Andrea Schumer (PG&E), 925.459.8033.*
- **SMARTSOLAR.**² The City hosted several outreach events, including a Solar Fair in July 2012 and an Energy Upgrade California Workshop in November 2011. There were thirteen residents who expressed interest, six of whom were contacted through the Solar Fair and seven of whom were contacted through the EUC workshop. Three residents were enrolled and received a solar assessment. *Program Contact: Michael Denevan (Community Energy Services Corporation), 510.981.7765.*
- **BENCHMARKING CITY BUILDINGS.** EBEW staff benchmarked 18 buildings including City Hall, the Fire Stations, the Police Department and several others (Appendix A). In most cases, each

² SmartSolar, administered by Community Energy Services Corporation, exclusively served the City of Berkeley until July 2011 under a contract with the U.S. Department of Energy. In July 2011, SmartSolar's service territory expanded to include all jurisdictions served by EBEW throughout Alameda and Contra Costa Counties. The program is funded for the 2013-2014 program cycle.



building's EUI can be reliably compared to the national median EUI as an indicator of relative efficiency. EBEW delivered a presentation of benchmarking results to the City Council's Sustainability Task Force in April 2012. EPA ENERGY STAR Portfolio Manager should be used in concert with PG&E's My Energy tool to monitor energy use trends. *Benchmarking Contact: Tim Bankroff (QuEST), 510.981.2030; Andrea Schumer (PG&E), 925.459.8033.*

- ONLINE ENERGY MANAGEMENT. The City is currently enrolled in PG&E's My Energy online portal which allows users to pay energy bills and track energy consumption. The City has most of its accounts registered in the My Energy online tool. *My Energy Contact: Tim Bankroff (QuEST), 510.981.2030; Andrea Schumer (PG&E), 925.459.8033.*

4. Energy Efficiency Savings Update by Sector

i. RESIDENTIAL ENERGY EFFICIENCY PROJECTS

Residential energy savings installed by CYES equaled 114,622 kWh for the 2010-2012 program cycle; a total of 302 households were served.

Feedback for the program is positive. A recent participant stated,

"Very personable and helpful representatives of your organization. With their knowledge and the installation of new light bulbs, clothesline and faucet aerator I'm sure we'll be saving energy and reducing our PG&E bill and water, too!"



ii. COMMERCIAL ENERGY EFFICIENCY PROJECTS

Commercial energy savings resulting from EBEW audits and project installations for the 2010-2012 program cycle totaled 9,092,152 kWh and 190 non-residential customers served.

5. Summary of Energy Savings in Hayward

Table 1. Energy Savings & Greenhouse Gas Reductions by Year.

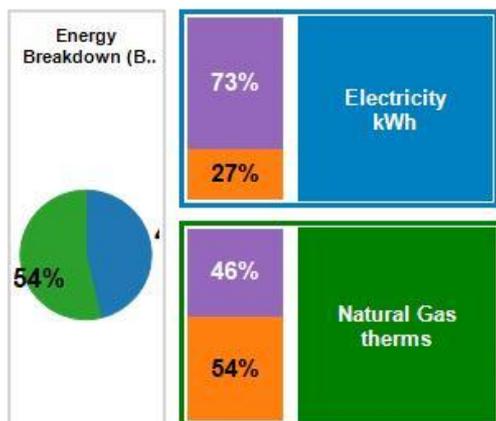
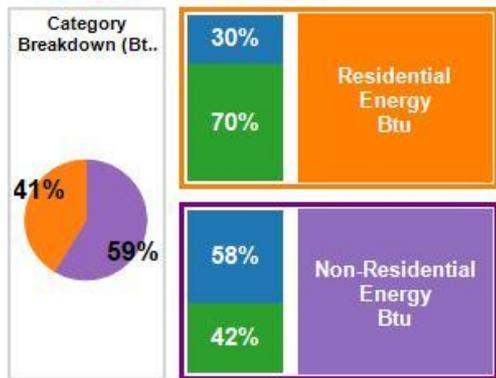
Year	Energy Savings (kWh)	GHGs Reduced (MT CO ₂)
2010	2,535,221	380
2011	2,204,958	440
2012	4,466,596	860

Over the course of the program cycle, EBEW installed projects in Hayward that achieved energy savings equivalent to emissions of 1,680 Metric Tons of CO₂. This is approximately equal to taking 280 passenger cars off of the road for one year³.

³ Assumptions: California Air Resource Board's EMFAC model, which indicates an average passenger car in California emits 5.96 metric tons of CO₂ per car per year. Based on 2010 scenario year and 12,000 miles per year per car. Avoided emissions based on PG&E average emissions factor. More information is available at <http://www.pgecurrents.com/2013/02/20/pge%E2%80%99s-clean-energy-reduces-greenhouse-gas-emissions/>

Incorporated City of HAYWARD PG&E Energy Overview 2005 to 2012

Energy Usage Summary



Incorporated City of HAYWARD PG&E Energy Overview 2005 to 2012

MAIN



Energy Related Emissions Summary

From 2005 to 2012

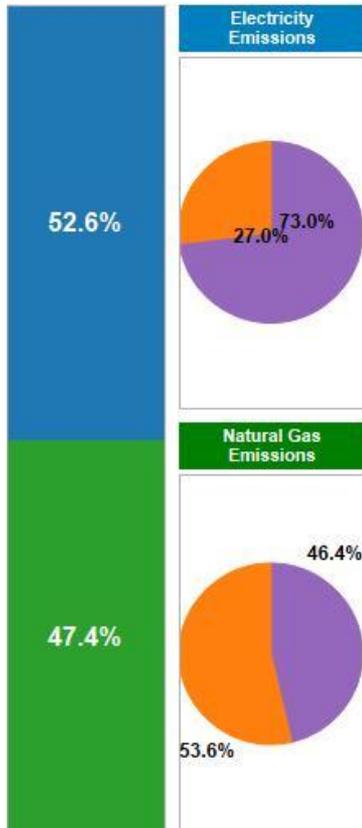
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #0070C0; color: white; padding: 5px; margin-bottom: 5px;">52.6%</div> <div style="background-color: #008000; color: white; padding: 5px;">47.4%</div> </div>	14%	Overall Energy Related Emissions	2005	2006	2007	2008	2009	2010	2011	2012	2005 to 2012
	38%		000's MTCO2	395.35	385.37	468.60	470.31	426.63	375.01	361.01	383.53
	25%		Trends								
	22%			↓ -2.5%	↑ 21.6%	↓ 0.4%	↓ -9.3%	↓ -12.1%	↓ -3.7%	↑ 6.2%	↓ -3.0%

Natural Gas **Residential**

Electricity **Non-Residential**

Legend

PG&E Emission Factors	Electricity EF	0.489	0.456	0.636	0.641	0.575	0.445	0.393	0.453	lbs CO2 per kWh
	Natural Gas	11.70	11.70	11.70	11.70	11.70	11.70	11.70	11.70	lbs CO2 per therm
			-7%	39%	1%	-10%	-23%	-12%	15%	% change..



Residential Electricity Emissions	000's MTCO2	53.77	51.08	71.58	73.08	66.20	50.95	45.11	51.70	463.48
	Trends		↓ -5.0%	↑ 40.1%	↓ 2.1%	↓ -9.4%	↓ -23.0%	↓ -11.5%	↑ 14.6%	↓ -3.9%

Non Residential Electricity Emissions	000's MTCO2	151.71	141.79	199.68	202.53	170.72	132.66	117.83	136.53	1,253.44
	Trends		↓ -6.5%	↑ 40.8%	↓ 1.4%	↓ -15.7%	↓ -22.3%	↓ -11.2%	↑ 15.9%	↓ -10.0%

Residential Natural Gas Emissions	000's MTCO2	103.43	103.92	105.22	103.75	103.03	102.96	106.29	102.23	830.82
	Trends		↓ 0.5%	↑ 1.2%	↓ -1.4%	↓ -0.7%	↓ -0.1%	↑ 3.2%	↓ -3.8%	↓ -1.2%

Non-Residential Natural Gas Emissions	000's MTCO2	86.44	88.57	92.13	90.95	86.67	88.44	91.79	93.07	718.06
	Trends		↑ 120%	↑ 4.0%	↓ -1.3%	↓ -4.7%	↑ 2.0%	↑ 3.8%	↑ 1.4%	↑ 7.7%

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 2012 for Hayward.

6,805,662

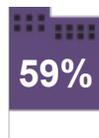
million British thermal units in 2012*

Energy usage has changed by **1.0%** since 2005

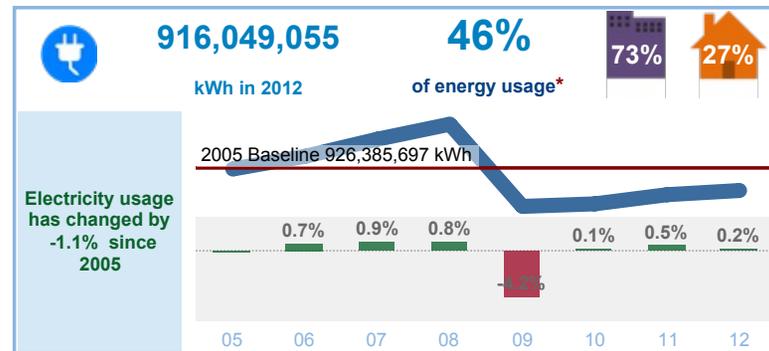
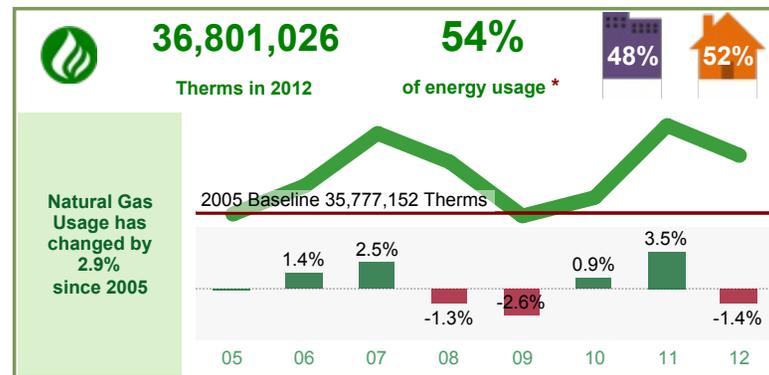
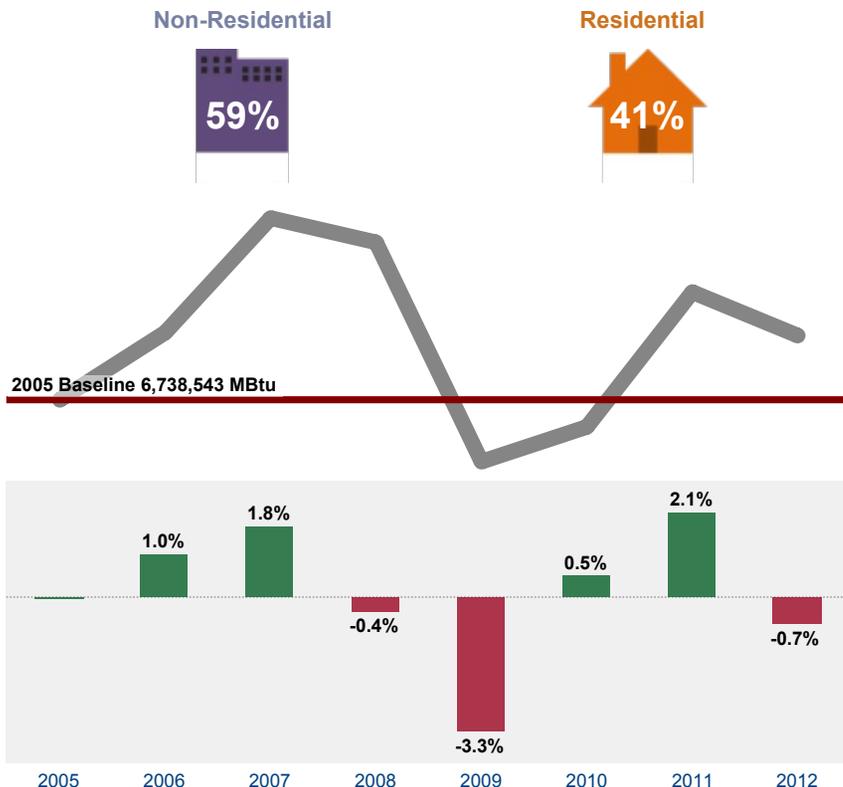
This is the Year over Year change in overall energy usage from the prior year

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

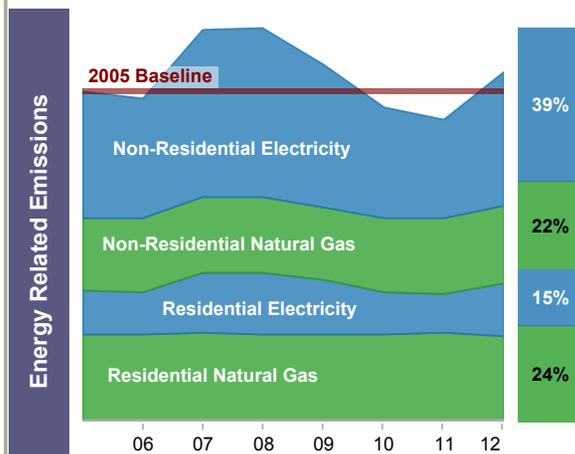
Non-Residential



Residential



CO2 CO2 Emissions from energy usage changed by 5.9% since 2005



418,827 MTCO2

GHG emissions from energy usage in Hayward 2012

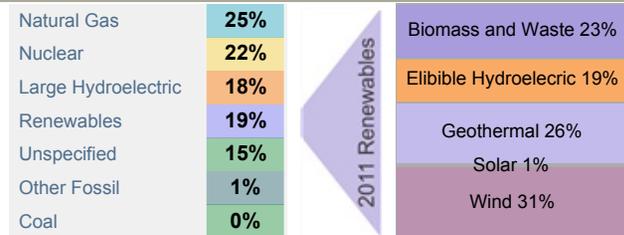


48,832 MTCO2 Avoided since 2006 through PG&E programs

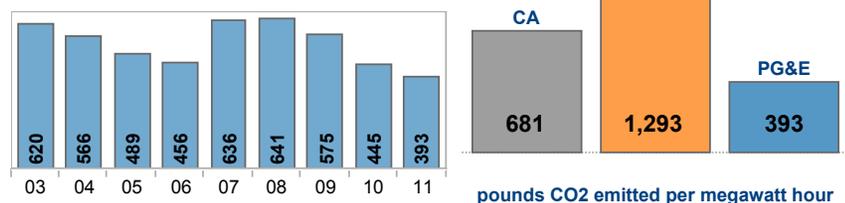
equivalent to **8,152 cars off the road for one year**



Where Electricity Comes From



PG&E's average emissions from delivered electricity was less than half the U.S. Average in 2011 (shown in lbs CO2 per MWh)





Residential Energy

Usage

41%

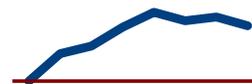
of community energy usage (Btu) is from residential customers



Energy usage has changed by 0.3% since 2005



30%



Residential electricity usage changed by 3.8% since 2005



70%



Residential natural gas usage has changed by -1.2% since 2005

Averages

Averages

Monthly Household Averages in 2012



Multi Family	344 kWh per month	-1.4% since 2005
Single Family	432 kWh per month	0.9% since 2005



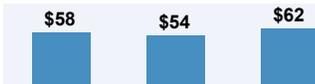
Multi Family	24 therms per month	-6.3% since 2005
Single Family	35 therms per month	1.6% since 2005

Climate Zone Average: 410 kWh

Climate Zone Average: 36 therms

Climate Zone 03

By Season



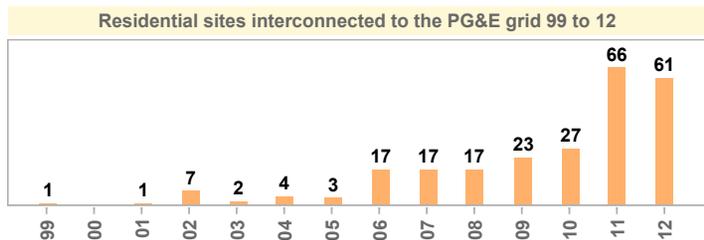
Renewables

Photovoltaics

246 Sites

878 kW

CEC AC Capacity



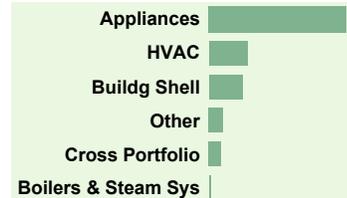
Energy Efficiency

3,444 MTCO2

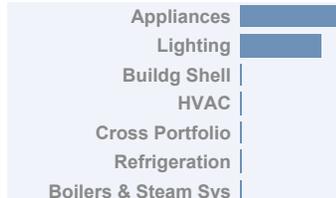
Annual avoided emissions since 2006 through PG&E programs



214,000 Therms Saved



8,995,000 kWh Saved



Non-Residential Energy Usage

59%

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



Non-residential energy usage has changed by 1.5% since 2005



58%



Electricity usage has changed by -2.9% since 2005

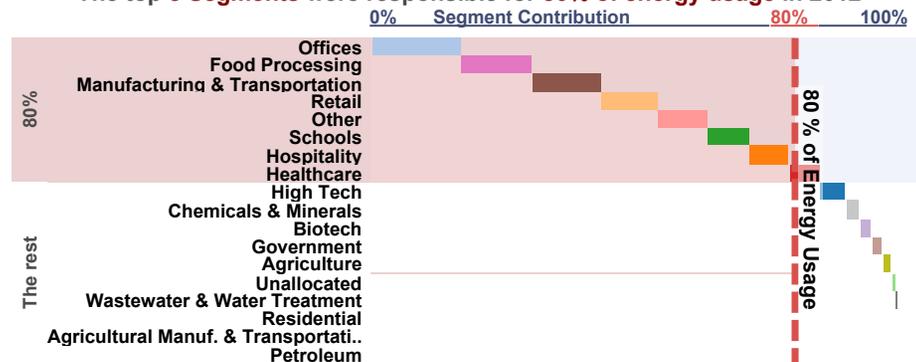


42%



Non-residential natural gas usage has changed by 7.7% since 2005

The top 8 Segments were responsible for 80% of energy usage in 2012



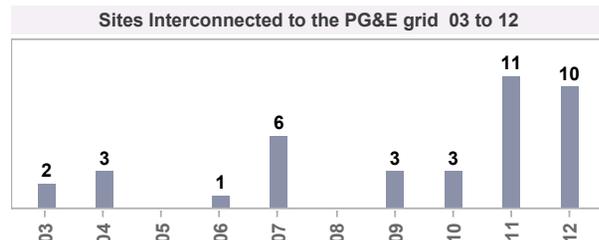
Renewables

Photovoltaics

38 Sites

6,813 kW

CEC AC Capacity



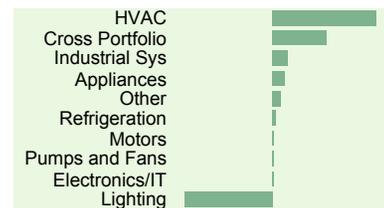
Energy Efficiency

26,863 MTCO2

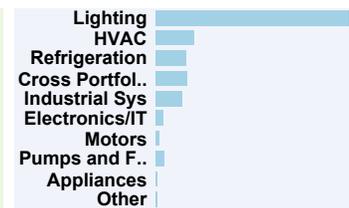
Annual avoided emissions since 2006 through PG&E programs



844,000 Therms Saved



94,309,000 kWh Saved



Energy Use by City Facilities - 2003 through 2012

Facility	Address	National Median Source EUI (kBtu/ft ²)	Year Ending 12/31/2003		Year Ending 12/31/2005		Year Ending 12/31/2009		Year Ending 12/31/2010		Year Ending 12/31/2011		Year Ending 12/31/2012	
			Source EUI (kBtu/ft ²)	% Difference from National Median	Source EUI (kBtu/ft ²)	% Difference from National Median	Source EUI (kBtu/ft ²)	% Difference from National Median	Source EUI (kBtu/ft ²)	% Difference from National Median	Source EUI (kBtu/ft ²)	% Difference from National Median	Source EUI (kBtu/ft ²)	% Difference from National Median
16 Barnes Court	16 Barnes Court	60	38.8	-35.3	38.3	-36.2	45.9	-23.5	48.1	-19.8	46	-23.3	44.6	-25.7
Cinema Place Parking Gar	22695 Foothill Blvd	123.1	Not Available	Not Available	Not Available	Not Available	18.5	-85	18.3	-85.1	18.2	-85.2	9.6	-92.2
City Hall	777 B Street	215.2	166	-22.3	191.6	-9.9	180.8	-16.1	183	-14.8	181.3	-16.3	178.4	-17.1
City Hall Parking Garage	22625 Mission	123.1	Not Available	Not Available	Not Available	Not Available	1.4	-98.9	1.6	-98.7	1.3	-98.9	1.3	-98.9
Fire Station 1	22700 Main St	154.4	151.3	-2	150.3	-2.7	153.9	-0.3	153.6	-0.5	150.6	-2.5	145.6	-5.7
Fire Station 2	360 W Harder Rd	154.4	120.5	-22	137.3	-11.1	105.3	-31.8	101.3	-34.4	104.3	-32.4	101.8	-34.1
Fire Station 3	31982 Medinah St	154.4	160.1	3.7	170.7	10.6	180.9	17.2	156.1	1.1	176	14	185.3	20
Fire Station 4	27836 Loyola Ave	154.4	153.1	-0.8	174.3	12.9	157.6	2.1	139.6	-9.6	135.9	-12	144.2	-6.6
Fire Station 5	28595 Hayward Blvd	154.4	102.1	-33.9	102.6	-33.5	118.9	-23	116.5	-24.5	118.1	-23.5	120.1	-22.2
Fire Station 6	1401 W Winton Ave	154.4	120.2	-22.2	127.9	-17.2	144.4	-6.5	87.2	-43.5	86.7	-43.8	92.8	-39.9
Fire Station 7	28270 Huntwood Ave	154.4	175.5	13.7	178.4	15.5	181.3	17.4	213.7	38.4	218.1	41.3	228.1	47.7
Fire Station 8	25862 Five Cynns Pkwy	154.4	49.8	-67.7	50.7	-67.2	60.2	-61	83.5	-45.9	84.2	-45.5	81.1	-47.5
Fire Station 9	24912 Second St	154.4	126.5	-18.1	81.8	-47	137.9	-10.7	133.3	-13.7	136.4	-11.7	136.8	-11.4
Fleet Mgmt/Streets	24505 Soto Rd	100.4	130.6	30.1	133.4	32.9	141.9	41.3	136.7	36.2	142.9	42.3	125.5	25
Main Library	835 C Street	235.6	196.7	-16.5	182.8	-22.4	207.9	-11.8	216.7	-8	255.7	8.5	244.3	3.7
Police Department	300 W Winton Ave	154.4	290.5	88.1	305.4	97.8	308.2	99.6	312.9	102.7	308.6	99.9	303.9	96.8
Utilities Building	24499 Soto Rd	123.1	95.5	-22.4	101.5	-17.5	103.1	-16.2	110.3	-10.4	112.9	-8.3	78.7	-36.1
Weekes Branch Library	27300 Patrick Ave	235.6	136.6	-42	126	-46.5	128.5	-45.5	129.7	-44.9	132.4	-43.8	129.7	-44.9



DATE: October 2, 2013
TO: City Council Sustainability Committee
FROM: Director of Public Works – Utilities and Environmental Services
SUBJECT: Sustainability Committee Agenda Topics for 2014

RECOMMENDATION

That the Committee reviews and comments on this report.

DISCUSSION

The following list of agenda topics was developed considering the current Climate Action Plan, the draft General Plan, and other sustainability-related initiatives. For the Committee’s consideration, staff suggests the following agenda topics for 2014.

Meeting Date	Agenda Topic	Draft General Plan
January 2014	Green Portal (Website)	Program NR-20
	WMAC Franchise Agreement	Policy PFS-7.2
	PAYS – Program Design	Policy 4.14, Program NR-13
	Property Assessed Clean Energy	Program NR-13
April 2014	Annual Update on Administrative Rule 3.9 – Environmentally Preferred Purchasing Policy	Policy PFS-2.3
	Update on AB 1339 – Commuter Benefits	Policies M-8.2, 8.3, 8.4, 8.5, Program M-20
	Report on Home Energy Analyzer Pilot Program	Policy NR-4.13
	Energy Reduction Initiative	Program NR-11

Meeting Date	Description	Draft General Plan
July 2014	Update on PAYS Implementation	Policy 4.14, Program NR-13
	Waste Reduction Report – Annual Update on Recycling Programs	Policy PFS-7.4
	Community Choice Aggregation	Policy NR-4.8
	Update on Mandatory Recycling Ordinance for Multi-Family Residential and Commercial Properties	Policy 7.21
October 2014	Carbon Management Activities Program	Program NR-19
	Update on Efforts to Address Sea Level Rise	Policies HAZ-4.1 and 4.2 and HQL-9.7
	Energy Report Update – 2013 Energy Use	Policy NR-2.4
	Review Agenda Topics for 2015	

Depending on the desires of the Committee, staff has identified the following additional topics that could be presented to the Committee in 2014. Until dates for these items are determined, they may be indicated on future topics lists as “unscheduled items.”

- Update on Water Efficiency and Conservation (Draft General Plan Program PFS-4)
- Pollution Prevention and Stormwater Management (Draft General Plan Program NR-8)
- Public Landscaping, Tree Maintenance and City Tree Inventory (Policies HQL-8.1, 8.2, and 8.4 and NR-4.12)
- Bicycle Sharing (Policy M-8.6)
- Green Business Program (Policy ED6.11 and Program NR-21)
- Local Food Production (HQL-3.5, 3.6, and 3.7)

NEXT STEPS

Staff will incorporate direction from the Committee and present a final topics list to the Committee at the January 2014 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 J. Pearson, AICP, Environmental Services Manager

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

Approved by:

A handwritten signature in black ink, appearing to read 'Fran David', written in a cursive style.

Fran David, City Manager