



CITY OF  
**HAYWARD**  
HEART OF THE BAY

**COUNCIL SUSTAINABILITY  
COMMITTEE**

**JULY 10, 2013**

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**CITY COUNCIL SUSTAINABILITY COMMITTEE MEETING**  
**Wednesday, July 10, 2013**  
**Conference Room 2A**  
**4:30 PM – 6:30PM**

**CALL TO ORDER**

**ROLL CALL**

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**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.)*

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1. Approval of Minutes of April 3, 2013.

[Minutes](#)

2. Consideration of New Priorities for CAP Actions in the General Plan

[Staff Report](#)  
[Attachment I Policies Current & Proposed](#)  
[Attachment II Assumptions](#)

3. Update on Renewable Energy Generation at City Facilities

[Staff Report](#)

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

[Staff Report](#)  
[Attachment I Letter of Intent](#)  
[Attachment II Partnership Offer](#)

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

[Staff Report](#)

6. Overview of City Participation in Earth Day Events

[Staff Report](#)

7. Council Sustainability Meeting Topics 2013/2014

[Meeting Topics](#)

**COMMITTEE MEMBER ANNOUNCEMENTS AND REFERRALS**

**ADJOURNMENT**

**NEXT REGULAR MEETING – 4:30PM-6:30PM, WEDNESDAY, OCTOBER 2, 2013**

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*\*\*\*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, 4<sup>th</sup> 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. \*\*\**

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*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.*

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[HTTP://WWW.HAYWARD-CA.GOV](http://www.hayward-ca.gov)



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

April 3, 2013  
4:30 p.m. – 6:30 p.m.

**MEETING MINUTES**

**CALL TO ORDER:** Meeting called to order at 4:34 p.m. by Chair Al Mendall, Council Member.

**ROLL CALL:**

**Members:**

- Al Mendall, Council Member/CSC Chair
- Barbara Halliday, 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
- Francisco Zermeño, 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
- Steve Osborne, Senior Plan Checker
- Nina Salvador, Intern – Solid Waste & Recycling
- Angel Groves, Administrative Secretary (Recorder)

**Others:**

- David Stark, Bay East Association of Realtors

**PUBLIC COMMENTS:**

Council Member Barbara Halliday announced that on March 26, 2013, the City Council approved joining the Energy Council. Chair Mendall commended Council Member Halliday for her work in getting the voting structure corrected.

Council Member Halliday also referenced page 2 of the April 3 meeting minutes, where it's noted that Andrea Schumer, Customer Relationship Manager for PG&E would be presenting the results of the "Green Hayward" business program to the City Council in late February, early March. Alex Ameri, Director of Public Works – Utilities & Environmental Services, advised that staff was currently working to schedule this presentation to Council in May.

1. Approval of Minutes of April 3, 2013 – minutes approved.
2. Recommendation to Utilize the State Building Code to Comply with Hayward's Climate Action Plan, Strategies 4 and 5 Related to New Development

David Rizk, Director of Development Services and Steve Osbourne, Senior Plan Checker, presented an overview of strategies 4 and 5, in which strategy 4 is to improve energy performance of new buildings and strategy 5 is to use renewable energy, including requiring renewable energy for new private development. The presentation included information regarding the State's current work in updating all parts of its Building Code as part of the 2013 code cycle, which will be effective on January 2, 2014. The recommendation is for the City to align its own codes with the State's Building Code.

Mr. Osbourne noted that Hayward adopted its Green Building Ordinance in 2009, which includes the launch of the California Energy Commission's (CEC) aggressive plan to achieve Zero Net Energy (ZNE) in new buildings. The intent of ZNE is for a building to generate as much energy as it uses in a year through renewable energy systems.

Mr. Rizk and Mr. Osbourne, also discussed CALGreen, added to the Building Standards Code in 2010, and how it is not expected to change significantly during the 2013 code cycle. This cycle will be used to refine CALGreen using feedback from the previous two years. Mr. Rizk, at Council Member Mendall's request, explained the difference between CALGreen and the California Energy Code. The difference being that CALGreen does not include energy conservation, but rather conversation of other resources such as water. He also explained that the City of Hayward created its own Energy Code that is 15% above the current State requirements. This is already causing confusion and difficulty for businesses to achieve. The new 2013 requirements will be more aggressive than our current requirements.

Dianne McDermott, Planning Commissioner, asked if a new business is considering relocating to Hayward, wouldn't our code requirements, which are higher than other Cities, be a deterrent for the business? Mr. Rizk advised that yes, this could be; however staff is recommending that our new code be in alignment with 2013 State codes and not above them, as they currently are.

Council Member Mendall asked that a discussion of the new tiers, and why staff is not recommending adopting them, be presented at a future meeting.

Council Member Mendall also asked the Committee which option they would recommend and support: 1) that solar be offered as an option to all buyers at a discounted price or 2)

adding a requirement to offer renewable energy for subdivisions entailing twenty or more units. Laura Oliva, Keep Hayward Clean and Green Task Force/CSC Vice Chair, offered that builders are currently offering solar to home buyers and she recommended we encourage this option. Vishal Trivedi, Planning Commissioner, concurred with Ms. Oliva adding that the overall amount of home buyers that would add solar to their homes would be greater than the mandated ten percent of subdivisions of twenty plus units.

Elisa Marquez, Planning Commissioner, inquired as to funding options to homebuyers to add solar. To this, Council Member Mendall explained that the expense incurred would be equal to upgrades homebuyers secure financing for, such as granite counter tops, hardwood floors, etc. Homebuyers would need to add the cost into their mortgage, secure separate financing or pay out of pocket.

There were no objections and so it was recommended by the Committee Members to have a requirement for larger developers to offer solar as an upgrade option to homebuyers.

Council Member Halliday asked that members look into financing/funding options for homebuyers to add solar and present that to the committee. Ms. Oliva offered to research options further and present to members at a later meeting.

### 3. Sustainability Policies in the 2040 General Plan

Erik Pearson, Environmental Services Manager, reminded all that the City is currently working to update the General Plan (GP) and recently offered community workshops to discuss options for new policies in the GP. There is a draft GP that is scheduled to be released this year, with plans for its adoption in June 2014.

As an overview, Mr. Pearson noted that the Climate Action Plan (CAP) which was adopted by Council in 2009, includes greenhouse gas (GHG) emission reductions goals for 2020 and 2050 and provides the actions necessary to achieve reduction goals. He noted that our goals are very ambitious but are also consistent with the State's goals. He went over the nine strategies and seven chapters or elements, designed to help reach the City's goals.

The presentation included attachments that referenced existing policies, proposed new policies and staff recommendations for improving execution, such as noting which departments are responsible for implementing each action.

Mr. Pearson noted that staff is looking for guidance and direction from the Committee for reconciliation of policies by revising or removing policies.

Council Member Halliday expressed her desire to see policies in the General Plan addressing community gardens and incentives for purchasing electric vehicles. Ms. Oliva agreed with the need to expand community gardens, especially in the South Hayward area and the need for additional charging areas for electric vehicles, since we are encouraging and promoting their purchase.

Council Member Mendall expressed his distaste for having a “Meatless Monday” as it sounds silly. Council Member Halliday agreed, and that it is imperative that a Zero Waste Code be part of the General Plan. He also noted that providing incentives for purchasing of electrical vehicles is not our area of responsibility; however, providing charging facilities should be encouraged throughout the City, i.e. apartment complexes.

Council Member Halliday added that creating rules and regulations for addressing farmers markets in the General Plan are needed. Mr. Pearson noted that there would be a policy statement that the City would encourage new locations and added days for Farmer’s Markets and City staff would work to help accomplish this.

Mr. Trivedi relayed his concern for lack of public transportation/shuttle services to commercial areas and how this can be improved. Mr. Rizk advised members that thanks to the procurement of a grant, a survey is currently being completed to determine the need for additional bus services and the areas where they are most needed. He noted that currently, such shuttle services in other Cities are usually funded by private businesses.

4. Annual Update Administrative Rule 3.9 – Environmentally Preferred Purchasing Policy

Corinne Ferreyra, Administrative Analyst I, presented a report on the City’s Environmentally Preferred Purchasing Policy, which was established in 2010. She reviewed specifics of the policy, which include efforts from all City departments to conserve resources, encourage vendors and manufacturers to produce, deliver and dispose of products in ways that will improve the environmental quality of the region, and ultimately become a driving force responsible for lowering environmental impact. Ms. Ferreyra went over each City department and their contributions towards reaching our overall goals.

Council Member Mendall commended the City’s work in leading by example. Council Member Halliday commented that our efforts were very impressive. Ms. Oliva asked if the Hayward Unified School district was also implementing such practices. Council Member Mendall noted that unfortunately, this was not a high priority for schools at this time. He offered to inquire further, but stated that it is not a priority.

Ms. Oliva and Mr. Vidal stated again, that our efforts are very encouraging and they are very proud of the accomplishments and willingness by all staff to abide by these policies.

5. Update on City-Wide Water Conservation Efforts

Alex Ameri introduced Marilyn Mosher, Administrative Analyst III, who presented an overview of the City’s water conservation efforts. She noted how the City of Hayward has had a long-standing and active commitment to water conservation, having been an original signatory to the California Urban Water Conservation Council Memorandum of Understanding dated December 31, 2002.

Ms. Mosher went over a variety of rebate programs and conservation items the City provides to its residents as well as how the City has also focused significant resources towards water use efficiency at City-owned properties. She provided examples such as our High Efficiency Toilet Rebates, Water Efficient Clothes Washing Machine Rebates and Large Landscape Water Use Surveys.

Ms. Mosher also provided examples of outreach and education provided to schools in our attempt to instill water saving practices to students at a young age. Also mentioned was that our water conservation efforts are funded by a budget of \$1 Million per year, none of which affects the general fund.

Ms. Mosher reminded all that Hayward was an early supporter of billing based on usage, which gives residents control over how much water they use and the ability to conserve and save on their water consumption expenses. Although fixed costs will continue to call for increases in per unit rates, residents who practice conservation will see lower bills than neighbors who do not.

Council Member Mendall noted that the landscape being used along Mission Blvd will reduce the City's annual water cost by \$35,000. He also would like to see the rebate for bay friendly landscaping increase from \$300. Mr. Mendall noted that though the rebate is helpful, the cost of making the transition is more costly and consideration to increase the rebate would be useful and encourage more residents to make the change.

#### 6. Annual Update on City's Waste Reduction and Recycling Programs

Vera Dahle-Lacaze, Solid Waste Manager, provided a summary of the recycling services offered to businesses and residents and briefly discussed City ordinances including the State Mandate for Business and Multi-Family Recycling Services (multi-family compliance is currently at 99% and business compliance at about 78%), the Authority's Mandatory Recycling Ordinance, Construction and Demolition Debris recycling and City Facility's recycling. Ms. Dahle-Lacaze provided examples of literature made available to all residents and business owners and staff's efforts to work with both to implement recycling services and assist all with compliance.

Ms. Dahle-Lacaze advised of compliance with the Polystyrene ban by most businesses and the decrease in cost of compostable supplies, due to increase in demand. Businesses not in compliance have been contacted by City staff and provided with vendor information to assist them in purchasing acceptable containers.

Members thanked Ms. Dahle-Lacaze for all information provided and commented on the positive and noticeable results.

#### **COMMITTEE MEMBER/STAFF ANNOUNCEMENTS AND REFERRALS:**

Alex Ameri requested a decision to change the July meeting from July 3 to July 10; there were no objections from committee members.

Elisa Marquez requested a brief report summarizing the City's participation in Earth Day events be presented in the July meeting.

Mr. Ameri suggested a discussion on Safe, Clean & Green Priorities, which would include consolidating priorities and discussing the programs needed to achieve the goals set forth. Council Member Mendall suggested this discussion be scheduled in October.

All agreed that new CAP priorities should be discussed in the July 10 meeting.

Council Member Mendall asked that Future Meeting Topics be included on the agenda as a topic for discussion in the future, as well as listing the start and end time on the agenda as a reminder of the length of the meeting.

**ADJOURNMENT:** 6:43 p.m.



**DATE:** July 10, 2013  
**TO:** Council Sustainability Committee  
**FROM:** Director of Public Works – Utilities & Environmental Services  
Development Services Director  
**SUBJECT:** Consideration of New Priorities for Climate Action Plan Actions in the General Plan

### **RECOMMENDATION**

That the Committee reviews and comments on this report. Staff is seeking general direction from the Committee regarding the City’s greenhouse gas reduction goals and the proposed actions needed to reach the goals.

### **SUMMARY**

This report provides an update on staff’s progress on developing climate action-related implementation programs for the 2040 General Plan. A revised list of actions/programs (see Attachment I) has been prepared in response to the comments received during meetings of the Sustainability Committee on April 3, 2013 and the General Plan Update Task Force on April 4, 2013. Based on the latest inventory of Hayward’s greenhouse gas emissions (GHG) and based on projected demographic data, revised projections of future emissions have been made. New GHG projections are significantly different from those contained in the current Climate Action Plan (CAP), which was adopted in July 2009. This report includes a discussion of Hayward’s long term GHG reduction goals and the actions necessary to achieve the goals. GHG reduction estimates for individual actions/programs are included as an attachment to this report. Given the uncertainty around future technologies, legislation, and economics, staff recommends that Hayward focus on near term GHG reductions, while keeping long-term targets in view. Additional actions to meet the long term targets will need to be identified during the next CAP update.

### **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. As noted in the report to the Committee on April 3, 2013<sup>1</sup>, the CAP will be integrated into the new General Plan, which is expected to be adopted by Council in June 2014.

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

On April 3, 2013, staff presented the Committee with concepts and considerations for new policies and implementation actions related to sustainability for the new General Plan. Following is a summary of Committee comments:

- We need to be able to say “we have a CAP.” Maybe it should remain a separate document.
- Need to include a priority ranking of actions/programs
- Agree with new policies around community gardening
- Agree with new policies supporting farmers markets (perhaps one during the week in South Hayward)
- Support actions regarding electric vehicle (EV) charging infrastructure
- Need to require EV charging facilities in multi-family residential developments
- Support green business program
- Agree that City cannot offer incentives for purchasing EVs (other than charging facilities)
- Support encouraging green technology and renewable energy companies to locate in Hayward (perhaps we could have a support network similar to the biotech council)
- Should incorporate a goal to have zero waste-to-landfill within 10 years
- Need more car sharing
- Regarding a possible Residential Energy Conservation Ordinance (RECO) and a possible Commercial Energy Conservation Ordinance (CECO), we need to make a compelling financial case
- Comments regarding a possible RECO:
  - Lots of investors are buying homes in the current market – we should have adopted the RECO in 2011
  - Don’t wait until 2020 (as staff suggested in report)
  - RECO should be adopted when we have a strong financial mechanism in place
- Need to have an incentive for people to share their energy data
- Need to include energy data in educational materials

On April 4, 2013, the General Plan Update Task Force reviewed the same report that was presented to the Sustainability Committee on April 3. The Task Force made the following comments:

- Comments regarding a possible RECO:
  - Remove RECO from CAP
  - Use a tool similar to the Portfolio Manager benchmarking tool to track and compare residential energy use
  - Need to advertise energy rating at time of sale
  - Require energy use disclosure
  - Include on-bill financing
  - If the City requires anything, it should only require an audit
  - Need to have financing available
  - Need to focus on education, not mandatory requirements
  - Need to address rentals in addition to owner-occupied homes
  - Hayward has a mild climate; we don’t need a RECO
- Include Community Choice Aggregation (CCA) in the CAP
- Need innovation such as SF Park’s smart parking program (rates change with demand)

- Hayward should promote green roofs
- Promote rain catchment
- Need to think about energy storage and selling electricity back to grid

## DISCUSSION

The Committee expressed concern that the City needs to be able to make the statement that we have a “Climate Action Plan” so that Hayward remains competitive for grants and other forms of recognition. Staff intends to include language in the introduction of the new General Plan to explicitly state that the document serves as the City’s “Climate Action Plan” and that it is a “Qualified GHG Reduction Strategy.” As indicated previously, policies and implementation actions that make up the CAP will be flagged in the General Plan with a unique icon, and in the online version of the General Plan, it will be possible to sort and view all the CAP policies and implementation actions.

*GHG Emissions Inventories* – Ascent Environmental, a sub-consultant on the General Plan update team, reviewed and confirmed the City’s community-wide GHG emissions inventories for 2005 and 2010<sup>2</sup>. As indicated below, from 2005 to 2010, Hayward’s community-wide emissions decreased by 5.5%. In the table below, 2005 emissions associated with water and wastewater pumping and treatment were included in the commercial/industrial energy category. In light of this, the emissions associated with the commercial/industrial buildings actually increased slightly between 2005 and 2010. Emissions reductions were achieved in all other categories. The reduction in transportation emissions is likely due to the downturn in the economy.

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<sup>2</sup> GHG inventories are not scientifically verifiable. Each inventory is an estimate of emissions and each inventory is likely to change over time as methodologies improve.

**Table 1. Greenhouse Gas Emissions Inventories**

Sector	2005		2010	
	MT CO2e/yr	% of total	MT CO2e/yr	% of total
Residential Energy	158,528	13.4%	154,423	13.8%
Commercial/Industrial Energy	238,226	20.1%	231,719	20.7%
Transportation	734,087	62.0%	700,310	62.6%
Solid Waste	52,438	4.4%	24,048	2.1%
Water/Wastewater Treatment <sup>3</sup>		0.0%	8,061	0.7%
<b>Total</b>	<b>1,183,279</b>	<b>100%</b>	<b>1,118,561</b>	<b>100.0%</b>

*GHG Emissions Projections* –After confirming the baseline GHG emissions, growth projection data from the Association of Bay Area Governments and the Metropolitan Transportation Commission was used along with modeling software to estimate GHG emissions for future years. The following emissions projections assume Business as Usual (BAU), or that no significant action will be taken to reduce GHG emissions. The significant reduction in transportation emissions between 2010 and 2020 is due to projected increases in fuel economy as a result of Federal Corporate Average Fuel Economy (CAFE) standards. While population and jobs are expected to increase annual vehicle miles traveled, technological improvements are expected to more than offset those increases by 2020.

**Table 2. Greenhouse Gas Emission Projections – Business as Usual**

Sector	2005	2010	2020	2040	2050
Residential Energy	158,528	154,423	169,696	200,241	215,514
Commercial/Industrial Energy	238,226	231,719	254,969	301,469	324,720
Transportation	734,087	700,310	685,651	791,105	848,577
Solid Waste	52,438	24,048	26,235	30,610	32,798
Water/Wastewater Treatment		8,061	8,794	10,261	10,994
<b>Total</b>	<b>1,183,279</b>	<b>1,118,561</b>	<b>1,145,345</b>	<b>1,333,686</b>	<b>1,432,603</b>

Emissions are provided in metric tonnes of carbon dioxide equivalent per year (MT CO2e/yr)

As indicated in the following table, the new BAU estimate for GHG emissions in 2050 is significantly lower than the estimate provided as “Scenario 1” in the 2009 CAP. The decrease is due to transportation emissions being approximately half of those indicated in the CAP and also lower emissions associated with commercial/industrial buildings due to a lower emissions factor associated with PG&E’s production of electricity. Reductions in emissions are also likely due to improvements to the calculation methodology. The California Air Resources Board has provided many more quantitative estimates based on state laws than were available in 2008. As a

result, revised estimates for projected GHG emissions are considered significantly more accurate than those that were calculated in the 2009 CAP.

**Table 3. Comparison of GHG BAU Projections – 2009 CAP and Revised Estimate**

	2005	2020	% Change from 2005	2050	% Change from 2005
2009 CAP (Scenario 1)		1,460,000	23.4%	2,130,000	80.0%
Revised Estimate	1,183,279	1,145,345	-3.2%	1,432,603	21.1%

Emissions are provided in metric tonnes of carbon dioxide equivalent per year (MT CO<sub>2</sub>e/yr)

As was provided in “Scenario 2” in the 2009 CAP, GHG emission projections have also been estimated with consideration of state and federal laws and regulations.

**Table 4. Comparison of GHG Projections – 2009 CAP and Revised Estimate – with Legislative adjustments**

	2005	2020	% Change from 2005	2050	% Change from 2005
2009 CAP (Scenario 2)		1,190,000	0.6%	1,260,000	6.5%
Revised Estimate	1,183,279	1,015,048	-14.2%	1,250,630	-5.7%

Emissions are provided in metric tonnes of carbon dioxide equivalent per year (MT CO<sub>2</sub>e/yr)

GHG Reduction Targets –

The GHG emission reduction targets in the 2009 CAP are as follows:

- 6 percent below 2005 levels by 2013;
- 12.5 percent below 2005 levels by 2020; and
- 82.5 percent below 2005 levels by 2050.

While the 2005 and updated 2010 inventories cannot be directly compared, the activity data and GHG emission estimates for the two largest sectors in the inventories (Transportation and Energy) show that considerable progress has been made towards meeting the 2013 interim target as of 2010. It’s highly likely that the City is on track already to achieve the 2013 target. Staff recommends that 2013 be removed as an “interim” target year given that the target will likely be achieved, and also because the adoption of the new General Plan will occur in June 2014.

The year 2020 is still an important target year given the statutory direction provided in the California Global Warming Solutions Act of 2006 (AB 32) to reduce GHG emissions to 1990 levels by 2020 throughout the state. The 2020 target in the CAP aligns community-wide reductions with AB 32. However, 2020 should be seen now as an “interim” target year, given that 2020 is approaching relatively quickly. Additionally, the legislative-adjusted emission

projections for 2020 show that the City’s emissions could fall to 14 percent below 2005 levels by 2020 without any consideration of local actions, exceeding the total reductions that would have been achieved under the original target of 12.5 percent below 2005 levels by 2020. Therefore, the Committee may wish to consider recommending Council revise the 2020 target to exceed the legislative-adjusted projections. Adjusting the target to 20 percent below 2005 levels by 2020, or approximately 6.7 percent below the legislative-adjusted projected emissions in 2020, would provide an impetus for local action to continue the City’s good-faith effort to adopt local GHG reduction measures, and put the City on track to achieve its long-term target in 2050.

The planning horizon for the new General Plan is 2040. This is an important consideration with respect to GHG reduction targets because the General Plan will serve as the City’s official “Plan for the Reduction of Greenhouse Gases” for the purposes of tiering and streamlining the review of GHGs per California Environmental Quality Act (CEQA) Guidelines Section 15183.5. The longer-term reduction potential of measures, particularly with respect to measures in the CAP that would be applicable to new development that is consistent with the Plan, should be evaluated against this horizon year, in addition to meeting the 2020 and 2050 targets.

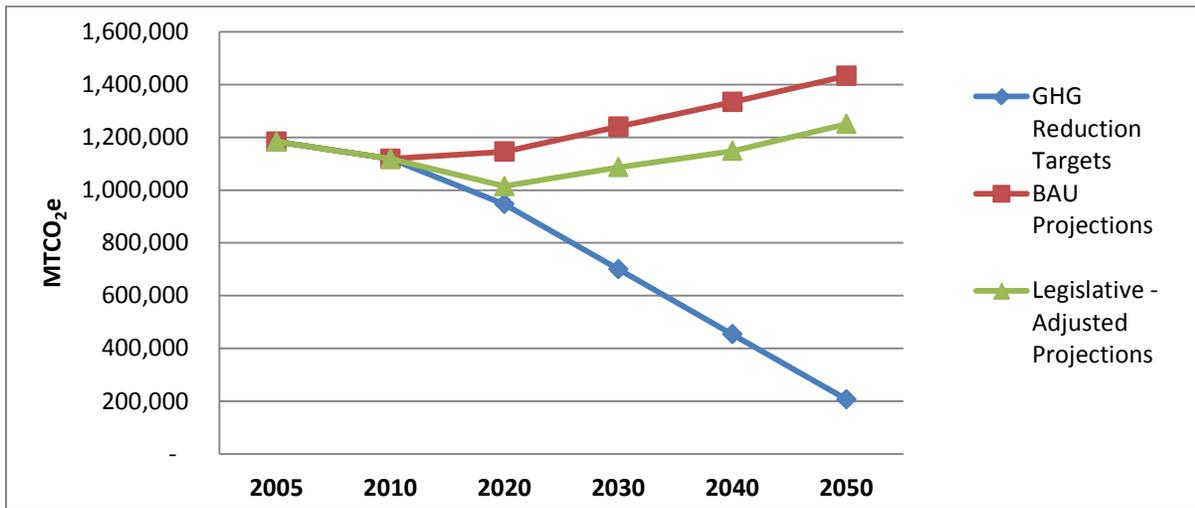
The recommended targets, along with estimated reductions required to achieve the targets, are summarized below in Table 5 and shown in Figure 1.

Table 5: Recommended Greenhouse Gas Emissions Reduction Targets: 2020, 2040 and 2050

Year	GHG Emissions (MT CO <sub>2</sub> e/year)							
	Baseline	BAU Projection	Legislative-Adjusted Projection	Reduction Targets (Recommended)	Net Reductions to Achieve Targets	% Below 2005 Baseline	% Below BAU	% Below Legislative Adjusted
2005	1,183,279	-	-	-		-	-	-
2010	1,118,561	-	-	-		-	-	-
2020	-	1,145,345	1,015,048	946,623	68,425	20.0%	17.4%	6.7%
2040	-	1,333,686	1,147,759	453,590	694,169	62.7%	66.0%	60.5%
2050	-	1,432,603	1,250,630	207,074	1,043,556	82.5%	85.5%	83.4%

Notes: BAU = Business-as-Usual; GHG = greenhouse gas; MT CO<sub>2</sub>e = metric tons carbon dioxide equivalent.  
 Source: City of Hayward 2009; StopWaste.org 2013; Data modeled by Ascent Environmental, Inc. in 2013.

**Figure 1: GHG Emission Projections and Recommended Reduction Targets: 2020 through 2050**



Notes: BAU = Business as Usual; GHG = Greenhouse Gas Emissions; MT CO<sub>2</sub>e = metric tons of carbon dioxide equivalent  
 Source: Hayward Climate Action Plan (2009); StopWaste.org (2013); Ascent Environmental, Inc. (2013)

*GHG Reduction Estimates* – In response to comments from the Committee and the GPUTF, staff prepared the attached list of implementation actions, which includes many from the 2009 CAP as well as several revised actions and new actions. The revised and new actions are indicated in the following tables as “Proposed CAP Actions.” Ascent Environmental, a sub-consultant on the General Plan update team, has estimated the GHG reductions for actions wherever substantial evidence and reasonable assumptions were available to support calculations. Staff identified numerous actions that are not quantifiable at this time, but are still expected to reduce GHG emissions. Such programs will be addressed qualitatively in the General Plan and treated as supporting measures to the strategies that are quantified, and could be tracked for potential quantification in the future if the necessary data becomes available.

During the analysis, many of the actions were found to be unquantifiable. Assumptions associated with each action are provided in Attachment II. Actions are organized by the following Strategies (the first nine were in the 2009 CAP and Strategies ten and eleven are new):

1. Transportation and Land Use: Reduce Vehicle Miles Traveled
2. Transportation: Decrease Carbon-intensity of Vehicles
3. Energy: Improve Energy Performance of Existing Buildings
4. Energy: Improve Energy Performance of New Buildings
5. Energy: Use Renewable Energy
6. Solid Waste: Increase Waste Reduction and Recycling
7. Sequester Carbon
8. Climate Change Adaptation
9. Engage and Educate Community
10. Economic Development (NEW)
11. Quality of Life (NEW)

*Strategy 1: Transportation and Land Use: Reduce Vehicle Miles Traveled* – Action 1.2 (Car Sharing) has been split into two actions. Action 1.2 has been revised to encourage private employers to provide car sharing and Action 1.3 has been added to encourage car sharing in locations that would be available to the public. Also, former Action 1.12 (Incentives for Local Hiring) has been combined with new Action 1.12 (Live & Work in Hayward). Finally, minor changes have been made to Actions 1.5 (Buses and Shuttles), 1.13 (Commuter Benefits for City Employees), and 1.15 (Location of New City Facilities). The following table shows the emissions reductions expected for the revised actions and also the emissions reductions for the original actions in Strategy 1. Emissions reductions for 1.4 and 1.5 have yet to be quantified.

**Table 6. Strategy 1 – Estimated Annual Emissions Reductions (metric tons CO2e)**

2009 CAP		Proposed CAP Actions		
2020	2050	2020	2040	2050
32,638	67,194	12,200	21,374	23,153

*Strategy 2: Transportation: Decrease Carbon-intensity of Vehicles* – Action 2.1 (Incentives for Low-Carbon Vehicles) has been replaced with an action requiring preferential parking for low-carbon vehicles and requiring parking lots to have electric vehicle chargers. Also, two new Actions – 2.3 (EV Charging Facilities) and 2.6 (EV Charging in Public Lots) have been added.

Estimates included in the 2009 CAP showed that Actions 2.1 and 2.2 alone could achieve the GHG emission reductions necessary to meet the City’s 2050 target. While the Business As Usual projections in Scenario 2 assumed the vehicle fleet would have an average fuel efficiency of 45 mpg by 2050, Actions 2.1 and 2.2 assumed the average fuel economy of vehicles for Hayward would be even higher (60 mpg by 2050) as a result of local incentives. The revised actions in Strategy 2 focus on local actions that support state-level programs. These will not result in quantifiable reductions, but have been reflected in the BAU with legislative adjustments.

**Table 7. Strategy 2 – Estimated Annual Emissions Reductions (metric tons CO2e)**

2009 CAP		Proposed CAP Actions		
2020	2050	2020	2040	2050
129,060	532,735	-	-	-

*Strategy 3: Energy: Improve Energy Performance of Existing Buildings* – Action 3.1 (Residential Energy Conservation Ordinance for Single-Family Homes) has been revised to include notes regarding implementation in response to comments from the Committee on April 3. The estimated emissions reduction assumes the RECO will be implemented by 2017. Also, assumptions for implementation of the RECO have been revised to reflect lower participation rates and lower efficiency gains. For example, the 2009 CAP assumed that beginning in 2031, participating homes would reduce electricity use by 100% and natural gas use by 75%. The new estimate assumes an overall energy efficiency improvement of 15% in participating homes beginning in 2017. As a result of the changes, the annual emissions avoided by 2050 has been reduced from 39,304 metric tonnes to 8,498 metric tonnes. Similar changes were made to Action 3.2 (RECO for Multi-Family Homes) and staff also assumed implementation by 2017. Annual emissions avoided by 2050 has been reduced from 33,033 metric tonnes to 9,613 metric tonnes.

Actions 3.7 through 3.9 have been revised to reflect current efforts to provide a financing program for multi-family homes beginning in 2014 and the intent to expand the program to single-family (Action 3.7) and commercial properties (Action 3.9) by 2016. Actions 3.10 through 3.14 are new actions that call for sharing energy use data, requiring energy data disclosure, and promoting efficiency programs offered by others.

**Table 8. Strategy 3 – Estimated Annual Emissions Reductions (metric tons CO2e)**

2009 CAP		Proposed CAP Actions		
2020	2050	2020	2040	2050
8,723	205,890	4,893	14,909	19,164

*Strategy 4: Energy: Improve Energy Performance of New Buildings* – Upon direction provided by the Committee on April 3, 2013, staff proposes eliminating Actions 4.1 (Green Building Ordinance for residential buildings) and 4.2 (Green Building Ordinance for commercial buildings). Staff is anticipating that Council will repeal the current ordinances because the state code (CalGreen) will become more stringent in January 2014. The energy savings expected to result from implementation of the updated version of CalGreen have been incorporated into the Business As Usual projections (see Table 4 above).

**Table 9. Strategy 4 – Estimated Annual Emissions Reductions (metric tons CO2e)**

2009 CAP		Proposed CAP Actions		
2020	2050	2020	2040	2050
5,519	97,089	-	-	-

*Strategy 5: Energy: Use Renewable Energy* – Action 5.2 has been revised to call for collaboration with others rather than developing an independent financing program for renewable energy. Action 5.3 (Require Renewable Energy on New Development) has been deleted because CALGreen standards will require Zero Net energy buildings in new residential development by 2020 and in new commercial buildings by 2030. In order to comply with the state code, most new buildings will need to incorporate renewable energy. Original Action 5.4, now Action 5.3, calls for participation in community choice aggregation. Without CCA, the remaining actions would achieve less than half the reductions necessary to achieve the 2020 target. Action 5.5 has been modified to encourage installation of renewable energy systems on existing City facilities.

**Table 10. Strategy 5 – Estimated Annual Emissions Reductions (metric tons CO2e)**

2009 CAP		Proposed CAP Actions		
2020	2050	2020	2040	2050
14,750	84,863	71,672	94,335	101,476

*Strategy 6: Consumption, Waste & Recycling* – Some of the Actions in Strategy 6 have been fully implemented since the 2009 CAP was adopted. Specifically, Hayward has banned the use of polystyrene food containers by restaurants and Hayward is participating in a County-wide ban on the use of single-use plastic bags. Therefore, original Action 6.4 has been deleted. Also, new Action 6.4 has been changed because recycling services are now mandatory for single-

family homes and will likely soon be mandatory for multi-family properties. Actions 6.7 through 6.10 are new and address overall consumption, water conservation, use of recycled water, rainwater harvesting, and use of greywater systems.

**Table 11. Strategy 6 – Estimated Annual Emissions Reductions (metric tons CO2e)**

2009 CAP		Proposed CAP Actions		
2020	2050	2020	2040	2050
22,209	69,336	2,426	2,830	3,032

*Strategy 7: Sequester Carbon* – No changes are proposed.

**Table 12. Strategy 7 – Estimated Annual Emissions Reductions (metric tons CO2e)**

2009 CAP		Proposed CAP Actions		
2020	2050	2020	2040	2050
5	316		429	429

*Strategy 8: Climate Change Adaptation* – Adaptation policies and implementation actions are being developed separately and do not have associated GHG reductions.

*Strategy 9: Engage and Educate Community* – Minor revisions have been made to the Actions in Strategy 9. Emissions reductions are not quantified for these actions.

*Strategy 10: Economic Development* – Three new actions are proposed. They include expanding and promoting the Alameda County Green Business Program and supporting and attracting more businesses to Hayward in the renewable and energy efficiency sector. Emissions reductions are not quantified for these actions.

*Strategy 11: Quality of Life* – These three new actions include supporting community gardening, supporting existing and additional farmers markets and reducing stormwater pollution. Emissions reductions are not quantified for these actions.

*Gap Between Actions and Targets* – Preliminary estimates of GHG emission reductions, along with an estimated emissions reduction “gap,” are summarized below in Table 13. The implementation actions identified above and in Attachment I are not sufficient to meet the 2040 and 2050 targets. As evidenced above in the differences between current GHG projections and the projections made in the 2009 CAP, the methodology for estimating and projecting emissions is advancing rapidly. In addition, due to unforeseeable changes in technology, legislation, and the economy, staff recommends that the current focus remain on 2020.

**Table 13: Summary of Greenhouse Gas Emissions Reduction Measures Performance**

Action Number and Description	GHG Emissions Reduction (MT CO2e/year)		
	2020	2040	2050
<b>Strategy 1</b>	12,200	21,374	23,153
<b>Strategy 3</b>	4,893	14,909	19,164

Table 13: Summary of Greenhouse Gas Emissions Reduction Measures Performance

Action Number and Description	GHG Emissions Reduction (MT CO <sub>2e</sub> /year)		
	2020	2040	2050
<b>Strategy 5</b>	71,672	94,335	101,476
<b>Strategy 6</b>	2,426	2,830	3,032
<b>Strategy 7</b>		429	429
<b>Total</b>	<b>91,190</b>	<b>133,878</b>	<b>147,255</b>
Recommended GHG Emissions Reduction Target	68,425	694,169	1,043,556
<b>GHG Emissions Reduction Gap</b>	<b>22,765</b>	<b>-560,291</b>	<b>-896,301</b>

As noted 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 continue to work with the General Plan consultant team to refine proposed implementation actions and estimates of GHG reductions. Staff will review a revised list of actions with the General Plan Update Task Force on August 8 2013.

The implementation actions identified in this report will be included in the Implementation section of the draft General Plan, which is scheduled to be released to the public in September 2013. Staff will present the draft General Plan to the Sustainability Committee on October 2, 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:



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Fran David, City Manager

Attachments:

- Attachment I Sustainability-Related Policies and Strategies – Current and Proposed
- Attachment II Assumptions for Calculating GHG Reductions

Existing Climate Action Plan							Proposed Changes to CAP					
Original CAP Action Number	New CAP Action Number	Title	Full Description <i>(key words are in red to assist the reader)</i>	Estimated Annual Emissions Reductions (metric tons CO <sub>2</sub> e) <i>*assumes Scenario 2 fuel economy and renewable electricity generation and that program goals</i>		Year to Begin Implementation	Proposed Action/Description for 2014 General Plan	(Proposed) Revised Year to Begin Implementation	2013 Revised Emissions Reductions (metric tons CO <sub>2</sub> e)			Notes
				2020	2050				2020	2040	2050	
<b>Strategy 1 – Transportation and Land Use: Reduce Vehicle Miles Traveled</b>												
<i>Community-wide Actions</i>												
<i>Increase the Use of Alternative Modes of Transportation</i>												
Action 1.1	1.1	Commuter Benefits	Assist businesses in developing and implementing <b>commuter benefits programs</b> . 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.	2,286	8,106	2012	No change	2014	1,773	1,964	2,129	
Action 1.2	1.2	Car Sharing - Private	Assist businesses in developing and implementing <b>car sharing programs</b> , such as Zip Car® or City Car Share, and encourage large employers such as the colleges and Hayward Unified School District (HUSD) to implement such programs.	416	7,283	2015	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. Bike sharing programs may be modeled after the Regional Bicycle Share Pilot Project ( <a href="http://www.baaqmd.gov/Divisions/Strategic-Incentives/Alternative-Transportation/Bike-Share-Pilot.aspx">http://www.baaqmd.gov/Divisions/Strategic-Incentives/Alternative-Transportation/Bike-Share-Pilot.aspx</a> )	2015	4,286	4,774	5,159	Action 1.2 was split into two actions.
	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 host car and bike sharing programs available to the public.	2015				
Action 1.3	1.4	Parking Strategies	Modify City parking ordinances to incentivize walking, biking, and public transit by employing <b>parking strategies</b> 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.		9,471	2025	No change	2015				Commence implementation in 2015. (The Downtown Hayward BART station will implement paid parking in 2014.)
<i>Improve Effectiveness of Transportation Circulation System</i>												
Action 1.4	1.5	Buses and Shuttles	Collaborate with <b>BART and AC Transit</b> to explore short- and long-term opportunities to <b>expand services</b> (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.	3,062	15,199	2012	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				
Action 1.5	1.6	Bicycle Master Plan	Continue to implement and expand the City-wide <b>bicycle master plan</b> 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.	2,419	7,610	2009	No change	ongoing	240	8,102	8,783	
Action 1.6	1.7	Pedestrian Master Plan	Develop and implement a City-wide <b>pedestrian master plan</b> 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.	1,394	7,121	2012	No change	2014	5,900	6,534	7,083	To be included in the new General Plan, scheduled to be adopted in June 2014.
Action 1.7	1.8	Circulation Element	Update the City's <b>Circulation Element</b> 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.	emissions reductions were not quantified		2014	No change	2014	emissions reductions not quantifiable			To be included in the new General Plan, scheduled to be adopted in June 2014.
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.	23,061	21,875	2015	No change	ongoing				

Existing Climate Action Plan						Proposed Changes to CAP						
Original CAP Action Number	New CAP Action Number	Title	Full Description (key words are in red to assist the reader)	Estimated Annual Emissions Reductions (metric tons CO <sub>2</sub> e) <i>*assumes Scenario 2 fuel economy and renewable electricity generation and that program goals</i>		Year to Begin Implementation	Proposed Action/Description for 2014 General Plan	(Proposed) Revised Year to Begin Implementation	2013 Revised Emissions Reductions (metric tons CO <sub>2</sub> e)			Notes
				2020	2050				2020	2040	2050	
<i>Utilize Zoning &amp; Land-use Mechanisms to Minimize Need for Transportation</i>												
Action 1.9	1.1	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 <b>smart growth</b> 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.	emissions reductions were not quantified		continuous	No change	ongoing	emissions reductions not quantifiable			
Action 1.10	1.11	Zoning & Development Standards	Explore the development of <b>zoning and development standards</b> 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.	emissions reductions were not quantified		continuous	No change	ongoing	emissions reductions not quantifiable			South Hayward BART Form-Based Code was adopted in October 2011. Mission Boulevard Corridor Form-Based Code to be adopted in July 2013.
Action 1.11	1.12	Live & Work in Hayward	Explore potential strategies related to the creation of <b>additional affordable housing</b> to sell to buyers employed in Hayward but who currently reside in other areas and commute to work 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.	emissions reductions were not quantified		timing not determined	<del>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; 2) improvements in the academic performance of local schools so that people employed in Hayward will choose to live in Hayward; 3) develop an incentive plan to maximize the number of residents that work within the City, and encourage filling local jobs first with local residents, to reduce eliminate commutes.</del> For example, consider implementing a community land trust to purchase and resell foreclosed properties. The program should could potentially be coordinated with local businesses.	ongoing	emissions reductions not quantifiable			Hayward housing is still very affordable compared to surrounding communities. Since 2000, Hayward's median sales price went up approximately 30% (Trulia). (Fremont and Pleasanton went up approximately 58%.) According to the American Community Survey 2005-2009, Hayward had the lowest median home price in the East Bay.
Action 1.12		Incentives for Local Hiring	Develop an incentive plan to maximize the number of residents that work within the City, and encourage <b>filling local jobs first with local residents</b> , to eliminate commutes.	emissions reductions were not quantified		timing not determined	Delete action and combine with new Action 1.12.					
<i>Municipal Actions</i>												
Action 1.13	1.13	Commuter Benefits - City Employees	<b>Reinstate commuter benefits</b> such as 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.	emissions reductions were not quantified		timing not determined	<b>Reinstate</b> Continue to offer <b>commuter benefits</b> such as <u>Tran Ben</u> 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	emissions reductions not quantifiable			Only about 12 people participate in the TranBen program, which uses paper vouchers that can only be redeemed during certain hours at certain stations. According to a survey conducted in early 2013, approximately 12% of City employees use public transit to get to work.
Action 1.14	1.14	Car Sharing for City Employees	Explore options in developing a <b>car-sharing and/or bike sharing</b> 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.	emissions reductions were not quantified		timing not determined	No change	2015	emissions reductions not quantifiable			
Action 1.15	1.15	Location of New City Facilities	When making decisions about where to rent or build new <b>City facilities</b> , give preference to locations that are accessible to an existing public transit line.	emissions reductions were not quantified		continuous	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	emissions reductions not quantifiable			
<b>Subtotal of Estimated Annual Emissions Reductions (metric tons CO<sub>2</sub>e)</b>				<b>32,638</b>	<b>67,194</b>				<b>12,200</b>	<b>21,374</b>	<b>23,153</b>	

Existing Climate Action Plan						Proposed Changes to CAP						
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				2020	2050				2020	2040	2050	
<b>Strategy 2 – Transportation: Decrease Carbon-intensity of Vehicles</b>												
<i>Community-wide Actions</i>												
Action 2.1	2.1	Preferential Parking for Low-Carbon Vehicles	Play an active role in collaborating with regional, state, and federal efforts to provide financial and non-financial incentives for residents to <b>purchase low-carbon vehicles</b> . For example, the City could host work sessions with regional transportation planners and policy makers, or the City may support pending legislation. They City could consider granting designated vehicles access to preferred parking spaces.	129,060	532,735	continuous	Replace current action with: " <u>Require private parking lots to grant low-carbon vehicles access to preferred parking spaces. Require private parking lots to provide electric vehicle charging facilities.</u> " (implement in 2016)	2016			emissions reductions now included in Legislative Adjusted Projections	
Action 2.2	2.2	Promote Alternative Fuels	Plan an active role in collaborating with regional, state, and federal entities to <b>promote the use of alternative fuels</b> 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.	129,060	532,735	continuous	No change	ongoing			emissions reductions now included in Legislative Adjusted Projections	
	2.3	EV Charging Facilities					New Action: <u>Consider requiring EV charging facilities in new multiple family development.</u>	2015			emissions reductions not quantifiable	Supports 2.1 and 2.2
<i>Municipal Actions</i>												
Action 2.3	2.4	Improve City's Vehicle Fleet	Continue to procure fuel-efficient and alternative fuel vehicles for municipal <b>vehicle fleet</b> .	54.28	108.23	continuous	No change	ongoing				
Action 2.4	2.5	Alternative Fuels in City Contracts	Continue to, whenever possible, negotiate an <b>alternative fuel requirement</b> into new services provided by the <b>City's franchisee</b> .	54.28	108.23	continuous	No change	ongoing				
	2.6	EV Charging in Public Lots					New action: <u>Provide electric vehicle charging facilities in public parking lots.</u> (continuous)	ongoing			emissions reductions not quantifiable	Supports 2.1 and 2.2
<b>Subtotal of Estimated Annual Emissions Reductions (metric tons CO<sub>2</sub>e)</b>				<b>129,060</b>	<b>532,735</b>							
<b>Strategy 3 – Energy: Improve Energy Performance of Existing Buildings</b>												
<i>Community-wide Actions</i>												
Action 3.1	3.1	RECO for Single-Family Homes	Develop and implement a Residential Energy Conservation Ordinance ( <b>RECO</b> ) for <b>detached single-family homes</b> 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.	639	39,304	2012	No change	ongoing (see notes)	<b>1,260</b>	<b>6,393</b>	<b>8,498</b>	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
Action 3.2	3.2	RECO for Multi-Family Homes	Develop and implement a Residential Energy Conservation Ordinance ( <b>RECO</b> ) for <b>multiple-unit</b> 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.	983	33,033	2012	No change	ongoing (see notes)	<b>2,664</b>	<b>7,493</b>	<b>9,613</b>	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

Existing Climate Action Plan						Proposed Changes to CAP						
Original CAP Action Number	New CAP Action Number	Title	Full Description (key words are in red to assist the reader)	Estimated Annual Emissions Reductions (metric tons CO <sub>2</sub> e) <i>*assumes Scenario 2 fuel economy and renewable electricity generation and that program goals</i>		Year to Begin Implementation	Proposed Action/Description for 2014 General Plan	(Proposed) Revised Year to Begin Implementation	2013 Revised Emissions Reductions (metric tons CO <sub>2</sub> e)			Notes
				2020	2050				2020	2040	2050	
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.	5,164	105,152	2012	No change	2015				
Action 3.4	3.4	Weatherization Assistance Program	Actively participate in local <b>low-income weatherization initiatives</b> with the goal of weatherizing all qualifying low-income homes in Hayward.	emissions reductions were not quantified		continuous	No change	ongoing	emissions reductions not quantifiable			
Action 3.5	3.5	Reduce Energy 10%	Develop public information and education <b>campaign</b> to encourage every household and every business to <b>reduce their energy consumption by 10 percent</b> over ten years.	emissions reductions were not quantified		continuous	No change	ongoing	emissions reductions not quantifiable			
Action 3.6	3.6	Home Energy Monitors	Develop a program to encourage or require installation of <b>Home Energy Monitors</b> 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.	emissions reductions were not quantified		continuous	No change	ongoing	emissions reductions not quantifiable			
Action 3.7	3.7	EE Financing for Single-Family Homes	Develop a residential energy efficiency retrofit <b>financing program</b> for single unit homes.	181	40,248	2011	Develop a residential energy efficiency retrofit financing program <u>and/or collaborate with regional entities and others</u> to develop a residential energy efficiency retrofit financing program for single unit homes.	2016	Combined with quantification of Action 3.1			Expand PAYS program to include single-family.
Action 3.8	3.8	EE Financing for Multi-Family Homes	Develop a residential energy efficiency retrofit <b>financing program</b> for multiple unit homes.	126	33,617	2011	Develop a energy efficiency retrofit financing program <u>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&amp;E's on-bill financing and the CaliforniaFIRST PACE program.</u>	2014	Combined with quantification of Action 3.2			PAYS program is scheduled to launch by early 2014.
Action 3.9	3.9	EE Financing for Commercial	Develop a commercial energy efficiency retrofit <b>financing program</b> .	1,630	132,025	2010	Replace current action with: <u>Collaborate with regional entities and others to promote financing programs for energy efficiency retrofits such as PG&amp;E's on-bill financing and the CaliforniaFIRST PACE program.</u>	2016	Will be combined with quantification of Action 3.3			Expand PAYS program to include single-family.
	3.10	Residential Energy Use Sharing					New Action: <u>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.</u>	2014	emissions reductions not quantifiable			
	3.11	Residential Energy Disclosure					New Action: <u>For single-family homes, require disclosure of energy use and/or an energy rating at time of sale.</u>	2016	emissions reductions not quantifiable			
	3.12	Commercial and Multi-Family Energy Disclosure					New Action: <u>For commercial and multi-family residential properties, require disclosure of energy use and/or an energy rating at time of sale.</u>	2016	emissions reductions not quantifiable			
	3.13	Promote EE Incentives					New Action: <u>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.</u>	ongoing				quantify GHG using recent PG&E report
	3.14	Promote Benchmarking					New Action: <u>Promote use of the Energy Star Portfolio Manager program and energy benchmarking training for nonresidential building owners.</u>	ongoing	emissions reductions not quantifiable			

Existing Climate Action Plan						Proposed Changes to CAP						
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				2020	2050				2020	2040	2050	
<i>Municipal Actions</i>												
Action 3.10	3.10	CEC Financing	Take advantage of California Energy Commission's <b>low interest loans</b> for efficiency retrofits and LED street lighting ( <a href="http://www.energy.ca.gov/efficiency/financing">http://www.energy.ca.gov/efficiency/financing</a> )	969	1054	continuous	Take advantage of California Energy Commission's low interest loans for efficiency retrofits and LED street lighting	ongoing	969	1,023	1,054	All streetlights will be changed to LED in 2013.
Action 3.11	3.11	EE in City Facilities	Continue to implement <b>energy conservation practices</b> in City-owned buildings. Prepare an energy conservation plan and update it on a regular basis.	330	1542	continuous	No change	ongoing				
Action 3.12	3.12	Audit City Buildings	Improve energy performance of City buildings. Begin by <b>auditing city buildings</b> to identify opportunities for efficiency improvements from both operations and equipment upgrades.	330	1542	continuous	No change	ongoing				
<b>Subtotal of Estimated Annual Emissions Reductions (metric tons CO<sub>2</sub>e)</b>				<b>8,723</b>	<b>205,890</b>				<b>4,893</b>	<b>14,909</b>	<b>19,164</b>	
<b>Strategy 4 – Energy: Improve Energy Performance of New Buildings</b>												
<i>Community-wide Actions</i>												
Action 4.1			Continue to implement the Private Development <b>Green Building Ordinance</b> for residential buildings. Evaluate the program on a regular basis to ensure new buildings are getting more efficient over time.	979	18,836	continuous	Delete this action		emissions reductions now included in Legislative Adjusted Projections			Green building ordinance will likely be repealed in fall of 2013 because CalGreen will be more stringent beginning in January 2014.
Action 4.2			Continue to implement the Private Development <b>Green Building Ordinance</b> for commercial and industrial buildings. Evaluate the program on a regular basis to ensure new buildings are getting more efficient over time.	4,493	77,925	continuous	Delete this action		emissions reductions now included in Legislative Adjusted Projections			Green building ordinance will likely be repealed in fall of 2013 because CalGreen will be more stringent beginning in January 2014.
<i>Municipal Actions</i>												
Action 4.3	4.3	Municipal Green Building Ordinance	Continue to implement the <b>Municipal Green Building Ordinance</b> . Evaluate the program every 5 years to ensure buildings are becoming more efficient over time.	47	328	continuous	No change	ongoing				
<b>Subtotal of Estimated Annual Emissions Reductions (metric tons CO<sub>2</sub>e)</b>				<b>5,519</b>	<b>97,089</b>							

Existing Climate Action Plan							Proposed Changes to CAP					
Original CAP Action Number	New CAP Action Number	Title	Full Description (key words are in red to assist the reader)	Estimated Annual Emissions Reductions (metric tons CO <sub>2</sub> e) <small>*assumes Scenario 2 fuel economy and renewable electricity generation and that program goals</small>		Year to Begin Implementation	Proposed Action/Description for 2014 General Plan	(Proposed) Revised Year to Begin Implementation	2013 Revised Emissions Reductions (metric tons CO <sub>2</sub> e)			Notes
				2020	2050				2020	2040	2050	
<b>Strategy 5 – Energy: Use Renewable Energy</b>												
<i>Community-wide Actions</i>												
Action 5.1	5.1	Finance Renewable Energy - Residential	Develop a program for the financing and installation of <b>photovoltaic renewable energy</b> systems on residential building including single and multiple family residential buildings and mobile homes. Set a target for total MW to be installed.	850	2,149	2010	<del>Collaborate with regional entities and others to develop</del> 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. <del>Set a target for total MW to be installed.</del>	2015	657	1,854	1,854	
Action 5.2	5.2	Finance Renewable Energy - Commercial	Develop a program for the financing and installation of <b>photovoltaic renewable energy</b> systems on commercial buildings. Set a target for total MW to be installed.	10,768	22,822	2010	New Action: <u>Collaborate with regional entities and others to promote financing programs for renewable energy systems such as the CaliforniaFIRST PACE program.</u>	ongoing	8,320	19,692	19,692	
Action 5.3			Incorporate a <b>renewable energy requirement</b> into Private Development Green Building Ordinance.	2,980	24,660	2013	<del>Delete this action</del>					CALGreen standards will require Zero Net Energy buildings in new residential buildings by 2020 and in new commercial buildings by 2030. In order to comply, most new buildings will need to incorporate renewable energy.
Action 5.4	5.3	Community Choice Aggregation	Increase the renewable portion of utility electricity generation by advocating for increased state-wide <b>renewable portfolio standards</b> ; and consider participating in <b>community choice aggregation</b> , or other means.		30,779	continuous	<del>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 similar means.</del>	2020	61,431	71,438	78,520	This reduction is now incorporated into the RPS legislative-adjusted emissions projections
	5.4						New Action: <u>Participate in collaborative efforts aimed at encouraging PG&amp;E to offer green power options to local customers.</u>	ongoing	527	614	672	
<i>Municipal Actions</i>												
Action 5.5	5.5	Renewable Energy on Existing City Facilities	Conduct a <b>city-wide renewable energy assessment</b> 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.	76.4	2,227	timing not determined	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.					
Action 5.6	5.6	Renewable Energy on New City Facilities	Ensure that all <b>new City owned facilities are built with PV and/or solar</b> hot water systems as appropriate to their functions.	76.4	2,227	continuous	No change	ongoing				
		Renewable Energy at WPCF on Existing City Facilities					New Action: Renewable energy (Solar Array) installed at WWTP. Currently 1 MW installed, and City adding another system similar in capacity.  Change to: Install renewable energy at City facilities where feasible.	ongoing	737	737	737	include solar and cogen at WPCF & renewables at other City facilities
<b>Subtotal of Estimated Annual Emissions Reductions (metric tons CO<sub>2</sub>e)</b>				<b>14,750</b>	<b>84,863</b>				<b>71,672</b>	<b>94,335</b>	<b>101,476</b>	

Existing Climate Action Plan							Proposed Changes to CAP						
Original CAP Action Number	New CAP Action Number	Title	Full Description (key words are in red to assist the reader)	Estimated Annual Emissions Reductions (metric tons CO <sub>2</sub> e) <small>*assumes Scenario 2: fuel economy and renewable electricity generation and that program goals</small>		Year to Begin Implementation	Proposed Action/Description for 2014 General Plan	(Proposed) Revised Year to Begin Implementation	2013 Revised Emissions Reductions (metric tons CO <sub>2</sub> e)			Notes	
				2020	2050				2020	2040	2050		
<b>Strategy 6 – Solid Waste: Increase Waste Reduction and Recycling Consumption, Waste &amp; Recycling</b>													
<i>Community-wide Actions</i>													
Action 6.1	6.1		Increase participation in existing <b>commercial recycling services</b> by hiring a consultant to contact businesses to offer assistance in implementing waste reduction and recycling programs or expanding current programs.	15,916	38,216	2010	Replace Current Action with: <u>Work with StopWaste.org to provide technical assistance to businesses to implement mandatory recycling.</u>	ongoing	2,099	2,449	2,624	Staff suggests keeping this action so that we can show the GHG savings associated with the County-wide ordinance.	
Action 6.2	6.2	Food Scraps Collection	Continue to implement and promote <b>food scraps collection</b> for single-family homes. Over time, expand food-scraps collection programs with the goal of minimizing organic waste in the landfill.	1,495	11,963	2010	No change	ongoing					
Action 6.3	6.3	C & D Debris Recycling	Improve the City's <b>construction and demolition debris recycling</b> 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.	1,953	15,634	2011	No change	2015				Staff does not recommend any changes at this time as compliance with the ordinance is acceptable. Consider possible implementation in 2015.	
Action 6.4			Evaluate the viability of implementing a <b>ban on certain materials from landfill</b> , e.g., yard trimmings, untreated wood, cardboard, plastic bags, or polystyrene.	2,487	2,986	2013	Delete this action					Landfill bans include the: (1) City's ban on polystyrene foam food containers which became effective July 1, 2011; (2) Authority's ban on single-use bags which became effective July 1, 2012; and (3) Authority's plant debris ban which became effective January 2009.	
Action 6.5	6.4	Increase Participation in Residential Recycling	<b>Evaluate the viability of requiring</b> that residents and/or businesses participate in the <b>recycling</b> programs offered through the City's franchisee.	emissions reductions were not quantified		2014	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					
Action 6.6	6.5	Increase Participation in Commercial & Multi-Family Residential Recycling	Develop program that encourages <b>overall reduction of waste</b> in residential and commercial sectors. This would include increasing participation in recycling services at multi-family properties and to eventually make recycling by commercial businesses mandatory.	253	304	continuous	Develop program that encourages <b>overall reduction of waste</b> in residential and commercial sectors. This would include <u>Work with Stopwaste 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.</u>	ongoing					
Action 6.7	6.6	Waste to Energy	Advocate for waste management strategies that aim to <b>maximize the useful value of solid waste</b> by, for example, utilizing landfill gas to create electricity.	emissions reductions were not quantified		2010	No change	ongoing	emissions reductions not quantifiable				
	6.7	Reduce Consumption					New Action: <u>Educate the community about the benefits of reducing overall consumption.</u>	ongoing	emissions reductions not quantifiable				
	6.8	Conserve Water					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>	ongoing	327	381	409		
	6.9	Expand Use of Recycled Water					New Action: <u>Work with regional partners to encourage expansion of recycled water infrastructure.</u>	ongoing	emissions reductions not quantifiable				
	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>	2015	emissions reductions not quantifiable				
<i>Municipal Actions</i>													
Action 6.8	6.11	Recycling in City Facilities	Continue to implement <b>recycling programs</b> in City-occupied buildings.	31.86	70.94	continuous	Continue to implement <b>recycling programs</b> in City-occupied <u>municipal</u> buildings.	ongoing					
Action 6.9	6.12	Organics Collection in City Facilities	Implement <b>organics collection</b> programs in City-occupied buildings.	73.34	163.3	timing not determined	Continue to implement <b>organics collection</b> in City-occupied <u>municipal</u> buildings.	ongoing					
Action 6.10	6.13	Environmentally Preferred Purchasing	Develop an <b>Environmentally Friendly Purchasing</b> Policy.	emissions reductions were not quantified		timing not determined	<u>Continue to implement the City's Environmentally Friendly Preferred Purchasing Policy.</u>	ongoing	emissions reductions not quantifiable				
<b>Subtotal of Estimated Annual Emissions Reductions (metric tons CO<sub>2</sub>e)</b>				<b>22,209</b>	<b>69,336</b>				<b>2,426</b>	<b>2,830</b>	<b>3,032</b>		

Existing Climate Action Plan						Proposed Changes to CAP						
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				2020	2050				2020	2040	2050	
<b>Strategy 7 – Sequester Carbon</b>												
<i>Community-wide Actions</i>												
Action 7.1	7.1	Carbon Sequestration	Develop and implement a program to maximize <b>carbon sequestration</b> activities occurring within Hayward. Activities may include planting trees or managing wetlands.	0	284	timing not determined	No change	????		385	385	
<i>Municipal Actions</i>												
Action 7.2	7.2	Carbon Sequestration on City Property	Develop a protocol for maximizing <b>carbon sequestration</b> on municipal property by way of planting trees or other methods.	5.4	32.4	timing not determined	No change	????		44	44	
<b>Subtotal of Estimated Annual Emissions Reductions (metric tons CO<sub>2</sub>e)</b>				<b>5</b>	<b>316</b>					<b>429</b>	<b>429</b>	
<b>Strategy 8 – Climate Change Adaptation</b>												
<i>Community-wide Actions</i>												
Action 8.1			PLACE HOLDER - ACTIONS NOT DEFINED				adaptation to be addressed elsewhere in General Plan					
<i>Municipal Actions</i>												
Action 8.2			PLACE HOLDER - ACTIONS NOT DEFINED				adaptation to be addressed elsewhere in General Plan					
<b>Strategy 9 – Engage and Educate Community</b>												
<i>Community-wide Actions</i>												
Action 9.1	9.1	Green Hayward Website	Create a stand-alone <b>Green Portal, or website</b> , 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.	emissions reductions were not quantified		2010	Create and continuously maintain and improve a stand-alone <b>Green Portal, or website</b> , 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.	ongoing		emissions reductions not quantifiable		
Action 9.2	9.2	Engage Residents	Develop and implement a <b>plan that aims to engage</b> 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.	emissions reductions were not quantified		2010	Develop and implement a <b>plan that aims to continuously engage</b> 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.	ongoing		emissions reductions not quantifiable		
Action 9.3	9.3	Engage Businesses	Develop and implement an <b>outreach plan to engage local businesses</b> 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.	emissions reductions were not quantified		2010	Develop and implement an <b>outreach plan to Engage local businesses</b> 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.	ongoing		emissions reductions not quantifiable		
<i>Municipal Actions</i>												
Action 9.4	9.4	Engage City Employees	Offer a <b>GHG reductions education program</b> in which employees will learn about programs the City already offers or will offer in the future to residents and businesses.	not evaluated		timing not determined	No change	ongoing		emissions reductions not quantifiable		
Action 9.5	9.5	City Leadership	<b>Show leadership</b> by setting targets to reduce municipal emissions and work diligently to meet targets.	not evaluated		continuous	No change	ongoing		emissions reductions not quantifiable		
Action 9.6	9.6	City Contracts	When awarding contracts, <b>professional service agreements</b> , 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.	not evaluated		continuous	No change	ongoing		emissions reductions not quantifiable		

Existing Climate Action Plan						Proposed Changes to CAP						
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				2020	2050				2020	2040	2050	
	10.1	Expand Green Business Program					New Action: <u>Work with Alameda County to expand Green Business Program.</u>	ongoing	emissions reductions not quantifiable			
	10.2	Promote Green Business Program					New Action: <u>Work with local businesses to promote the Green Business Program.</u>	ongoing	emissions reductions not quantifiable			
	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 support and attract more businesses in the renewable and energy efficiency sector.</u>	ongoing	emissions reductions not quantifiable			
	11.1	Support Community Gardening					New Action: <u>Consider modifying land use regulations and partner with community groups to support community gardening.</u>	ongoing	emissions reductions not quantifiable			
	11.2	Support Farmers Markets					New Action: <u>Consider modifying land use regulations and partner with community groups to support existing and additional farmers markets.</u>	ongoing	emissions reductions not quantifiable			
	11.3	Reduce Stormwater Pollution					New Action: <u>"Continue to work with regional partners/Alameda County Clean Water Program to reduce stormwater pollution."</u>	ongoing	emissions reductions not quantifiable			
<b>Total</b>									<b>91,190</b>	<b>133,878</b>	<b>147,255</b>	



Energy Efficiency and Renewable Energy Actions

Action 3.1 Single Family RECO On-bill financing incentive + point-of-sale	Measure Performance	Sector (Residential Energy)	Participation		% of eligible (pre-year 2000 constructed) units	Scaled % Reduction	GHG Reduction (MT CO2e/year)	Aggregate GHG Reduction (MT CO2e/yr)	Eligible Housing Stock (detached units)	Units affected during phase
			Rate (point-of-sale trigger)	% of Detached Units						
2014-2017	10%	15.6%	6.6%	51.8%	87.5%	0.0%	478	22,606.04	1,500	
2017-2020	15%	15.6%	7.5%	51.8%	84.5%	0.1%	782	21,106.04	1,582.95	
2040	15%	16.1%	50.0%	51.8%	71.5%	0.4%	5,134	19,523.09	9,761.54	
2050	15%	16.2%	25.0%	51.8%	53.5%	0.2%	2,104	9,761.54	2,440.39	
<b>Total</b>									<b>15,284.88</b>	

Action 3.2 Mult-Family RECO On-bill financing incentive + point-of-sale	Measure Performance	Sector (Residential Energy)	Participation		% of eligible (pre-year 2000 constructed) units	Scaled % Reduction	GHG Reduction (MT CO2e/year)	Aggregate GHG Reduction (MT CO2e/yr)	Eligible Housing Stock (attached units)	Units affected during phase
			Rate (point-of-sale trigger)	% of Attached Units						
2014-2017	10%	15.6%	28.5%	48.2%	87.5%	0.2%	1,911	21,034.96	6,000	
2017-2020	15%	15.6%	7.5%	48.2%	75.5%	0.1%	754	15,034.96	1,127.62	
2040	15%	16.1%	50.0%	48.2%	72.3%	0.4%	4,829	13,907.34	6,953.67	
2050	15%	16.2%	25.0%	48.2%	57.9%	0.2%	2,120	6,953.67	1,738.42	
<b>Total</b>									<b>15,819.71</b>	

Action 3.10 Low-Interest CEC Financing for LED Streetlighting	Year	GHG reduction (MT CO2e/yr)	growth rate (2020-2050)
2040	1,023		
2050	1,054		

Action 5.1 Residential Solar Installations	# of systems	total system size (MWh/year available)	PG&E emission factor (lb CO2e/MWh)	Conversion (lb/MT)	GHG reduction (MT CO2e/yr)
2040	2,851	14,093	290	2,204	1,854
2050	2,857	14,093	290	2,204	1,854

Action 5.2 Commercial Solar Installations	total system size (MWh/year available)	PG&E emission factor (lb CO2e/MWh)	Conversion (lb/MT)	GHG reduction (MT CO2e/yr)
2040	149,659	290	2,204	19,692
2050	149,659	290	2,204	19,692

Action 5_ PG&E Residential Green Option	Measure Performance	Participation	Subsector (Residential Electricity)		GHG reduction (MT CO2e/yr)
			Rate	Scaled % Reduction	
2020	100%	1%	5.2%	0.05%	527
2040	100%	1%	5.3%	0.05%	614
2050	100%	1%	5.4%	0.05%	672

Action 5_ Renewable Energy on City Facilities (WWTP)	total system size (MWh/year available)	PG&E emission factor (lb CO2e/MWh)	Conversion (lb/MT)	GHG reduction (MT CO2e/yr)
2040	5,600	290	2,204	737
2050	5,600	290	2,204	737

Notes:

Assumes 2.5% of homes change ownership/year (HDR)  
 Assumes RECO begins in 2017 (2.5% of homes/year \* 3 years [2020-2017])  
 Assumes 500 units/year affected during first 3 years of on-bill financing incentive program  
 Assumes homes would be retrofitted to improve energy efficiency by 10% in initial on-bill financing program (source: Windsor PAYS; BayREN); then 15% through RECO beginning in 2017  
 Source: 51.8% of occupied units in Hayward are detached. ACS 2009-2011 Housing Characteristics  
 Assumes RECO would apply to all units constructed pre-year 2000. Assumes 2020 households as a proxy for 2020 housing units

Assumes 2.5% of homes change ownership/year (HDR)  
 Assumes Phase 1 begins in 2017 (2.5% of homes/year \* 3 years [2020-2017])  
 Assumes 2000 units/year affected during first 3 years of on-bill financing program  
 Assumes homes would be retrofitted to improve energy efficiency by 10% in initial on-bill financing program (source: Windsor PAYS; BayREN); then 15% through RECO beginning in 2017  
 Source: 51.8% of occupied units in Hayward are detached. ACS 2009-2011 Housing Characteristics  
 Assumes RECO would apply to all units constructed pre-year 2000. Assumes 2020 households as a proxy for 2020 housing units

Source: HDR 2009  
 Update with info from CEC when available

HDR assumed that 1,041 units would have PV installed by 2020 and 2,857 units by 2035  
 HDR 4,991 MWh/year available by 2020 and 14,093 MWh/year available by 2035  
 PG&E's emission factor in 2020 was estimated by CPUC at 290 lb/MWh. CPUC did not estimate emission factor beyond 2020.

HDR assumed that 4,486,770 square feet of commercial would have PV installed by 2020 and 6,757,240 square feet of commercial by 2035  
 HDR assumed 63,234 MWh/year available by 2020 and 149,659 MWh/year available by 2035  
 PG&E's emission factor in 2020 was estimated by CPUC at 290 lb/MWh. CPUC did not estimate emission factor beyond 2020.

<http://www.pge.com/myhome/environment/pge/greenoption/faq/>



**Transportation & Land Use Strategies**

Action 1.1: Commuter Benefits	Measure Performance	Sector (Transportation)	Eligible Employers	Scaled % Reduction	GHG Reduction
	2020	1.00%	58.1%	30%	0.17% 1,773
	2040	1.00%	56.9%	30%	0.17% 1,964
	2050	1.00%	56.6%	30%	0.17% 2,129

Notes:

CAPCOA TRT-1; assumes voluntary measure and 50% of employers are eligible (i.e., >50 employees). Applies throughout the City, not just to new employers.

# of eligible employees calculated based on Employer size data from Erik Pearson (6/14 email to Erik deKok, Ascent Environmental)

Action 1.2: Car-sharing and Bike-share program	Measure Performance	Sector (Transportation)	Scaled % Reduction	GHG Reduction
Car-sharing	2020	0.7%	58.1%	0.4% 4,130
Bike-sharing				156
				<b>4,286</b>
Car-sharing	2040	0.7%	56.9%	0.4% 4,574
Bike-sharing				200
				<b>4,774</b>
Car-sharing	2050	0.7%	56.6%	0.4% 4,958
Bike-sharing				200
				<b>5,159</b>

CAPCOA TRT-9. 0.7% (car share); Assumes 1 car per 1000 population in urban market at full implementation

CAPCOA TRT-12. 1/3 vehicle trip per day per bicycle. Regional pilot project aims to have 1000 bicycles at full implementation

Assumes 700 bikes by 2020; 1000 bikes by 2040; Assumes that bike share trips replace 1/3 of a 6-mile passenger trip.

Action 1.5: Bicycle Master Plan	Lane miles/square miles	% Increase in lane miles/sq miles	Mode share	Measure Performance	Sector (Transportation)	Scaled % Reduction	GHG Reduction
Existing		0.46		0.36%			
	2020	0.52	11.3%	0.40%	0.04%	58.1%	0.02% 240
	2040			1.6%	1.24%	56.9%	0.71% 8,102
	2050			1.6%	1.24%	56.6%	0.70% 8,783

CAPCOA SDT-5: 1% elasticity in bicycle mode share for every 1% increase in lane miles/square mile (Hayward = 63 square miles)

Assumes addition of 3.3 miles of Class I lane miles by 2020 (Bicycle Master Plan 2007: page 4-8.) 29.2 existing class I + class II lane miles in Hayward (Bicycle Master Plan 2007: page 5-2). Bicycle MP estimates aspirational target of 1.6% bicycle mode share (pg 5-4)

Action 1.4: Parking Strategies	Measure Performance	Sector (Transportation)	Scaled % Reduction	GHG Reduction
	2020	0.0%		
	2040	0.0%		
	2050	0.0%		

Waiting for TAZ-level VMT data so we can calculate parking pricing of downtown spaces

Action 1.6: Pedestrian Master Plan	Measure Performance	Sector (Transportation)	Scaled % Reduction	GHG Reduction
	2020	1.00%	58.1%	0.58% 5,900
	2040	1.00%	56.9%	0.57% 6,534
	2050	1.00%	56.6%	0.57% 7,083

CAPCOA SDT-1. 1-2% reduction. Conservatively assumed 1% reduction



**Solid Waste and Recycling Actions**

Notes:

Waste reduction target	Portion of Inventory Affected	Measure	Scaled Measure		GHG Reduction (MT CO2e)
		Performance	Performance	Performance	
75 percent diversion from the waste stream by 2020		2.6%	8.0%	0.2%	2,099
	2040	2.7%	8.0%	0.2%	2,449
	2050	2.6%	8.0%	0.2%	2,624

Assumes net increase of 49.9% in diversion (currently 25%);  
Assumes no additional diversion targets beyond 2020



**Water Conservation and Wastewater Strategies**

Notes:

	Measure	Sector	Scaled %	GHG Reduction	
	Performance	(water/wastewater)	Reduction		
<b>4% Reduction in Water Consumption by 2020</b>	2020	4%	0.8%	0.03%	327
	2040	4%	0.8%	0.03%	381
	2050	4%	0.8%	0.03%	409

<http://www.hayward-ca.gov/CITY-GOVERNMENT/DEPARTMENTS/PUBLIC-WORKS/documents/2011/2010UrbanWaterManagement071811.pdf>



**Carbon Sequestration**

Action 7.1 Urban Forestry (Community-wide)	Trees Planted	Carbon Sequestration Rate (MT GHG)	
		CO2e/tree/year	Reduction
2020	0.00	0.04	-
2040	10,500	0.04	385
2050	10,500	0.04	385

Action 7.2 Urban Forestry (Municipal Property)	Trees Planted	Carbon Sequestration Rate (MT GHG)	
		CO2e/tree/year	Reduction
2020	0.00	0.04	-
2040	1,200	0.04	44
2050	1,200	0.04	44

Notes:

Assumes 1750 trees planted per year from 2020-2035.

Carbon Sequestration rate 0.0367 MT CO2/year/tree (CalEEMod factor for mixed hardwood)

Calculation does not account for additional savings from reduced energy consumption because of shading

Assumes 200 trees planted per year from 2020-2025

Carbon Sequestration rate 0.0367 MT CO2/year/tree (CalEEMod factor for mixed hardwood)



**DATE:** July 10, 2013  
**TO:** Council Sustainability Committee  
**FROM:** Director of Public Works – Utilities & Environmental Services  
**SUBJECT:** Update on Renewable Energy Generation at City Facilities

## **RECOMMENDATION**

That the Committee reviews and comments on this report.

## **BACKGROUND**

The City’s Climate Action Plan (CAP), adopted in 2009, calls for a reduction in emissions associated with electricity production by increasing the amount of electricity being supplied from renewable sources. Specifically, the following actions are identified in the CAP:

*Action 5.5* – 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.

*Action 5.6* – Ensure that all new City owned facilities are built with renewable energy (i.e. PV and/or solar hot water) systems as appropriate to their functions.

## **DISCUSSION**

This report provides an update on existing renewable energy systems at City facilities as well as a discussion of potential new renewable energy systems.

*Cogeneration at WPCF* – The City’s most significant source of renewable energy comes from the cogeneration system at the Water Pollution Control Facility (WPCF), which uses bio-gas to create electricity and heat for wastewater treatment operations. The cogeneration system has been in place since 1982 and currently provides approximately 40% of the treatment plant’s power needs. The existing cogeneration system has two 375 kilowatt (kW) generators. Due to the need to meet air quality standards, they operate at approximately 250 kW. On May 21, 2013, Council approved a plan to replace the aging cogeneration system with a new one that is expected to more than double the electricity generated. The new cogeneration system will be installed by July 2014.

*Solar PV at WPCF* – In the fall of 2010, a one megawatt (MW) solar PV system was installed on a portion of land that was once occupied by oxidation ponds just west of the Water Pollution Control Facility. This system provides approximately 20% of the treatment plant’s power needs and an annual cost savings of approximately \$190,000.

Solar PV at Barnes Court – In 2005, a 276 kW solar photovoltaic (PV) system (60,000 square feet of panels) was installed on the warehouse at Barnes Court. This facility houses the City’s animal control, police evidence, and landscape maintenance functions. The solar installation provides all of the electricity needs of the building, saving \$57,000 annually.

Solar PV at Utilities Building – In 2012, a 51 kW solar PV system was installed on the Utilities building on Soto Road. This system provides approximately 85% of the building’s power needs and an annual cost savings of approximately \$14,800.

Solar PV at Corporation Yard – In 2012, a 35 kW solar PV system was installed on the Streets/Water building at the corporation yard. This system provides approximately 80% of the building’s power needs and an annual cost savings of approximately \$9,000.

Following is a summary of the City’s existing and proposed renewable energy systems, along with project costs and annual savings.

Date Installed	Description	Size of System	Total Cost	Rebates/ Incentives	Financing	% of Demand	Annual Cost Savings
1982	Cogeneration at WPCF	750kW*				40%	\$396,400
2010	Solar PV at WPCF	1 MW	\$5,500,000	\$2.6 million	CEC Loan/Sewer Ent. Fund	20%	\$190,400
2014	Proposed Cogeneration at WPCF	1,137 kW	\$10,000,000	\$2.8 million	Sewer Enterprise Fund	100%	\$300,000
2005	Solar PV at Barnes Court	276 kW	\$1,800,000	\$900,000	General fund	100%	\$57,000
2012	Solar PV at Utilities Building	51 kW	\$327,000	\$32,000	CEC Loan	85%	\$14,800
2012	Solar PV at Corporation Yard	35 kW	\$195,000	\$21,000	CEC Loan	80%	\$9,000

Potential New Renewable Energy – Staff continues to seek additional opportunities to site renewable energy facilities. The following possible future projects have been identified:

- Solar PV at WPCF (Phase II) – The approved Capital Improvement Program includes \$5.3 million to design and install solar panels that would enlarge the existing 1MW solar field at the Water Pollution Control Facility by an additional 1 MW.
- Solar PV at Various Water Facilities – The approved Capital Improvement Program includes \$3 million to install solar panels at water facilities, such as pump stations, where significant amounts of purchased energy are used. This project will allow for the design and installation of solar panels at various water facilities that are currently 100 percent reliant on PG&E to meet their energy needs. Potential sites include Walpert, the 500, 750, 100 and 1285 reservoir/pump station sites, and the Hesperian pump station.

- Solar PV on City Hall Parking Structure – Funding for this project has not been identified. This project would require a more significant upfront investment due to the structure that would be needed to support the panels. It is possible that this project might be combined with the construction of new library.
- Solar Hot Water at Various Facilities – Funding for this project has not been identified. Locations where solar hot water may be cost-effective include the fire stations, libraries, utilities buildings, and the police station.
- Solar PV on Roof of City Hall – Funding for this project has not been identified. Due to mechanical equipment on the roof and the tall parapet, a solar array on City Hall would be relatively small and will likely not be pursued
- Solar PV at Executive Airport – Funding for this project has not been identified. Consideration must be given to the number of panels and the location of the installation on the airport to minimize glare that could impair the vision of pilots and air traffic controllers, as well as cost-benefit considerations.

## **ECONOMIC IMPACT**

The City’s renewable energy facilities have a minimal impact on the local economy. Each individual renewable energy project is considered for its potential impacts to the cost of providing services to the community. Renewable energy projects that are part of the City’s utility systems are evaluated for potential impact on water and sewer rates.

## **FISCAL IMPACT**

As noted above, there are significant cost savings associated with the operation of renewable energy systems. As each new project is considered, it will be evaluated for total cost after incentives, annual savings, and total lifecycle cost. The three most recent solar PV projects have been financed using loans from the California Energy Commission through their Energy Conservation Assistance Act (ECAA) loan program. These loans have a one percent interest rate and a term of 15 years.

As noted in the above table, rebates are available for renewable energy projects. Part of the California Solar Initiative, PG&E’s Self-Generation Incentive Program (SGIP) provides financial incentives for the installation of new, qualifying self-generation equipment. Large projects (over 30 kW) receive rebates over a three-year period. The rebate amount for each project varies with the technology, system size, and system configuration.

PG&E Billing – Currently, the City’s solar facilities are subject to net energy metering (NEM), which requires bill credits to be used at the same facility where the electricity is generated. NEM is limited to systems with total generation of up to one megawatt. The “Renewable Energy Self-Generation Bill Credit Transfer” (RES-BCT) tariff is a program that allows local governments to generate electricity at one account and transfer any available excess amount as bill credits to another account owned by the same local government. RES-BCT will allow the system to have total generation of up to five megawatts. Hayward is the first municipality in the entire Pacific

Gas and Electric service area to apply for the RES-BCT tariff. Hayward's application for RES-BCT was submitted to PG&E on March 26, 2013.

**NEXT STEPS**

Staff will continue to explore opportunities for additional renewable energy at City facilities. Using the RES-BCT tariff, staff intends to work toward achieving carbon neutrality for City operations.

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

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

Approved by:



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Fran David, City Manager

**DATE:** July 10, 2013

**TO:** City Council Sustainability Committee

**FROM:** Director of Public Works – Utilities & Environment Services

**SUBJECT:** Overview of “Pay as You Save” (PAYS®) Pilot – On-Bill Financing for Water and Energy Efficiency Measures

### **RECOMMENDATION**

That the Committee reviews and comments on this report and provides input to staff on participation in a “Pay As You Save ®” on-bill financing system.

### **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 and tenants to install water and energy efficiency measures with no up-front costs. The costs of efficiency improvements are repaid over time through a tariff on the customer’s water bill. This grant will cover program design costs, technical assistance, and will offset some start-up costs. The Hayward PAYS® system is scheduled to be launched in February 2014. The PAYS® system would align with the efforts already undertaken by staff in the areas of water conservation, energy efficiency, and greenhouse gas reductions.

### **BACKGROUND**

The City of Hayward Utilities and Environmental Services has been awarded a grant by the Bay Area Regional Energy Network (BayREN) to design a “Pay As You Save” (PAYS®) system. PAYS® allows eligible homeowners and renters to have water and energy-saving measures installed in their homes or apartments 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.

Hayward’s Climate Action Plan (CAP) calls for the creation of financing programs to support energy efficiency improvements in existing buildings. Specifically, the following actions are identified in the CAP:

- Action 3.7      Develop a residential energy efficiency retrofit financing program for single unit homes.

- Action 3.8      Develop a residential energy efficiency retrofit financing program for multiple unit homes.
- Action 3.9      Develop a commercial energy efficiency retrofit financing program.

*Bay Area Regional Energy Network* – 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. The BayREN and a SoCalREN were formed to meet the aggressive goals set by the California Public Utilities Commission (CPUC) as part of the Long Term Energy Efficiency Strategic Plan. The CPUC recognized the need to collaborate with local governments to achieve market transformation toward energy efficiency. In general, the BayREN’s primary purpose is to design and implement effective energy savings programs, independent of Pacific Gas and Electric (PG&E).

Using American Recovery and Reinvestment Act funds, BayREN members have built lasting infrastructure, market momentum, and innovative local and regional programs to deliver cost-effective energy savings through successful implementation of Energy Upgrade California. Building on this investment, BayREN requested \$41.6 million for the 2013–2014 transition period to expand and enhance effective subprograms in single- and multi-family buildings, codes and standards, and financing. However, only \$23.2 million was approved by the CPUC in October 2012. The proposed BayREN Subprograms are designed to address key cost, process, workforce, and other market barriers that adversely affected the market penetration of the Energy Upgrade California Programs.

In Decision 12-05-015, the CPUC recognized the role of Regional Energy Networks in achieving the following goals:

- Provide missing technical resources that will get more projects implemented
- Include more public agencies in project implementation
- Leverage existing local government partnerships to implement these resources
- Provide centralized, regional program management and administration by local governments

*“Pay as You Save” (PAYS®)* – The concept for PAYS® was developed in 1999 by the Energy Efficiency Institute and has since been implemented in Hawaii, Kansas, Kentucky, and New Hampshire. The most recent data shows that approximately \$18M in 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 Regional Climate Protection Authority (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.

As mentioned previously, the system allows eligible homeowners and renters to have water and energy-saving measures installed in their homes or apartments with no up-front cost by creating a

tariff on the customer's water bill that repays the project cost over time. The estimated water, sewer, and energy savings of the measures installed exceed the tariff amount, serving the dual purpose of not requiring any upfront costs for the customer, and not increasing the customer's total utility bills.

Hayward staff submitted a "letter of intent" on May 15, 2013 to RCPA to indicate interest in the system and apply for grant funding (Attachment I). The BayREN selection committee determined that Hayward was a suitable candidate for the funding and responded with a "partnership letter" on May 22, 2013 (Attachment II), formally selecting Hayward to begin program design.

## **DISCUSSION**

*PAYS® Logistics* – The PAYS® system process is relatively simple, beginning with the customer selecting qualifying energy and water efficiency measures to be installed by a PAYS® certified contractor. The contractor then completes the work and submits an invoice to the utility or a designated third party certification agent. The utility or designated third party certification agent confirms the work has been completed satisfactorily, reimburses the contractor, and then establishes a tariffed charge on the utility bill of the customer to pay for the cost of the project over time. This charge is not a consumer loan, and there is no new debt obligation. Customers will only pay the tariff for as long they occupy the residence. If occupancy ends, then payment of the tariff is assumed by the new occupant. Procedures typically followed for non-payment of the utility bill would apply to this tariff, including water shut-off and/or placement of the amount overdue on the property tax roll.

*Hayward's PAYS® System Design* – Program design of the Hayward PAYS® system is in its initial stages. Implementation of the system is scheduled to begin in February 2014. Final details regarding billing system adjustments, measures offered, marketing plans, etc. are all items that are currently being discussed. The anticipated amount and source of funding for the system will also be determined through the program design process. The City will explore the option of obtaining outside funding, as well as the option of utilizing utility capital funds to fund the program.

In order to determine property types where the program could be readily implemented, staff had to evaluate existing billing practices and units of measurement. Hayward's current water and wastewater billing utilizes units of one hundred cubic feet (CCF). Meter readings are rounded to the nearest whole CCF, with one CCF equal to 748 gallons. For single family homes, it may be difficult to see water savings with such a large unit of measurement. It is also not feasible at this time to convert current billing units to single gallons. For this reason, staff is interested in initially offering the program only to multi-family residential units as these properties are typically on single water meters (or multiple meters with the property owner as the single account holder) and use water volumes sufficient to see water savings in CCF units.

The City would offer the PAYS® system to both owners and tenants of multi-family properties. Tenants would be required to obtain property owner authorization as part of the program requirements. Staff is exploring making the following measures eligible as part of the PAYS® program:

- Showerheads, toilets, aerators
- Clothes washers
- Lighting
- Landscaping (including lawn conversion)
- Hot water recirculation pumps
- Refrigerators
- Solar hot water
- High efficiency water heaters
- Duct sealing and air sealing
- High efficiency furnaces and heating systems

The above list would be subject to determination that the measures are cost-effective and the more expensive items may require co-pays. The grant will pay for such cost-effectiveness determinations to be made by a qualified engineer. Any limit on the total cost that a single account holder may finance would be dependent on the total amount of program capital secured. Energy efficiency measures, such as refrigerators, furnaces, and duct sealing are included in the desired measures list to provide customers with the option to also install energy efficiency measures and utilize the financing allowed by PAYS®. In relaying savings to the customer, the calculated on-bill tariff will be less than the savings the customer sees on their aggregate utility bills (including PG&E). In short, savings may be realized on the PG&E bill for some measures, but the tariff will only show up on the customer's water bill.

Hayward has a population of approximately 149,000 and serves roughly 1,330 multi-family residential water accounts, which in turn serve approximately 16,600 living units. With an average household size of 3.17 people, these 16,600 living units represent approximately one-third of Hayward's population. Each water account serves an average of 13 units. If 2,000 units were served, which is the preliminary goal for the programs first year, approximately 12% of Hayward's multi-family housing stock would be improved. Based on an average of 13 units per water account, approximately 150 property owners would need to participate to reach the first year's goals. Hayward staff would initially focus outreach to the large multi-family properties to maximize the number of units improved through initial contacts with property owners.

A component of the PAYS® system involves utilizing a Certification Agent to certify contractors and oversee their work. The Certification Agent will also conduct telephone or on-site pre and post installation inspections for completed jobs. The Agent interfaces with the approved contractors and prepares invoices to the City to pay the contractors, so the participant does not have any up front costs. The Agent is compensated through the invoicing process, similar to a contractor, with the cost of their services wrapped into the surcharge that the participant pays over time. The City would develop and execute a memorandum of understanding with the Certification Agent to define roles and responsibilities. Stopwaste has indicated a strong interest in serving as the PAYS® certification agent and staff is supportive of that arrangement. The benefit of having Stopwaste serve as the certification agent includes the fact that they are well positioned within the BayREN program as the lead county for the

multifamily subprogram<sup>1</sup> and can assist the City in leveraging marketing for the pilot program. Stopwaste has the staff capacity to handle certifying and managing contracts with vendors, and the City has a strong working relationship with their organization through participation in Energy Upgrade California and the various committees of the Waste Management Authority.

In order to explore other ways in which the PAYS® program could benefit municipal applications, staff will also explore a *municipal* solar photovoltaic hot water heater project through the PAYS® system. Although the design of the program is in its beginning stages, the system would be offered to municipal water account holders (fire stations, libraries, utility centers, corporation yard, police department, etc.) to support the installation of efficiency improvements and/or solar hot water heaters. Beyond the obvious environmental benefits associated with utilizing solar photovoltaic water heaters, the rationale behind this program element is to see if this program could be a viable way to fund municipal projects in the future if capital improvement funding is not immediately available.

**PAYS® Benefits and Alignment with City-Wide Goals** – Hayward has a long-standing and active commitment to water conservation. As an original signatory to the California Urban Water Conservation Council Memorandum of Understanding (MOU), the City has implemented cost-effective water demand management measures to reduce water usage by all customer sectors, offering a mix of voluntary programs including rebates, audits, education and fixture replacements. Including the PAYS® system in the City’s conservation portfolio would further leverage and complement the existing efforts already undertaken by staff. Hayward residents and property owners could certainly benefit from the program in that it would be the only water and energy conservation program that is structured to require no up-front costs (currently only rebates are offered).

Hayward’s Climate Action Plan (CAP), adopted in 2009, recognizes that in order to achieve greenhouse gas reduction goals for 2020 and 2050, energy use in existing buildings must be addressed. The CAP calls for the development of financing programs for energy efficiency retrofits for both single-family and multi-family homes. These programs (Actions 3.7 and 3.8) are identified in the CAP as high priority actions – priorities three and four respectively. Another program called for by Hayward’s CAP is the development of a residential energy conservation ordinance (RECO). In 2010 and 2011, Hayward developed a draft RECO, but the effort was ultimately dropped for lack of public support. One reason there was lack of support in the community was the cost of the required improvements being considered and the lack of financing available to help homeowners afford the improvements. After an initial offering to owners and tenants of multi-family properties, staff intends to expand the program to be available to single-family properties. A PAYS® system would assist the City in meeting some of these CAP goals.

Finally, Hayward is in the process of adjusting its water rates to compensate for increases related to the rising cost of Hayward’s wholesale water supplier, the San Francisco Public Utilities Commission. As water rates increase, the community will be looking for new ways to conserve

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<sup>1</sup> The multifamily subprogram will offer technical assistance and rebates to property owners throughout Alameda County who undertake an Energy Upgrade

water and save money. The ability to offer a system that would allow for on-bill financing would assist the City in serving the needs of its water customers.

## **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 grant received is not for a specific amount per jurisdiction, but will cover the majority of costs associated with design of the PAYS® system for implementation. The anticipated amount and source of funding for the system operation will be determined in consultation with the technical advisory team provided by the BayREN. The City will explore the option of obtaining outside funding, as well as the option of utilizing utility capital reserve funds 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. The length of the utility surcharge to customers will be largely dependent upon the measures installed.

Related to staff resources, this program would require efforts from not only Utilities and Environmental Services staff, but also Finance staff. Logistically, the tariff 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**

The City is in the initial stages of development the PAYS® system. Once program design is finalized, staff will engage qualified property owners and occupants through a comprehensive marketing and outreach plan. Staff intends to consult with multi-family property owners during design to determine feasibility and interest in the program.

## **NEXT STEPS**

Staff will return to the Council Sustainability Committee and the City Council for authorization and for direction regarding program details.

*Prepared by:* Corinne Ferreyra, Administrative Analyst I

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

Approved by:



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Fran David, City Manager

Attachments:

Attachment I  
Attachment II

Letter of Intent – May 15, 2013  
Partnership Offer – May 22, 2013



CITY OF  
**HAYWARD**  
 HEART OF THE BAY

May 15, 2013

Lauren Casey  
 Program Manager  
 Regional Climate Protection Authority  
 490 Mendocino Avenue, Suite 206  
 Santa Rosa, CA 95401

**RE: Letter of Intent to Participate in BayREN PAYS® Pilot with the Regional Climate Protection Authority**

Dear Lauren:

The City of Hayward would like to participate in the Regional Climate Protection Authority's (RCPA) effort to implement additional PAYS® Pilots under the San Francisco Bay Area Regional Energy Network (BayREN). Our utility is interested in providing financing and consumer assurances to our customers so they purchase water and/or energy efficiency and renewable products through a program at City water utility based on the Pay As You Save® "offer-that-works" model.

The City offers this letter of intent in response to continued discussions with the RCPA BayREN PAYS® design team, including the April 15<sup>th</sup> BayREN PAYS® introductory meeting, follow-up emails, and a meeting held between the RCPA team and Hayward staff on May 2, 2013.

As a participant in BayREN PAYS®, the City understands that RCPA will provide assistance with the following program start-up tasks and resources prior to implementation:

- Program design and training
- Initial contractor certification, and some funding for quality assurance
- Request for Proposals to obtain a Certification Agent, Capital, and measures at discounted prices
- Necessary forms, contracts, and worksheets tailored to our utility
- Marketing plans and some materials for this new way to purchase resource-efficient products
- Assistance with grant applications for funding to upgrade billing systems and establish a guarantee fund or some funding for billing system upgrades

As a prospective participant in BayREN PAYS® and as further detailed in the attached, the commits to meeting the following criteria:

- Staff available for meetings and to provide requested data during the program design phases
- Billing and collection for an On-Bill Financing pilot starting by the end of 2013
- Guaranteed payment to the capital provider regardless of customer collections
- Maintain customer service responsibilities if the utility terminates the pilot (to keep commitments to customers who purchased products during the pilot)

- Sufficient cost-effective measures to justify a pilot (e.g., if required, providing a portion of certification costs, rebates, or a comprehensive, resource-blind program)

With this Letter of Intent, the City indicates the understanding that:

- RCPA seeks to implement its first pilot by the end of 2013;
- RCPA has funding to provide these tasks and resources only through December 2014 or a date to be determined in negotiation with the City of Hayward, whichever is first;
- RCPA has funds to implement between 1-3 pilots in the Bay Area; and if more cities are interested in participating in BayREN PAYS® than RCPA has funding to serve, that RCPA will base final selection of pilots upon date of receipt of this Letter of Intent and the viability of each proposed pilot in relation to the criteria mentioned in this letter and the BayREN PAYS® Utility Selection Criteria.

It is the City's goal that our participation in the program design phase will lead to final City Council consideration for approval and implementation of a successful pilot based on the PAYS® system.

Please review the attached materials which the City of Hayward offers to support this Letter of Intent. Thank you, in advance, for your consideration. Please feel free to contact Erik Pearson, Environmental Services Manager, at 510-583-4770 or [erik.pearson@hayward-ca.gov](mailto:erik.pearson@hayward-ca.gov) or Corinne Ferreyra, Administrative Analyst I, at 510-583-4713 or [corinne.ferreyra@hayward-ca.gov](mailto:corinne.ferreyra@hayward-ca.gov). Thank you.

Sincerely,



Alex Ameri  
City of Hayward  
Director of Public Works – Utilities and Environmental Services

CC; Fran David, City Manager  
Tracy Vesely, Director of Finance

## Attachment 1: BayREN PAYS® Utility Selection Criteria

The following topics outline important criteria which identify ideal BayREN municipal water utility candidates to implement a BayREN PAYS® Pilot. While some criteria (e.g., those indicated with an asterisk) may be required, it is unlikely that any utility will be able or willing to meet all of these criteria.

### Commitment to implement a successful pilot (30 points)

1. Will your utility be able to assign at least one staff person to: 1) learn about PAYS® and assist in Program Design, and, potentially, 2) oversee the Implementation of an approved Program? If yes, please provide the name, title, and availability of this staff person.\*

The City of Hayward will assign Erik Pearson, Environmental Services Manager, Marilyn Mosher, Administrative Analyst III, and Corinne Ferreyra, Administrative Analyst I and to learn about PAYS® and assist in program design. Erik, Marilyn, and Corinne will be available to oversee the program as necessary to ensure successful implementation.

2. Clearly articulate your municipality's/utility's interest in a Tariffed On-Bill Financing Program (e.g., a need for water conservation, GHG reduction, meeting solar installation goals, etc.).\*

The City of Hayward's environmental planning efforts over the last several years demonstrate the need for a Tariffed On-Bill Financing Program. Hayward's Climate Action Plan, adopted in 2009, recognizes that in order to achieve GHG reduction goals for 2020 and 2050, energy use in existing buildings must be addressed. The CAP calls for the development of financing programs for energy efficiency retrofits for both single-family and multi-family homes<sup>1</sup>. These programs (Actions 3.7 and 3.8) are identified in the CAP as high priority actions – priorities three and four respectively. When the CAP was adopted, it was anticipated that property assessed clean energy (PACE) financing would soon be available to single-family property owners. As indicated by the recent decision of the 9<sup>th</sup> Circuit Court in favor of the Federal Housing Finance Agency (FHFA), Hayward is not interested in continuing to wait on PACE and motivated to provide residents with an alternative means of financing energy and water efficient improvements. Another program called for by Hayward's CAP is the development of a residential energy conservation ordinance (RECO). In 2010 and 2011, Hayward developed a draft RECO, but the effort was ultimately dropped for lack of public support. One reason there was lack of support in the community was the cost of the required improvements being considered and the lack of financing available to help homeowners afford the improvements. A Tariffed On-Bill Financing Program would assist the City in accomplishing a variety of the goals included in the CAP.

Hayward has a long-standing and active commitment to water conservation. As an original signatory to the California Urban Water Conservation Council Memorandum of Understanding (MOU), the City has implemented cost-effective water demand management measures to reduce water usage by all customer sectors, offering a mix of voluntary programs including rebates, audits, education and fixture replacements. Many of these programs have been implemented regionally, in cooperation with other Bay Area Water Supply and Conservation Agency (BAWSCA) members, to provide cost efficiencies and a consistent message to customers through the geographic area. In the near term, future conservation activities include expanding the information on the City's website regarding water conservation and improving the format so that the information is more readily accessible. Including the Tariffed On-Bill Financing Program in our conservation portfolio would further leverage and complement the existing efforts already undertaken by City staff.

Finally, Hayward is in the process of adjusting its water and wastewater rates to compensate for increases related to the rising cost of Hayward's wholesale water supplier, the San Francisco Public Utilities Commission. As water rates increase, the community will be looking for new ways to conserve water and save money. The ability to offer a system that would allow for Tariffed On-Bill Financing (requiring no upfront costs) would assist the City in serving the needs of water customers.

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<sup>1</sup> Hayward's CAP is available at <http://www.hayward-ca.gov/GREEN-HAYWARD/CLIMATE-ACTION-PLAN/>

3. If appropriate, provide details that indicate support among elected officials or your community for this type of renewable and resource efficiency program.

As noted above, financing for energy efficiency retrofits is a high priority of the CAP as well as the City Council Sustainability Committee. The Committee, composed of three Council members, three Planning Commissioners, and one member of the Keep Hayward Clean and Green Task Force, has expressed a desire for financing programs on multiple occasions.

The Hayward City Council adopts “Council Priorities” each year to guide policy and projects and address various community needs. In 2011 the Council elevated the “Green” priority to one the top three city-wide priorities (the other two are “Safe” and “Clean”). A primary objective of the Green priority is implementation of the Climate Action Plan. The Council has also affirmed this priority with their investments in renewable energy and energy efficiency investments made at City facilities as well as with their support of programs made available to the community.

The Council has also acknowledged that to the extent that customers reduce their water use, they will benefit from lower water bills, in comparison to customers who use higher volumes. Given that there is also a direct relationship between water consumption and the water use rates that the City must charge to maintain a reasonable working capital balance in the Water Fund, as water use decreases, the per-unit rates charged to cover fixed costs, such as employee services, must necessarily increase in order to keep pace. Some agencies have addressed this issue by increasing the service charge, which is a fixed amount based on water meter size. This charge is intended to cover activities such as meter reading and billing services. It has historically been the Council’s desire to maintain the service charge at the lowest possible level, so that customers can exercise maximum control over their water bills.

4. Would your utility be willing and able to include incidental program costs in the utility and/or municipality’s budget or use its current rebate budget to cover the costs? \*

The City of Hayward is willing and able to use its current rebate budget to cover incidental program costs.

### **Rates & Billing (25 points)**

1. If the program designed for your utility will have a water/waste water component, will your utility be able to either 1) offer single-gallon volumetric billing for water and waste water with rates that qualify targeted measures; or 2) provide a sufficient rebate budget to qualify them?\*

Hayward’s current water and wastewater billing is based on hundred cubic feet (CCF) and meter readings are rounded to the nearest whole CCF. Current billing units could be converted to single gallons, but this may not result in accurately reflected savings, given that the initial unit is so much larger (748 gallons) and the current rounding process. Further, the City’s wastewater billing rates are essentially flat rate, with a two tier structure for those customers using less water. For this reason, Hayward is interested in initially offering the program only to multi-family residential units as these properties are typically on single water meter and use water volumes sufficient to see water savings in CCF units. Additionally, approximately 50% of the City’s water meter inventory is 50 years or older. The City has a fully funded capital project slated for the next fiscal year to do extensive meter replacement and install Advanced Meter Infrastructure technology, at which time a significant increase of information on water use will be available to all customers (making it easier to show savings down to single gallon increments). Looking forward, Hayward envisions long term goals for a PAYS system that would begin with multi-family residential and eventually progress into serving single family residential as well as commercial customers.

2. Will your utility be able to upgrade or manually adjust billing system to track charges at a location/meter during the billing period?\*

Some of the capabilities of the utility billing system that will be online in the beginning of 2014 (Tyler Technologies) are still in the process of being developed at this time. The system will have the ability to add a line item to a customer's utility bill, such as a program surcharge. As part of the program design, the City would look for RCPA to assist with customization of the system to link specific meters to the surcharge once a program participant is identified and to identify what types of reports will be required to track charges at a specific location.

Will your utility commit to bill and collect tariffs for the duration required to qualify measure packages (e.g., 10 years)?

Yes, the City of Hayward will commit to bill and collect tariffs for the duration required to qualify measure packages, which may be up to 15 years.

### **Measures (25 points)**

1. What measures would your utility be interested in offering through a Tariffed On-Bill Financing Program? What limits, if any, would your utility set on the number or dollar value of eligible measures offered to an individual water account holder or to all participants?

As noted above, Hayward is interested in offering the PAYS program first to multi-family properties. After an initial trial period and after water meters are upgraded for single-family properties, the program will likely be expanded to all residential accounts and possibly commercial accounts as well. Hayward desires to make the following measures eligible as part of the PAYS program:

- Showerheads, toilets, aerators
- Clothes washers
- Lighting
- Landscaping (including lawn conversion)
- Hot water recirculation pumps
- Refrigerators
- Solar hot water
- High efficiency water heaters
- Duct sealing and air sealing
- High efficiency furnaces and heating systems

The above list would be subject to determination that the measures are cost-effective and the more expensive items may require co-pays. Any limit on the total cost that a single account holder may finance would be dependent on the total amount of capital secured.

Hayward would also be interested in exploring a municipal solar photovoltaic hot water heater project. Although the vision for this program is in its beginning stages, the City would like to explore offering the PAYS system to municipal water account holders (fire stations, libraries, utility centers, copypard, police department, etc.) to support the installation of solar hot water heaters. The City would also like to explore the option of offering this program to other public agencies that are water customers and operate facilities in Hayward, including Alameda County, Hayward Area Recreational District, the Hayward Unified School District, and potentially Chabot College.

2. Can your utility commit to serving a large number of participants in a year, provided there are not limitations in program capital? What scale program does your utility want?

Yes, Hayward can commit to serving a large number of participants during the first year. Hayward has a population of 148,756 and serves approximately 1,330 multi-family residential water accounts, which in turn serve approximately 16,600 living units. The following table is a detailed breakdown of Hayward’s housing stock.

HOUSING UNITS					
Total	Single Detached	Single Attached	Two to Four	Five Plus	Mobile Homes
48,671	25,329	4,356	2,935	13,729	2,322

Source: City of Hayward 2010 Urban Water Management Plan

With an average household size of 3.17 people, these 16,600 living units represent approximately one-third of Hayward’s population. Each water account serves an average of 13 units. If 2,000 units were served through the PAYS program, approximately 12% of Hayward’s multi-family housing stock would be improved. Based on an average of 13 units per water account, approximately 150 property owners would need to participate. Hayward staff would initially focus outreach to the large multi-family properties to maximize the number of units improved through initial contacts with property owners.

3. Would your utility be willing to require that eligible measures be “cost-effective” according to an approved program design (e.g., the PAYS® system typically requires that eligible measures delivery an estimated \$1.00 in bill savings for every \$0.75 in tariff surcharges)?

Yes. Hayward would want to only provide assistance for cost-effective measures so that the maximum benefit possible is achieved from limited resources. It is expected that the BayREN PAYS program would provide the engineering analysis necessary to determine which measures are cost-effective.

4. Would your utility be willing to allow for “co-pay” measures, where participants pay for a portion of measure costs out of pocket, and repay the remainder through their tariff?

Yes. We anticipate that a co-pay would be required for the high-cost items.

**Program Administration (20 points)**

1. Would you utility or municipality be willing to make payments to program vendors/contractors for completed work at least twice a month?\*

Yes, Hayward would be willing to make payments to program vendors/contractors for completed work at least twice a month. The city has a robust finance division that regularly handles accounts payable transactions.

2. Would your utility limit available rebates to all customer to the amount required to qualify measures for an approved PAYS® pilot?\*

The City would be willing to limit rebates to the amount required to qualify measures for a PAYS pilot for eligible customers. However, if the City is going to offer the initial program to only multi-family residential customers, we would like to still be able to offer a rebate to single family residential customers that are unconstrained by the PAYS pilot requirements.

3. Can your utility or municipality identify a party (internal or third party) that may be interested in serving as the pilot's "Certification Agent", recognizing that the costs of Certification Agent services are repaid through participants' tariffs?

Stopwaste has indicated a strong interest in serving as the pilot's Certification Agent and the City of Hayward would be supportive of that arrangement. The benefit of having Stopwaste serve as the Certification Agent include the fact that they are well positioned within the BayREN program as the lead county for the multifamily subprogram and can assist the City in leveraging marketing for the pilot program. Stopwaste has the staff capacity to handle certifying and managing contracts with vendors, and the City has a strong working relationship with their organization through participation in Energy Upgrade California and the various committees of the Waste Management Authority Board of Directors.

May 22, 2013

Alex Ameri  
 Director of Public Works  
 City of Hayward Utilities and Environmental Services  
 777 B Street  
 Hayward, CA 94541

**Re: Letter of Intent to Participate in BayREN PAYS® Pilot**

Dear Alex,

On behalf of the Sonoma County Regional Climate Protection Authority (RCPA) and the San Francisco Bay Area Regional Energy Network (BayREN), I would like to thank you for your May 15<sup>th</sup> letter expressing the City of Hayward's intent to participate in a BayREN PAYS® Pilot. The RCPA welcomes this intent and proposes to partner with the City of 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."

Your Letter of Intent, its completed Attachment 1, and ongoing discussions with Hayward staff indicate that a viable PAYS® program design can be developed to serve City of Hayward water customers. Based on these initial communications and preliminary analysis of Hayward building stock and water, waste water, and energy rates, the RCPA would like to focus initial program design work as follows:

- Primary: Cost-effective water-/energy-efficient measures appropriate for multifamily properties which have toilets with 3.5 gallons per flush and where the landlord supplies tenants with hot water.
- Secondary: Solar hot water heating for municipal water customers.

To initiate this partnership, we have outlined the following objectives and expectations, which if met will help ensure early pilot activities are timed in accordance with BayREN program goals.

By May 31      1) Hayward provides RCPA written acknowledgement of the partnership expectations as outlined in this letter.

2) Hayward identifies a single point of contact for pilot activities (while Hayward's Letter thoughtfully identified three staff members, RCPA believes a single point of contact will facilitate more efficient communications). This single point of contact would:

- Coordinate Hayward participation in Hayward/RCPA meetings and phone calls.
- Be authorized to respond to RCPA data requests, facilitate the right person at Hayward supplying requested information, and when appropriate provide names, contact information, and introductions as needed to information sources.



3) Hayward signs the PAYS® Intellectual Property Agreement (Attachment 1) and returns to RCPA. The PAYS® system is based on Intellectual Property developed by the Energy Efficiency Institute. This is available at no cost to California utilities and their partners, however an IP Agreement must be signed by any party implementing a PAYS® Pilot.

By June 7 Hayward hosts a Program Design scoping meeting with Hayward/RCPA staff to:

- Confirm Primary and Secondary areas for program design development;
- Develop strategies to advance design work accordingly;
- Confirm Hayward/RCPA Pilot Roles and Responsibilities.

While the Program Design scoping meeting will lay much of the ground work for next steps, the RCPA would like to clarify at this time that the Program Design will be based in large part on data provided by Hayward. RCPA does not have sufficient funding to support extensive independent research for development of the program design. Hayward’s timely provision of requested information, responsive follow-up to requests for clarification, and identification of and introduction to contact persons in its service area who might be able to provide program information will help ensure relevant data informs RCPA development of the Program Design and will make it more useful.

The RCPA and BayREN are excited to work with Hayward to develop a program based upon the PAYS® model that meets Hayward’s conservation and customer service goals. We look forward to receiving Hayward’s written acknowledgement of this partnership by May 31<sup>st</sup>, and meeting with your staff by June 7<sup>th</sup>.

If there are any questions you may have in regards to this letter or any of the next steps proposed, please contact me directly.

Sincerely,



Lauren Casey  
Climate Protection Program Manager  
(707) 565-5379  
[lcasey@SCTAinfo.org](mailto:lcasey@SCTAinfo.org)



## Attachment 1: Intellectual Property Agreement

The Energy Efficiency Institute, Inc. (EEI) is the originator of the Pay As You Save<sup>®</sup> system. The US Patent and Trademark office has issued EEI a registered trademark for “PAYS<sup>®</sup>” and “Pay As You Save.” Any California utility may access and use PAYS<sup>®</sup> Intellectual Property at no cost, provided:

- An authorized person able to bind the utility or municipality signs this Intellectual Property (IP) Agreement; and,
- Utility proposed changes to any aspect of the IP are communicated to EEI with an explanation for the proposed changes.

Bevilacqua-Knight, Inc. (BK<sub>i</sub>) is the only party authorized to distribute EEI’s intellectual property in California.

**The Energy Efficiency Institute, Inc. (EEI)** has authorized the City of Hayward, (“the Receiving Party”) to use its intellectual property only in accordance with the following conditions:

- A. EEI’s Intellectual Property (IP) is for use only by California gas, electric, or water utilities operating resource efficiency programs based on EEI’s Pay As You Save<sup>®</sup> system. **Bevilacqua-Knight, Inc. (BK<sub>i</sub>)** is the only party authorized to distribute EEI’s intellectual property in California.
- B. The Receiving Party, upon receiving, viewing or using EEI’s contracts, forms and work products, agrees to use these forms or modifications of them only for its work with a California utility and to include the footer “© 2011 ‘Utility Name’. Used with permission of Energy Efficiency Institute, Inc. of Colchester, Vermont 05446” on all copies.
- C. Additionally, the Receiving Party agrees to refrain from distributing copies of EEI’s intellectual property unless required by law, including but not limited to the California Public Records Act. However, before distributing EEI’s intellectual property as required by law, the receiving party will first try, when applicable, to assert an exemption as a Trade Secret, Unwarranted Invasion Of Privacy or other permitted exemption. All requests for copies or information about EEI’s IP will be provided to BK<sub>i</sub> at the address below.
- D. There is no fee for EEI’s intellectual property used for the purpose described in “A” above providing the other provisions of this agreement are met.
- E. The Receiving Party has EEI’s permission to make modifications to these forms or worksheets as it determines necessary, providing it sends copies of the modified forms with a brief explanation to EEI (at the address provided below).
- F. Rights to use EEI’s contracts, forms and work products in California do not include the rights to use EEI’s trademarks Pay As You Save<sup>®</sup> and PAYS<sup>®</sup>; such permission must be negotiated separately.
- G. Finally, the Receiving Party agrees not to distribute EEI’s intellectual property to any non-California utility, government entity, consultant, person, or party for viewing, use or review without the

written consent of the Energy Efficiency Institute, Inc. and Bevilacqua-Knight, Inc. or unless required by law, including but not limited to the California Public Records Act. However, before distributing EEI's intellectual property as required by law, the receiving party will first try, when applicable, to assert an exemption as a Trade Secret, Unwarranted Invasion of Privacy or other permitted exemption.

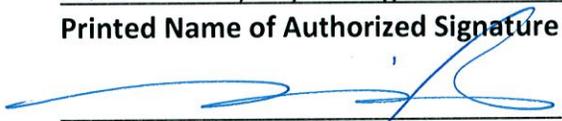
Failure by the Receiving Party to abide by the requirements of this agreement constitutes its acceptance of its liability for consequential damages and attorney fees associated with collecting such damages.

**City of Hayward**  
777 B Street  
Hayward, CA 94541-5007

**Energy Efficiency Institute, Inc.**  
165 Goodsell Point  
Colchester, VT 05446  
Phone: (802) 879-8895

Frances David, City Manager  
**Printed Name of Authorized Signature**

**Bevilacqua-Knight, Inc.**  
Bevilacqua-Knight, Inc.  
1000 Broadway, Suite 410  
Oakland, CA 94607  
Phone: (510) 444-8707 x223



**Signature**

Date: 6/4/13

**FORM APPROVED  
CITY ATTORNEY**

BY MV [Signature]

DATE: July 10, 2013  
TO: City Council Sustainability Committee  
FROM: Director of Public Works - Utilities & Environmental Services  
SUBJECT: Mandatory Recycling Ordinance: Evaluation of Phases 1 & 2

## **RECOMMENDATION**

That the Committee reviews and comments on this report, specifically regarding the City's participation in Phase 2 of the mandatory recycling ordinance.

## **BACKGROUND**

This report summarizes the City's compliance with Phase 1 of the mandatory recycling ordinance, which was approved by the City Council on February 28, 2012. Described here are the outreach efforts conducted by the Alameda County Waste Management Authority (Authority), staff from Waste Management of Alameda County (WMAC) and the City for the past year, and particularly since the April 3, 2013 Council Sustainability Committee meeting<sup>1</sup> when staff provided an update on the City's Waste Reduction and Recycling Programs. Also presented are various factors for consideration regarding the City's participation in Phase 2 of the mandatory recycling ordinance. A Council report will be prepared later this year seeking Council direction regarding the City's participation in Phase 2 of the ordinance.

The City of Hayward's Climate Action Plan identifies community-wide actions related to waste reduction and recycling for each of the topics addressed in this report, as listed below:

- *Action 6.1 – Increase participation in the recycling services offered businesses through the City's contract with its franchisee;*
- *Action 6.5 – Evaluate the viability of requiring that residents and/or businesses participate in the recycling programs offered through the City's franchisee;*
- *Action 6.6 – Develop a program that encourages overall reduction of solid waste in residential and commercial sectors. This would include increasing participation in recycling services at multi-family properties and to eventually make recycling by commercial businesses mandatory.*

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<sup>1</sup> See Item # 6 at <http://www.hayward-ca.gov/CITY-GOVERNMENT/COUNCIL-STANDING-COMMITTEES/COUNCIL-SUSTAINABILITY-COMMITTEE/2013/CSC-CCSC040313full.pdf>

## DISCUSSION

The Authority's mandatory recycling ordinance was approved by the Alameda County Waste Management Authority Board at its January 25, 2012 meeting. The Authority operates under the terms of the Joint Exercise of Powers Agreement (JPA) to manage waste in Alameda County. The JPA empowers the Authority to enact County-wide ordinances and implement County-wide diversion programs to meet State requirements.

*Authority's Mandatory Recycling Ordinance* –The goal of the ordinance is to respond to the member agencies' stated goals to landfill no more than 10% by weight of all readily recyclable and compostable materials originating in Alameda County by 2020. The Authority's ordinance goes beyond the State's Mandatory Commercial Recycling Law<sup>2</sup> in that it specifies which materials are targeted for collection and includes inspection and enforcement provisions.

The first phase of the ordinance was approved by Council on February 28, 2012 and became effective July 1, 2012. Phase 1 requires businesses with four cubic yards or more of weekly garbage collection service (typically larger businesses) and all multi-family property owners to arrange for recycling services. Recyclables targeted for collection include a variety of paper types, and food and beverage containers made of glass, metal and plastic. Most of the municipalities in the County participate in this phase. The second phase will be effective July 1, 2014, although Hayward has the opportunity to opt out of or request postponement of its participation in Phase 2 of the ordinance. Phase 2 requires that all businesses, regardless of their garbage service level, and multi-family owners arrange for recycling services. Materials required for collection include the above-listed recyclables, as well as food and compostable paper. Inspections and enforcement are performed by the Authority's agents or staff from participating municipalities. Any member agency that chooses to opt-out of Phase 2 must provide a resolution of its governing body to the Authority by January 1, 2014.

*Business Recycling Services* – The City's current contract with WMAC includes collection of all of the targeted materials listed above; services are available at no additional cost because the charge for the service is already included in the garbage rate. Businesses may also implement collection of organics, which is available at half the price of regular garbage service. Some of the businesses that participate in both services include large food processors such as Clarmil Manufacturing, Discovery Foods, Harvest Foods, and Pioneer Hi-Bred International; the administrative offices of Fremont Bank where about 650 staff are employed; research facilities such as Baxter Biotech; educational institutions such as Life Chiropractic College; and restaurants, such as Applebee's.

City staff estimates that, based on WMAC's records, about 78% of the businesses subject to Phase 1 of the ordinance subscribe to mixed recyclables collection provided by WMAC. Assistance implementing recycling services is provided by WMAC, the Authority and City staff. Other City assistance includes providing plastic indoor containers for temporary storage of recyclables and organics, as well as labels for the containers and posters for reference by employees and patrons. The labels and posters are printed in Spanish, Chinese and English.

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<sup>2</sup> Key Elements of California's Mandatory Commercial Recycling Law: <http://www.calrecycle.ca.gov/Recycle/Commercial/>

Authority staff began conducting inspections of businesses subject to Phase 1 in the City of Hayward in spring 2013. To date, 86 notices have been issued to Hayward businesses indicating how each is required to improve collection of targeted recyclables; additional inspections are anticipated throughout the summer. Assistance to these businesses to improve their recycling program, including, for example, additional copies of informational literature and presentations to staff, is planned for completion in June. Each business receiving a notice typically has about 120 to 160 days to improve their program. Any business still out of compliance during a second inspection will be issued a warning notice. Thereafter, a third inspection will be scheduled and a citation, including fees, may be issued for non-compliance. Citations may only be issued by the Authority with written approval by staff from participating municipalities. The Authority will assume costs for its consultant to assist businesses to improve their recycling programs, conduct inspections and assist with enforcement.

*Multi-Family Recycling Services* – The City’s contract with WMAC provides collection of recyclables for multi-family developments at no additional charge. WMAC’s subcontractor, Tri-CED Community Recycling, offers weekly collection of the recyclables listed previously. City staff offers plastic recycling containers for indoor storage of recyclables and a brochure, printed in Spanish, Vietnamese, Chinese and English. Collection of discarded food and compostable paper is not offered under the City’s current contract with WMAC.

By the end of June, all of the nearly 500 multi-family developments will have implemented recycling services, as required by Phase 1 of the ordinance. Participation has increased from an initial 55% in 2011. To date, seven notices have been issued to multi-family property managers; additional inspections are anticipated throughout the summer. Assistance to the property managers for these multi-family developments is planned for completion in June. The Authority will conduct inspections of multi-family developments and issue warning notices if no or insufficient recycling services are provided. Property owners or managers will not be cited for targeted materials in the garbage or vice versa, as long as the owner or property manager has arranged for adequate levels of recycling service and provided residents with information on how to use the service, in accordance with the ordinance. Multi-family property owners will not be cited because it would be very difficult to ascertain which residents should be assessed fines for not separating their trash from recyclables, as required by the ordinance.

*Phase 2 Implementation Considerations* – Phase 2 expands the scope of the ordinance to include multi-family properties and all businesses and requires the collection of recyclables, food and compostable paper. City staff estimates that about 22% (155) of the businesses with more than four cubic yards of weekly trash service would need to subscribe to collection of recyclables, organics or both. In addition, about 37% (660) smaller businesses with less than four cubic yards of weekly trash service will need to implement one or both services.

To comply with Phase 2, the City’s solid waste franchise will need to be revised to include collection of discarded food and compostable paper from multi-family developments. The mandatory recycling ordinance allows for additional time to achieve compliance with the ordinance. Later this year, City staff intends to request Council approval to postpone the City’s participation in Phase 2 of the ordinance until negotiations for all new services are completed. Such postponement would require that a schedule for implementation be approved by Authority staff. When negotiations are completed and the costs of participating in Phase 2 are known, City

staff will request the Committee and Council to consider the City's participation in Phase 2 of the ordinance.

The City's contract with WMAC will expire on May 31, 2014; however, the City has the option to extend the term up to three years in periods of twelve months each. To initiate preparation of the City's next solid waste collection and disposal contract, City staff will seek Council direction to negotiate a new contract with WMAC or issue a request for proposals for a new contract. The City Council is scheduled to consider this issue in early July. If the Council directs staff to negotiate a new contract with WMAC, staff estimates that the Phase 2 service requirements may be able to be implemented by July 1, 2014. If Council directs staff to issue a request for proposals, additional time will be needed to complete execution of a new contract. To accommodate the additional time required to issue a request for proposals and execute a new contract, City staff would need to issue a letter by November 29, 2013 informing WMAC of the City's extension of the current contract.

### **ECONOMIC IMPACT**

Currently, collection of recyclables is available at no additional charge because the charge for that service is already included in the garbage rate. Businesses may also implement collection of organics at half the price of regular garbage service. These subsidies have allowed some restaurants and markets to realize a reduction in their total garbage bill of 30% to 40% after implementing mixed recyclables and organics collection. These estimates include a number of medium-size restaurants, such as Applebee's and retail supermarkets, such as Chavez Supermarket. Food processors, including Clarmil Manufacturing, Harvest Foods, and Pioneer Hi-Bred International have each reduced their garbage bill by about 37% to 48%.

As noted above, multi-family developments are also provided collection of recyclables at no additional charge. Typically, multi-family developments in Hayward subscribe to a three- or four-cubic yard bin for garbage collection serviced one or more times each week; monthly rates start at \$300 for a three-cubic-yard bin. It has been difficult for multi-family developments to maintain consistently high rates of participation because the education process begins anew each time a new tenant moves into a unit. Each new tenant needs to be informed of the recycling services by the property manager or staff from Tri-CED Community Recycling. Staff from member agencies has confirmed their similar experiences.

The subsidies to businesses and multi-family developments were included in the current contract to provide financial incentives to implement collection of recyclables, food scraps and compostable paper. If the City Council determines that the current cost structure should be retained, the impact on the new rates would be minimal. If the Council decides to revise the cost structure, then there may be a cost impact to businesses and multi-family developments in that a fee for recycling services could be implemented and rates for organics collection could increase. Recommendations by staff would be made following evaluation of a cost proposal by the service provider.

### **FISCAL IMPACT**

In Alameda County, funds to support implementation of recycling services for residents and businesses are generated based on a per-ton fee assessed on waste disposed in landfills in

Alameda County. The Measure D fee was approved by voters in 1990. The Authority collects the revenue, allocates each municipality's per-capita share, and disburses the funds on a quarterly basis. As with the other member agencies, the City uses the funds to pay the City's direct expenses to support the recycling services offered under the City's contract with its franchisee and the mandatory recycling ordinance. The Authority has established requirements by which member agencies may continue to receive Measure D funds, and which are linked to compliance with the mandatory recycling ordinance. The Authority's Executive Director has confirmed that the City would continue to receive Measure D funds during any postponement of its participation in Phase 2 of the ordinance while staff completes negotiations for a new contract. The City will continue to receive its full allocation of Measure D funds even if some businesses are issued fines for non-compliance with the ordinance.

The City's Solid Waste Program staff will continue to work with the Authority to coordinate implementation and enforcement of the mandatory recycling ordinance. The City's costs, including staff time to provide technical assistance and outreach to businesses and multi-family managers and owners, to purchase the indoor containers, and to print labels and posters, are separate from the Authority's costs. Measure D monies will be used to fund these activities and there will be no impact to the General Fund. Currently, there is sufficient Measure D revenue to pay expenses to continue encouraging compliance with the ordinance.

## **PUBLIC CONTACT**

Over the past 18 months, City staff has mailed five letters to each multi-family property manager and owner who had not arranged for recycling service in order to encourage their participation. Tri-CED or City staff has also contacted each non-participating manager to answer questions and offer to convene meetings with tenants, and to distribute literature and indoor containers, on request. Tri-CED has conducted waste assessments and reviewed service issues with City staff, as needed.

In addition, City staff has mailed letters offering assistance to improve participation in the recycling services for 128 developments where Tri-CED has confirmed low participation levels. By the end of September, Tri-CED and City staff anticipates having completed assistance to those developments.

All informational literature for businesses, including flyers inserted in garbage bills promoting the recycling services are printed in Spanish, Chinese and English. Over the past 18 months, City staff has mailed five letters describing the services available to non-participating businesses subject to Phase 1. During the same time period, staff from WMAC, the Authority's consultant and the City has phoned non-participating businesses to offer assistance by scheduling waste assessments and training sessions with employees, as well as distributing literature and indoor containers, on request. City staff will continue to mail letters to non-participating businesses subject to Phase 1 and include informational materials in WMAC's monthly bills.

Literature promoting recycling services to single- and multi-family residents and businesses has been provided to attendees at the following public events in 2013: the Cinco de Mayo Festival, the Asian American Heritage Festival, the Hayward Executive Airport Open House, and the Community Engagement Open House.

When contract negotiations related to the City's waste franchise are completed, preparations for Phase 2 implementation will include publishing notices in the *Daily Review* advising multi-family property owners and businesses regarding consideration by the Committee and Council to consider the City's participation in Phase 2 of the ordinance. Also planned are letters to multi-family property owners and businesses summarizing Phase 2 requirements. Staff will continue to coordinate outreach efforts with the Chamber of Commerce and the Latino Business Roundtable. Staff will also include information on the City's website.

**NEXT STEPS**

City staff will continue to offer assistance to property managers of multi-family developments and affected businesses that have not yet implemented mixed recyclables collection, as required under Phase 1 of the ordinance. Staff will also continue to coordinate outreach efforts with the Rental Housing Owners Association and the Hayward Chamber of Commerce. Staff will prepare a report to the City Council later in 2013 seeking direction regarding the City's participation in Phase 2 of the Authority's mandatory recycling ordinance.

*Prepared by:* Vera Dahle-Lacaze, Solid Waste Manager

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

Approved by:



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Fran David, City Manager

**DATE:** July 10, 2013  
**TO:** City Council Sustainability Committee  
**FROM:** Director of Public Works – Utilities & Environment Services  
**SUBJECT:** Overview of City Participation in Earth Day Events

### **RECOMMENDATION**

That the Committee reviews and comments on this report.

### **SUMMARY**

Utilities and Environmental Services staff participated in a variety of Earth Day activities to promote the City’s sustainable practices and programs. The events and activities are described below.

### **BACKGROUND**

The first Earth Day, observed across the country on April 22, 1970, began with a growing public concern about environmental issues. The product of local grassroots action to increase environmental awareness, Earth Day was proposed by Wisconsin Senator Gaylord Nelson in September of 1969. Nelson envisioned a national “teach-in” on the environment, insisting the first Earth Day activities be created not by organizers in Washington, but rather by individuals and groups in their own communities. As a result, 1 in 10 Americans participated in the first Earth Day, drawing extensive attention from the media and jump-starting an era of bold environmental legislation. Earth Day has remained an important way to raise awareness of local environmental issues each year.

The City of Hayward Utilities and Environmental Services staff participated in various events celebrating Earth Day throughout the week of April 22, 2013.

### **DISCUSSION**

#### *Earth Day Clean-Up Event*

Approximately 300 people attended the City’s annual Earth Day Clean-Up Event at Weekes Park on April 20, 2013. In coordination with the Keep Hayward Clean and Green Task Force, which

hosts monthly clean up events year-round, staff coordinated with the Maintenance Services Department to host a City-wide cleanup. Volunteers registered at the Weekes Parks Community Center lawn and picked up supplies to aid them in their activities (gloves, grabbers, trash bags, etc.). Volunteers were then able to choose the neighborhood they wanted to cleanup or were given suggestions by staff. After filling a trash bag, volunteers were directed to leave their bags at specific corners so that Maintenance Services staff could pick up the trash and ensure proper disposal. City staff hosted a free barbeque lunch for all who participated and gave away Earth Day T-shirts and reusable bags. The event provided an excellent opportunity to teach volunteers about proper waste management, as bins for waste, recycling, and compostable goods were provided with clear signage indicating what should be put in each bin.

### *Earth Day Rotunda Display*

In coordination with other City departments, an Earth Day display was erected in the rotunda of City Hall where visitors could view information about recycling services, stormwater pollution prevention, green building, water efficient landscaping, and more. The display remained in the rotunda from April 22 through April 26.

### *California State University East Bay*

Staff also attended California State University East Bay's Earth Day Festival on April 22, 2013. The format of the event included a gathering outside of the University Union where campus sustainability groups aimed to raise awareness about Earth Day and environmentally friendly practices that can be incorporated into everyday life. The University contacted City staff in advance of the event to solicit participation, acknowledging that many students who attend the University are also residents of Hayward. It was beneficial for representatives from the City to attend and speak with students about utility services, including water conservation, recycling, and energy efficiency.

### *Chabot College – Return of the Swallows Festival*

Similarly, staff was also able to attend the "Return of the Swallows" Festival at Chabot College on April 23, 2013. This event is held on or around Earth Day each year and celebrates the return of the Swallow bird to Chabot College from their migration from South America. City staff was also able to engage students and faculty with information about local utilities and environmental programs at this event.

### *Bring Your Child to Work Day*

The Earth Day Rotunda display in City Hall provided a fitting backdrop to the "Bring Your Child to Work" presentation on April 25, 2013 where sustainability was among the topics discussed by City leaders. Approximately thirty-five children were in attendance at this event, along with their parents, and were able to enjoy the display before and after the presentation. Utilities and Environmental Services staff were available to answer any questions the children had and engaged them with a recycling sorting game and clean water activity books.

## **ECONOMIC IMPACT**

Each Earth Day event was aimed at raising environmental awareness. As awareness increases, residents and business owners within Hayward may benefit from a cleaner City appearance as well as economic savings from implementing various energy and water conservation measures. Residents were also given an opportunity to learn more about City programs being offered in the fields of recycling, stormwater pollution prevention, and water conservation.

## **FISCAL IMPACT**

Each event was attended by multiple City staff, so the predominant fiscal impact is related to staff time.

## **NEXT STEPS**

Utilities and Environmental Services staff will continue to promote environmental awareness throughout the year.

*Prepared by:* Corinne Ferreyra, Administrative Analyst I

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

Approved by:



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Fran David, City Manager

### Suggested Sustainability Committee Quarterly Meeting Topics for 2013

Presenting Department	Date	Topics	Climate Action Plan Action Number (Priorities are per Appendix D in the Climate Action Plan)
DS	April 2013	Recommendation to Utilize the State Building Code to Comply with Hayward's Climate Action Plan	4.1 (9), 4.2 (7), 5.3 (8)
DS		Sustainability Policies in the 2040 General Plan	NA
U&ES/Finance		Annual Update on Administrative Rule 3.9—Environmentally Preferred Purchasing Policy	NA
U&ES		Update on City Wide Water Conservation Efforts	
U&ES		Annual Update on City's Waste Reduction and Recycling Programs	6.2 (13)
U&ES	July 2013	Update on Renewable Energy Generation at City Facilities	
U&ES		Consideration of New Priorities for CAP actions in General Plan	NA
U&ES		Overview of Pay As You Save (PAYS) Pilot Program	
U&ES		Overview of City's Participation in Earth Day Events	
U&ES		Mandatory Recycling Ordinance: Evaluation of Phases 1 & 2	
U&ES		Meeting Topics for 2013/2014	
DS	October 2013	Draft Sustainability Policies and Implementation Actions for General Plan Update	1.4 (16), 1.6 (24), 1.7 (13)
U&ES		Direction from CSC Regarding Opting into Phase II of the Countywide Recycling Ordinance	NA
Library		Update on City's Efforts Related to Local Food Production	NA
DS/E&T		Update on City's Efforts to Assist Businesses in Providing Commuter Benefits Programs	1.1 (21)
U&ES		Priorities for Green (Safe, Clean & Green) (No longer needed)	
U&ES		Discussion of Agenda Topics for 2014	
U&ES		Update on City-Wide Energy Use	
U&ES		Annual Update on Proposed Statewide Legislation	

U&ES/Finance	January 2014	Environmentally Preferred Purchasing Policy Annual Report	NA
U&ES		Update on PACE programs	

\*Municipal Actions Priority per Appendix D in the Climate Action Plan.

### Unscheduled Meeting Topics for 2013-2014

1. Providing incentives to encourage businesses to install solar panels
2. Update on Financing for Energy Efficiency and Renewable Energy
3. ~~Update on City-wide Energy use Benchmarking Tool~~ (Scheduled with new title in October)
4. Update on education and outreach to our schools (July 2014)
5. Update on CECO (Commercial Energy Conservation Ordinance) outreach
6. Update on the Building Asset Rating Pilot Study with StopWaste.org

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