CITY OF
HAYWARD
HEART OF THE BAY

CITY COUNCIL SUSTAINABILITY COMMITTEE MEETING

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

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

May 4, 2011
4:30 p.m. – 6:30 p.m.

A G E N D A

I. Call to Order

II. Roll Call

III. Public Comments: *(Note: All public comments are limited to this time period on the agenda. For matters not listed on the agenda, the Committee welcomes public comments under this section, but is prohibited by State Law from discussing items not listed on the agenda. Items not listed on the agenda brought up under this section will be taken under consideration and may be referred to staff for follow-up as appropriate. Speakers will be limited to 5 minutes each; organizations represented by more than one speaker are limited to 5 minutes per organization.)*

IV. Approval of Minutes of April 6, 2011

V. Green Building - Requirements for Renewable Energy and Parking
Marc McDonald, Sustainability Coordinator

VI. Summary of Last Climate Action Management Team Meeting

VII. General Announcements and Information Items from Staff

VIII. Committee Referrals and Announcements

IX. Next Meeting: Wednesday, June 1, 2011
Transportation Demand Management (TDM) Programs/Strategies
Commercial Energy Conservation Ordinance (CECO)
Local Food Production/Healthy Eating
Update on Education/Outreach Efforts

X. Adjournment

Assistance will be provided to those requiring accommodations for disabilities in compliance with the Americans with Disabilities Act of 1990. Please request the accommodation at least 48 hours in advance of the meeting by contacting Katy Ramirez at (510) 583-4234 or by calling the TDD line for those with speech and hearing disabilities at (510) 247-3340.

CITY COUNCIL SUSTAINABILITY COMMITTEE MEETING
Hayward City Hall – Council Chambers
777 B Street, Hayward, CA 94541-5007

April 6, 2011
4:30 p.m.

MEETING MINUTES

I. Call to Order – Meeting called to order at 4:35 p.m. by Mayor Sweeney.

II. Roll Call

Members:

- Michael Sweeney, Mayor
- Olden Henson, Council Member
- Bill Quirk, Council Member
- Dianne McDermott, Planning Commissioner
- Sara Lamnin, Planning Commissioner
- Al Mendall, Planning Commissioner (Absent)
- Doug Grandt, Keep Hayward Clean and Green Task Force (Absent)

Staff:

- Kelly Morariu, Assistant City Manager
- David Rizk, Development Services Director
- Erik Pearson, Senior Planner
- Marc McDonald, Sustainability Coordinator
- Bob Bauman, Public Works Director
- Alex Ameri, Deputy Director of Public Works
- Marilyn Mosher, Administrative Analyst III
- Vera Dahle-Lacaze, Solid Waste Manager
- Katy Ramirez, Administrative Secretary (recorder)

Others:

- Simon Wong, Government Editor, Tri-City Voice Newspaper
- David Stark, Public Affairs Director, Bay East Association of Realtors

III. Public Comments

Sara Lamnin, Planning Commissioner, said that she appreciates the fact that the Committee will be going paperless.

IV. Approval of Minutes of March 2, 2011 - minutes approved with revisions from Bill Quirk, Council Member, and Dianne McDermott, Planning Commissioner.

V. Senate Bill 7 – Water Conservation

Marilyn Mosher, Administrative Analyst III, provided a PowerPoint presentation and overview of the staff report, which includes background and specifics about the bill, calculations of the City's water use target and minimum use water target, possible strategies for compliance with SB7, and the next steps in the process.

Following the presentation, there were questions and discussion amongst staff and the Committee. Some of the items discussed were methods for calculating water use targets; Hayward's low per capita use; strategies for accomplishing goals; water grants; recycled water; and water use for agriculture.

Olden Henson, Council Member, asked staff if there was a breakdown of water usage per day in Hayward (i.e., what percentage goes towards lawns, etc.), and noted that this information could be used to determine future strategies. Mr. Ameri said that they have water use data for winter and summer usage, which can be used to calculate the difference between the indoor and outdoor use, and that staff will provide him with the requested calculations. Mr. Ameri noted that on average, the single-family home uses approximately 210 gallons of water per day.

Sara Lamnin, Planning Commissioner, suggested that in addition to residential customers, we work with high water using organizations, such as California State University, in a targeted fashion. She noted that this would be helpful and productive, and it seems like a good opportunity to tie in these organizations and non-profits communities. Ms. Lamnin said that the next meeting of the South Hayward Neighborhood Collaborative is on May 5 and invited staff to be placed on the agenda to talk about community strategies and next steps.

Mayor Sweeney indicated that historically, Hayward has done a good job with conserving. He said that we should keep in mind that Hayward is moving towards more pedestrian-oriented neighborhoods, which means smaller lawns and landscaped areas, and we have a great contract regarding Hetch Hetchy water. Mayor Sweeney said that we should not be bashful about pushing back, in terms of the agricultural and rural areas of the state doing their fair share, which they clearly are not, and that we need to be aggressive in that regard. Mayor Sweeney said that Council Member Quirk does a good job on BAWSCA and encouraged him to continue to be aggressive and assertive.

Mr. Quirk thanked Ms. Mosher and complimented her on a great presentation.

VI. Update on Food Scraps Programs

Vera Dahle-Lacaze, Solid Waste Manager, provided a PowerPoint presentation and summary of the staff report, which outlined residential and commercial participation levels; staff's efforts to increase participation and diversion; progress toward achieving goals of the Climate Action Plan, including reducing GHG emissions, increasing

program participation by businesses and residents, and implementing organics collection at City offices.

There was brief discussion and questions amongst the Committee and staff such as the recycling plan for multi-family complexes and commercial participation.

Council Member Henson thanked staff for the outreach that has been done, and Mayor Sweeney thanked staff for a good presentation.

VII. Annual Review of Climate Action Plan Implementation and Priorities; Emissions Inventory Update

David Rizk, Development Services Director, said that this is the first of what he hopes to be annual updates to the Sustainability Committee and City Council to make them aware of the progress in terms of the major policy section of the Climate Action Plan. Mr. Rizk said that the first update for the emissions inventory has been a big challenge and Marc McDonald, Sustainability Coordinator, will present an overview of those challenges. Mr. Rizk noted that the municipal emissions information is not included with this report; however, the information will be provided to the Sustainability Committee, City Council, and Planning Commission for the joint Work Session on April 19.

Mayor Sweeney noted that the Committee appreciates the approach taken by staff for an annual update to the Sustainability Committee and City Council, and thanked Mr. Rizk.

Erik Pearson, Senior Planner, said that City Council adopted the Climate Action Plan in July 2009, which includes greenhouse gas reduction goals for 2020 and 2050 and a list of actions for reaching those goals. Mr. Pearson provided a brief overview of the first part of the PowerPoint presentation, which includes information about the Climate Action Plan implementation, schedules, and community and municipal actions. Mr. Pearson said that, basically, the City is on schedule as outlined in the Climate Action Plan.

Marc McDonald, Sustainability Coordinator, continued with the second part of the PowerPoint presentation and provided the following summary:

It is a pleasure to report that at this initial stage of taking action on climate matters, both the City and municipal government have decreased their consumption of energy. Unfortunately, this good news is offset by the bad news that CO2e production did not change for the City, and did increase for City government.

However, these apparent anomalies are the product of technical changes in the method of calculating GhG emissions and not the result of the efforts of the City and its government employees.

The essence of the technical change lays in the fact that PG&E's primary source for energy production is hydropower, a "0" emitter of GHG. Between 2005 and 2009, drought conditions forced PG&E to purchase high carbon content energy from out of state. The result was an increase in the amount of carbon attributable to each watt of electricity consumed in California between 2005 and 2009. Its effect on Hayward was an increase in CO2e emissions, despite the success of the City in reducing its energy consumption.

As we noted above, Community energy consumption decreased 1% from 2005 to 2009, while GHG production remained flat. This is an improvement over initial CAP projections of increases in all sectors (Transportation (1.51%), Residential Sector (0.61%), Commercial/Industrial Sector (1.25%) and Waste (0.61%).

There was a substantial decrease in energy consumption in the commercial/industrial sector. PG&E looked into this decrease and did not attribute it to a slowdown in business because they recorded an increase in the number of non-residential service agreements with PG&E between 2005 and 2009. On the other hand they saw an average of a 15% decrease in electricity consumption in all commercial areas (Offices, Manufacturing and Transportation, Offices, Retail and High Tech, Food Processing, Hospitality and Schools), except Food Processing. PG&E attributes this decline to the success of their energy efficiency programs in both effectiveness and penetration into the market.

Municipal Emissions and Energy showed a substantial decline in Energy consumed (13%), but due to the heavy weighting of PG&E provided electrical energy in the calculation of Municipal CO2e production, there was an increase of 2% in the CO2e on the municipal side.

We will provide a review of the Municipal production at the April 19, City Council meeting.

Transportation was by far the greatest contributor to energy consumption in the City of Hayward, with local roads producing 294 thousand tonnes of CO2e or 25% of the City's total CO2e and State Highways producing an additional 446 thousand tons or 38% of the City's total CO2e production.

What does this mean? It means the clearly, transportation, in the form of gasoline and diesel production are the biggest contributors to the City's CO2e production, about 56%.

However, there is a bright side to this. The projection for transportation growth was projected to be 1.51%. However, the actual growth was about 1%. In large part, this was attributable to a less than projected increase in the number of gallons of diesel consumed on City streets and a large decrease in consumption of diesel on State Highways.

Finally, we can take a quick look at the change in the allocation of CO2e production.

Community-wide, the greatest change was in Waste, which showed a decrease of over 30 thousand tons in GHG production. In her review of these figures, Vera Dahle-Lacaze noted the great success of Waste Management and the City in diverting materials to recycling instead of landfill.

Mr. McDonald said that this concluded his presentation and asked the Committee for questions.

There being no questions from the Committee, Mayor Sweeney indicated to the Committee that they will still have an opportunity to bring their questions to the April 19 Joint Work Session.

VIII. Summary of Last Climate Action Management Team Meeting

Mr. Pearson said that staff presented the Communications Plan to the Climate Action Management Team (CAMT) that was prepared by the City's consultant, *Circle Point*, last summer. He said they talked about the need for a common branding of the climate action education programs in Hayward. Mr. Pearson said that one of the ideas is similar to the Climate Action Plan logo, which shows combining the globe with the Keep Hayward Clean and Green Task Force phrase. He said the Team is working on putting together a logo and phrase and will share it with the Keep Hayward Clean and Green Task Force and get their thoughts. Mr. Pearson said that a representative from Engage 360, which is a State program supported by the California Public Utilities Commission that was rebranded from what use to be Flex-Your-Power, was in attendance at the March CAMT meeting,. Mr. Pearson said that Engage 360 distributes "commitment cards" to people in an effort to motivate them to do certain energy conservation measures in their homes. He said Engage 360 will be opening an office in Hayward and generating jobs, and City staff will be working with this organization.

Mr. McDonald said that only two members of the Committee were in attendance at the last CAMT meeting on March16. He said that we are heading into probably the most critical aspect of this specific task, being implementation of the Communications Plan, and this is a real opportunity for the City and the CAMT to engage the community. Mr. McDonald indicated that a lot of the success from this kind of campaign is associated with networking and the CAMT is made up of many representatives of the community, and that participation was important. He said that he is willing to work with setting a different time for the CAMT meetings or do whatever necessary to ensure participation. Mr. Rizk said that staff would think of some specific tasks and suggest them to the CAMT members in order to utilize their enthusiasm, expertise and knowledge.

Mayor Sweeney asked David Stark, Public Affairs Director, Bay East Association of Realtors, if he has any comments about the CAMT meeting. Mr. Stark indicated that he has attended every CAMT meeting thus far. He said that the CAMT has a mission

statement that does not really provide direction. Mr. Stark said that he understands the role of the Team; however, the 20 or so other folks have lost their ability to understand the purpose of the meetings and there may a perception that may simply need to be addressed. Mr. Stark indicated that if we are trying to increase participating from the community, then having the meeting at 7:00 pm is the way to go; however, if you are trying to attract the business community, then 7:00 pm might not be a good time. Mr. Stark said that if we come up with specific tasks that can be handled by the Team outside of the meeting or have a volunteer research, then that might generate more interest.

IX. General Announcements and Information Items from Staff

Mr. Rizk said that Stopwaste.Org just issued a Notice of Preparation for preparing an Environmental Impact Report for two ordinances; one is the Mandatory Recycling Ordinance, and the other is an ordinance that would prohibit the use of single bags. Mr. Rizk said he would anticipate that Stopwaste.Org will be developing that EIR related to these ordinances within the next couple of months.

X. Committee Referrals and Announcements

Planning Commissioner Sara Lamnin said that the South Hayward Community Festival will be held on May 1, 2011, and that although she did't remember the exact count, she knows there will be at least 50 different community booths. She said that Sulphur Creek and David Korth from the City are participating, and the winner of the battle of the bands from last year will be in attendance. Commissioner Lamnin said this is a great opportunity to let the community know about the rebate programs, networking, etc., and that it will be a great event.

XI. Next Meeting: Wednesday, May 4, 2011
Environmentally Preferred Purchasing
Green Building - Requirements for Commercial Buildings, Parking Requirements, and Solar Requirements

V. Adjournment: Meeting adjourned at 6:17 p.m.

CITY OF
HAYWARD
HEART OF THE BAY

DATE: May 4, 2011

TO: Mayor and City Council Sustainability Committee

FROM: Development Services Director

SUBJECT: Update on Green Building Requirements, Including Renewable Energy Requirements

RECOMMENDATION

That the Committee reads and comments on this report.

BACKGROUND

The City Council adopted the Hayward Climate Action Plan (CAP) on July 28, 2009. The CAP includes goals to reduce greenhouse gas emissions by 12.5 percent below 2005 levels by 2020 and by 82.5 percent below 2005 levels by 2050.

Strategy 4 – Strategy 4 of the CAP recommends that the City minimize greenhouse gas emissions associated with energy consumed in new buildings by setting minimum energy and environmental performance standards for all newly-constructed buildings. On January 1, 2011, Chapter 5, Nonresidential Mandatory Measures, of the California Green Building Standards Code (Attachment I) became effective. Division 5.1 of these measures included requirements regarding bicycle parking, designated parking for clean air vehicles, and light pollution reduction. The CAP estimates implementation of green building ordinance measures for commercial buildings (Action 4.2) will result in annual emissions savings of approximately 4,493 metric tons of CO2e/year in 2020 and 77,925 metric tons in 2050. While the Code standards are effective and must be enforced by the City, the actions recommended to more-fully implement Action 4.2 are detailed below.

Bicycle Parking – Section 5.106.4 of the California Green Building Standards Code requires that new projects anticipated to generate visitor traffic provide permanent bicycle racks, for short-term parking, within 100 feet of a visitors' entrance with capacity equal to 5% of the motorized parking capacity. Buildings with over ten tenants must provide secure, long-term bicycle parking, also with capacity equal to 5% of the motorized parking.

Currently, the City's Off-Street Parking Regulations (Chapter 10, Article 2 of the Municipal Code – Attachment II) require bicycle parking only when a project is required to provide more than 50 motorized parking spaces; however, a minimum number of bicycle parking spaces is not

stated. The Parking Regulations do provide standards for applying credits for bicycle parking against the number of motorized parking spaces. One motorized parking space may be eliminated for every four bicycle spaces provided; credits may not eliminate more than 5% of the number of total required parking spaces.

Designated Parking for Clean Air Vehicles – Section 5.106.5.2 of the California Green Building Standards Code requires that new projects provide designated for low-emitting, fuel-efficient and carpool/vanpool vehicles. Currently, the City's Off-Street Parking Regulations (Chapter 10, Article 2 of the Municipal Code) do not provide for this type of parking.

Light Pollution Reduction – Section 5.106.8 of the California Green Building Standards Code requires that new projects comply with lighting power requirements of the California Energy Code and that there be zero direct-beam illumination leaving the building site. Exterior luminaires must be shielded and no more than .01 foot-candle may escape 15 feet beyond the site boundary. Exterior lighting must be automatically controlled to turn off or lower light levels during inactive periods.

Currently, the City's Security Standards Ordinance (No. 90-26 C.S.) require that parking lots, providing more than 10 required parking spaces be illuminated with a minimum of one foot-candle of light at the surface during hours of darkness, and that no light be reflected away from any building that may inhibit visibility; parking lot lighting may be reduced to .25 foot-candle when the business is closed, but this reduction is not required.

Strategy 5 - Strategy 5 of the CAP, related to use of renewable energy, recommends that the City increase the portion of renewable electricity consumed in the City to 33 percent by 2020 and 100 percent by 2050[1]. The CAP estimates that implementation of Strategy 5 recommendations will result in annual emissions savings of approximately 14,598 metric tonnes of CO2e/year in 2020 and 80,409 metric tonnes CO2e/year in 2050. The CAP further estimates that emissions savings will contribute 9.4 percent of the emissions reductions need to meet the 2020 target and 7.5 percent of the emissions reductions needed to meet the 2050 target.

DISCUSSION

Staff has prepared this report to provide the Committee an update on actions taken by the City to implement actions recommended by Strategies 4 and 5 of the CAP and to review opportunities to further the objectives of those strategies.

Action 4.2 – Although the California Green Building Standards Code became effective on January 1, 2011, and the standards described above became mandatory, implementation of these standards would become more-fully realized with amendments to the Off-Street Parking Regulations, the Security Standards Ordinance, and the Zoning Ordinance to bring them into consistency with the Building standards Code.

[1] *City of Hayward Climate Action Plan page 168*

Action 5.1- ***Develop a program for the financing and installation of renewable energy systems on residential buildings including single and multiple family residential buildings and mobile homes.***

Property Assessed Clean Energy (PACE) programs were developed to encourage home owners to make energy upgrade improvements to their homes by reducing the burden of the high initial investment for the systems. PACE is a form of municipal financing that allows property owners to finance the installation of energy efficiency, water conservation, and renewable energy improvements to their homes and to pay back the cost back as a line item on their property tax bill.

On January 5, 2010, the City Council took action to implement Action 5.1 with its decision to participate in a Property Assessed Clean Energy (PACE) financing program through CaliforniaFirst, a State Energy Program funded financing program[2].

In June of 2010, the Federal Housing Finance Administration (FHFA), Fannie Mae and Freddie Mac, the government entities that guarantee most residential mortgages in the United States, issued statements and guidance that questioned the validity of the seniority of a PACE property tax lien to the mortgage. On July 6, 2010, FHFA issued a statement expressing the opinion that PACE liens that are senior to the mortgage are in violation of the terms of the agency's standard mortgage contracts. In response to the FHFA statement, most residential PACE programs have been placed on hold, including the CaliforniaFirst program.

While other jurisdictions have placed their PACE programs on hold, the City of Santa Rosa has established a working PACE program. The program is administered by the Sonoma County Energy Independence Program (SCEIP), which is funded by Sonoma County.

In Fiscal Year 2010, approximately $20 million in bonds were purchased by the Sonoma County treasurer to help finance energy efficiency improvements and to support PACE. Additionally, the Sonoma County Water Agency has provided funding to support the program.

According to the Sonoma County Fiscal Year 2011 budget, SCEIP had received over 1,300 applications for $41 million in energy improvement finance with more than $31 million of the requests approved, and nearly $24 million disbursed to completed projects.

According to the Sonoma County Director of General Services, Jose Obregon, the County has filed suit against FHFA, Fannie Mae and Freddie Mac for their opposition to the PACE program. Mr. Obregon noted that Sonoma County's PACE program is receiving support from the California Energy Commission (CEC)[3] through a $3 million grant, which will be used by SCEIP to support the county's PACE program and to create a replicable model for other municipalities to begin a PACE program in that area.[4]

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[2] The City adopted a resolution to join the CaliforniaFirst PACE Program on January 5, 2010. http://www.hayward-ca.gov/citygov/meetings/cca/rp/2010/rp091410-11.pdf

[3] CEC Description of the SCEIP Program with Sonoma. http://www.energy.ca.gov/ab758/documents/ARRA-Programs/Res_PACE_Pilot/400-10-004_Exhibit%20A_Attachment%202_Residential_PACE_SOW.pdf

[4] Energy Upgrade Announcement at : http://www.sonomacountyenergy.org/article.php?title=sceip-awarded-3m-grant-2011-03-08

The City of Hayward is a strong supporter of efforts to provide residents access to innovative financing vehicles for renewable energy systems[5]. City staff will monitor ongoing efforts, including proposed federal legislation, to support the return of PACE as a viable financing alternative for renewable energy systems.

Additional alternative methods for financing renewable energy systems are described under Action 5.4 below.

Action 5.2 - ***Develop a program for the financing and installation of renewable energy systems on commercial buildings.***

According to the CAP, Strategy 5 implementation will contribute 7.5% of City GHG reductions toward the targeted reductions recommended by the CAP[6]. On the other hand, Strategy 3 implementation (Improve Energy Performance of Existing Buildings) will contribute 19.2% of City GHG reductions toward the targeted reductions recommend by the CAP[7].

Action 5.2 is estimated to yield the second greatest total CO2e reductions of all Strategy 5 Actions in 2050 (28,822 tonnes CO2e annual emissions reductions). Action 5.2, when combined with Action 3.3 – (Develop a Commercial Energy Conservation Ordinance (CECO) which would require improved energy efficiency and energy conservation in commercial buildings)[8] is estimated to yield a CO2e reduction of over130,000 tonnes in 2050.

Action Number	Description	Estimated Annual Emissions Reductions (metric tonnes CO2e)	
		2020	2050
Total (community -wide actions implemented and long-term Strategy goals achieved)			
Community-wide Actions			
Action 5.2	Develop a program for the financing and installation of renewable energy systems on commercial buildings.	10,768	28,822
Action 3.3	Develop a Commercial Energy Conservation Ordinance (CECO) which would require improved energy efficiency and energy conservation in commercial buildings.	5,164	105,152
Total Estimated Annual Emissions Reductions (metric tonnes CO2e)		**15,932**	**133,974**

[5] City Resolution in Support of PACE Program http://www.hayward-ca.gov/citygov/meetings/cca/rp/2010/rp091410-11.pdf
[6] CAP Page 144
[7] CAP Page 141
[8] CAP Page 173

The June and September meetings of the Committee will cover the topic of a Commercial Energy Conservation Ordinance. Leveraging the City of Hayward's resources to maximize the Actions described in Strategy 3 combined with Action 5.3 can have a significant impact on achieving the recommended goals of the CAP. At the same time, CECO can provide the City the opportunity to leverage the substantial footprint of industrial real estate facilities in Hayward to encourage private sector energy efficiency initiatives and private development of renewable energy systems on private property.

Action 5.3 – *Incorporate a renewable energy requirement into the Private Development Green Building Ordinance and the Residential and Commercial Energy Conservation Ordinances.*

Incorporate a renewable energy requirement into the City's Green Building Ordinance for Residential Projects - CAP Action 5.3 is addressed in the City's Green Building Ordinance for Private Developments, which requires new homes to be *Green Point Rated*, administered by the non-profit entity, *Built it Green*, or achieve green building standards per another rating system approved by the City's Building Official. To be *Green Point Rated*, a home must score at least 50 points on the new or existing homes Green Point Rated Checklist for single-family or multi-family homes.

Among the actions identified on the Checklist for new homes is the opportunity to earn up to 25 points (50% of total required points to achieve Green Points Rating) for offsetting energy consumption with renewable energy projects, including solar.

Residential additions or alterations of 500 square feet or more are affected by the GBO. Planning Staff estimates that permits for 16 residential additions or alterations affected by the GBO have been issued between January 2009 and April 2011. Currently the planning department does not have systems in place to track the exact number of residential alterations affected by the GBO, nor are they able to cross-reference renewable energy projects with residential additions or alteration projects. As a result, it is difficult to assess the economic impact of adding renewable energy requirements to the residential GBO.

By requiring all new homes built in Hayward to be Green Point Rated, the City has provided substantial incentives for builders to elect to incorporate the renewable energy alternative, including solar, into the project. While this can be considered partial compliance with CAP Action 5.3 to "require" renewable energy through the GBO, it can be considered the first incremental step toward requiring renewable energy in future projects.

Public opposition to staff developed Residential Energy Conservation proposals was based partially on the perceived burden that mandated energy efficiency upgrades would have on residents and home sales in Hayward.

It is likely that, similar to arguments against residential RECO, economic arguments would be raised against renewable energy requirements in spite of studies produced by Lawrence Berkeley National Laboratories that solar systems boost the resale value of homes[9].

In support of arguments in opposition to a renewable systems requirement, a homeowner who spends $1,200 per year on electricity could offset about 66% of bill by installing a 3,000 Watt photovoltaic system. The estimated cost for a 3,000 Watt PV System is approximately $30,000. After incentives of $1,050 from the California Solar Initiative and a Federal PV Tax Credit of $8,685, the net cost of the system is $20,265[10]. This is a major investment that many homeowners would defer.

The opportunity to mandate renewable energy systems in residential projects can be revisited as the cost of renewable energy systems and financing opportunities improve.

<u>Incorporate a renewable energy requirement into the City's Green Building Ordinance for Commercial Projects -</u> The City's Green Building Ordinance (GBO) for commercial buildings requires all tenant improvement projects or additions of 1,000 square feet or more in which at least half of the light fixtures are new or replaced to make one of the following improvements:

a. Reduce the light load for all fixtures in the remodeled space at least 15% below the requirements of the 2008 Building Energy Efficiency Standards (Title 24, Part 6) of the California Building Code; or
b. Comply with the requirements of Title 24 Part 6 and provide the greater of 1% or 1kw of the electrical power for the space from a renewable source, or
c. Demonstrate an overall energy budget reduction of at least 5% below the requirements of Title 24, Part 6 using the performance method.

These provisions allow the option to incorporate renewable energy, including solar, into the project. This can be considered partial compliance with the CAP Action 5.3 to "require" renewable energy through the GBO. However, this is the first incremental step in the direction of mandating renewable energy in all projects in the future.

The GBO states "All newly constructed commercial covered projects shall exceed the *2008 Building Energy Efficiency Standards (Title 24, Part 6) of the California Building Code* requirements by at least 15% using the performance method."

There is no renewable energy requirement for new commercial buildings in the GBO. According to Planning Department staff, permits for 468 commercial tenant improvement projects were issued between January 2009 and April 2011. None of the commercial tenant improvement projects included the option to provide the greater of 1 percent or 1kw of renewable energy in the project as satisfaction of the energy upgrade requirement. This indicates that building owners consider the

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[9] An Analysis of the Effects of Residential Photovoltaic Energy Systems on Home Sales Prices in California. http://eetd.lbl.gov/ea/ems/reports/lbnl-4476e.pdf

[10] Go Solar Estimator. http://www.consumerenergycenter.org/renewables/estimator/index.html

option to be not cost-effective at this time. The implication is that incorporation of a renewable energy requirement in the GBO may encounter objections from the commercial real estate community.

The opportunity to mandate renewable energy systems in commercial projects can be revisited as general acceptance of the value of renewable energy systems improves.

Incorporate a renewable energy requirement into the Residential and Commercial Energy Conservation Ordinances - The Sustainability Committee has recommended that action on a Residential Energy Conservation Ordinance (RECO) be deferred pending a county-wide review of RECO opportunities by StopWaste.org and interested communities, and to allow homeowners the opportunity to take advantage of rebates for energy efficiency installations. The Sustainability Committee is scheduled to review CAP recommendations to implement a Commercial Energy Conservation Ordinance (CECO) at the meetings of June 1 and September 7, 2011. Staff will address Action item 5.2 as a part of that CECO review and discussion.

Action 5.4 - ***Increase the renewable portion of utility electricity generation by advocating for increased state-wide renewable portfolio standards; and consider participation in community choice aggregation, or other means.***

Public Utilities Code Section 399.11 – 399.19, established in 2002 under Senate Bill 1078, requires investor-owned utilities (IOUs), like PG&E, to increase their procurement of renewable energy by an additional 1% of retail sales per year until 20 percent of their energy portfolio is achieved. On September 15, 2009, former Governor Schwarzenegger issued an Executive Order to establish a new goal of 33 percent renewable energy by 2020, and on April 12, 2011, Governor Jerry Brown signed legislation requiring California's utilities to get 33 percent of their electricity from renewable sources by the end of 2020.

As of March 2011, the IOUs reported receiving 17.19 percent of their energy from renewable energy sources in 2010. This represents a 2.5 percentage point increase from 2009[11]. The percentage increase in renewable energy sources for each of the investor owned utilities in 2010 compared to 2009 is:

- *PG&E:* 17.7%, a 3.6 percentage point increase
- *SCE:* 19.4%, a 2.6 percentage point increase
- *SDG&E:* 11.9%, a 1.7 percentage point increase

These increases are due to a number of factors: 1) new facilities that generate renewable energy became operational ; 2) small hydroelectric facilities generated more power in 2010 than in 2007, 2008, and 2009; and 3) utility customers used less power in 2010 than the prior three years, which allowed renewable energy procurement to account for a greater percentage of the energy delivered to customers.

[11] *CPUC Renewables Portfolio Standard Quarterly Report – 1st Quarter 2011.* http://www.cpuc.ca.gov/NR/rdonlyres/62B4B596-1CE1-47C9-AB53-2DEF1BF52770/0/Q12011RPSReporttotheLegislatureFINAL.pdf

A statewide requirement for utilities to increase the percentage of renewable energy in the mix of power they provide communities would not affect Hayward any differently than any other city in the State of California. The economic value of advocating an increase in the renewable portion of utility electricity is likely to have a minor or no economic impact on the City of Hayward.

Action 5.4 attributes "0" reductions to advocacy to increase the state-wide utility renewable portfolio standards. Staff encourages the Committee to reassess the value of Action 5.4 in supporting the City's efforts to increase its clean energy portfolio. On April 12, 2011, Governor Gerry Brown signed legislation requiring California's utilities to get 33 percent of their electricity from renewable sources by the end of 2020.[2] Implementation of this law will substantially support the City's efforts to achieve its 2020 goals. Continued strong emphasis on encouraging the State's utilities to increase their renewable portfolio will yield significant results not only for Hayward but for all California communities.

In light of the fact the utilities respond to directives from the State's political leaders to increase their renewable energy portfolio standards, ongoing advocacy from Hayward's City leaders should continue. Staff will work with the Sustainability Committee to advocate increased state-wide renewable portfolio standards.

Community Choice Aggregation - Community Choice Aggregation (CCA), as defined by AB 117, permits any city, county or city and county to aggregate the electric loads of residents, businesses, and municipal facilities to facilitate the purchase and sale of electrical energy. Under CCA, PG&E would continue to deliver electricity to Hayward through the PG&E transmission and distribution system and provide meter reading, billing, maintenance, and outage response services. A CCA could be formed by the City for the residents of Hayward for any purpose, such as increasing the percentage of renewable energy they get from their electricity provider.

Marin County is the first community in the state to establish Community Choice Aggregation through Marin Clean Energy (MCE). MCE procures electricity from renewable sources and partners with PG&E to deliver electricity to communities in Marin. MCE provides customers two options for clean renewable power. Customers are automatically signed up for the "Light Green" option which provides customers power that 25% green. The other option is "Deep Green." Customers who are willing to pay a little bit more can choose this option to get 100 percent of their energy from renewable sources.

The San Joaquin Power Authority is enrolling customers in the central valley for its Community Choice Aggregation program. Sonoma County is reviewing opportunities for CCA with the goal of accessing geothermal power and solar power in the community. San Francisco advocates are encouraging its Public Utilities Commission to review CCA opportunities with the goal of accessing power produced by its dams in the Sierras and through the development of renewable energy sources on property owned by the City and County of San Francisco.

[2] SF Gate April 13, 2011 : http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2011/04/12/BUA91IVBDL.DTL

Senator Mark Leno has introduced Senate Bill 790[12] to support the efforts of communities to form CCA's and to prevent utilities from taking action to undermine efforts of communities to form CCAs.

Staff will provide the Committee with an update and discussion on CCA in CY 2012.

Group Purchasing of Renewable Energy Systems – Municipal - An innovative energy choice alternative is under development through the non-profit Joint Venture Silicon Valley Network (JVSV). JVSV has established a solar energy purchasing group collaborative consisting of 24 communities in Silicon Valley, with 9 of those members moving forward with the procurement. The structure of the collaborative is to assemble solar sites from different municipalities into groups and to issue a collective RFP for the sites in the group. After receiving the RFP response, individual municipalities could negotiate aspects of the agreement to arrive at a customized project for each of their sites. The benefits of the program include the ability to share the services of the solar consultant, get a bundled price for services from the developer, collaboration between legal staffs of the municipalities and the consultant, and group discount prices on solar equipment.

Staff is reviewing the feasibility and desirability of participating in a similar program for Alameda County, and will report back to the Committee with its findings.

Group Purchasing of Renewable Energy Systems – Residents - Another inventive program to foster collective action to develop renewable energy project is being managed by the nonprofit Bay Area Climate Collaborative. The new program called SunShares, was started in San Jose, and allows employees of participating companies and credit unions to buy solar panels and solar services on a collective basis at significantly discounted prices. San Jose city workers have formed a group that reports renewable energy equipment purchases at discounts of up to 40 percent with very low interest loans. The group's financial partner in this program is the San Jose Credit Union.

Staff is reviewing the program for use by City employees and residents. Staff will report back to the Committee on its findings.

Action 5.5 - ***Conduct a city-wide renewable energy assessment to estimate total renewable energy potential and costs and benefits of developing that potential within City bounds. Develop a plan for capture all cost-effective opportunities.***

While a city-wide renewable energy assessment has not been conducted, both the City and residents are developing renewable energy systems.

Municipal - To date the City has developed two renewable energy systems on City property:

1) A 60,000 square foot photovoltaic system on the roof of the Barnes Court facility produces about 276 kw of renewable energy at an annual savings of about $51,400.

[12] SB 790 Summary. http://www.aroundthecapitol.com/Bills/SB_790/20112012/

2) The City has also developed a 1 megawatt solar PV facility on 8 acres of land at the City's Wastewater Facility. The facility was built by a developer chosen by the City through an RFP Process. The original financial structure called for the developer to recover its costs through a long term Power Purchase Agreement with the facility. The City negotiated a purchase of the facility at a cost of $5.8 million. Financing for the purchase was arranged through PG&E, with $2.5 million in funding from the California Energy Commission and $2.6 million in rebates from the California Solar Initiative. The remaining $700,000 in funding was provided by the Waste Water Authority.

3) Beginning this summer, the City will develop two new rooftop systems. One project will be a 57.12 kw photovoltaic system that will be built on the Utilities facility. The other project will be a 29.1 kw photovoltaic system that will be built on the Streets and Water facility.

Residents - Residents of the City have been active in developing renewable projects on their properties. Since 2007, the City has issued 107 permits to Hayward residents for renewable energy projects. 28 of the 107 permits have been issued to date in 2011. Planning staff anticipates they will issue up to 80 permits in 2011 alone[13].

Staff will assemble a team to conduct a city-wide renewable energy assessment to estimate total renewable energy potential in the City and provide an estimate of costs and benefits of developing that potential. Staff anticipates it will focus efforts on municipal properties and the 14 million square feet of commercial property that a CBRE realty survey states is located in the City. Staff anticipates it will initiate this project in 2012.

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

The City has committed to build renewable energy systems on the planned library and Fire Station #6.

ECONOMIC IMPACT

Action 4.2 – It is expected that inclusion of the State requirements regarding bicycle parking, designated parking for clean air vehicles, and light pollution reduction are likely to have a minor or no economic impact on the City of Hayward.

Action 5.1. The economic impact of a successful PACE program could be substantial. The opportunity to leverage City property taxes to develop energy efficiency and energy renewable systems could generate a wide range of employment opportunities for residents of the City.

[13] Attachment 3 provides a chart showing the increase in the annual number of solar photovoltaic permits issued since 2007.

Action 5.4. Hayward participation in Community Choice Aggregation or other models for community control of its energy sources could have a substantial negative impact economic impact on the City. Lacking the market power of a major energy purchaser, the City could be subject to substantial volatility in energy pricing.

Action 5.5. An assessment to estimate total renewable energy potential in Hayward would have no economic impact. Opportunities resulting from the information produced by the assessment could be substantial. The information could be used to encourage development of energy renewable systems which could generate a wide range of employment opportunities for residents of the City.

Action 5.6 - The economic impact of the City's commitment to build renewable systems on new City-owned facilities could have the positive impact of generating a wide range of employment opportunities for residents of the City.

FISCAL IMPACT

Action 4.2 – It is expected that inclusion of the State requirements regarding bicycle parking, designated parking for clean air vehicles, and light pollution reduction is likely to have a minor or no fiscal impact on the City of Hayward.

Action 5.1. The potentially negative fiscal impact of administering a PACE program by City of Hayward employees could be substantially offset by participation in a collaborative program similar to the CalFirst Program that the City joined when it initiated its PACE program. The result of participation in the CalFirst PACE Program was negligible to no impact.

Action 5.3. The fiscal impact of incorporating a renewable energy requirement into the Green Building Ordinance will be negligible to no impact for residential projects. The fiscal impact of incorporating a renewable energy requirement into the Green Building ordinance could be substantial for commercial projects.

The number of commercial tenant improvements projects that could be subject to Green Building Ordinance requirement for renewable energy projects could be substantial. The fiscal impact on the City would result from an increase in management, direct and administrative personnel devoted to the renewable energy permitting and inspection processes.

Action 5.4. There could be substantial fiscal impact resulting from the City's participation in Community Choice Aggregation or other models for community control of its energy sources. Substantial staff resources and expertise would be required to manage and trade complex energy contracts on a routine basis. Risks associated with trading energy contracts could subject the City to substantial credit and fiscal exposure. Participation in an association of municipalities engaged in Community Choice Aggregation and other programs, like Group Purchasing could ameliorate the risk.

There would be no impact associated with the City's promotion of Group Purchasing programs for residents and city employees.

Action 5.6 - The fiscal impact of the City's commitment to build renewable systems on new City-owned facilities could be substantial. A cost-benefit analysis of practices that produce buildings 0 greenhouse gases could support the goals of CAP Action 5.6 in a cost-effective manner.

NEXT STEPS

Strategy 4 – It is expected that staff will process the recommended ordinance amendments beginning July 2011.

Strategy 5 - Staff will review opportunities to incorporate renewable incentives programs into a Commercial Energy Conservation Ordinance. Additionally, staff will investigate opportunities for the City to increase its renewable portfolio through shared risk opportunities, like PACE, Community Choice Aggregation and Group Purchasing.

Prepared by: Marc McDonald, Sustainability Coordinator

Recommended by: David Rizk, AICP, Development Services Director

Approved by:

Fran David, City Manager

Attachments:

Attachment I:	California Green Building Standards Code, Chapter 5, Nonresidential Mandatory Measures
Attachment II:	Off-Street Parking Regulations (excerpt)
Attachment III:	Security Standards Ordinance (excerpt)
Attachment IV:	CalGreen Advanced Tier One Energy Efficiency Measures
Attachment V:	Solar Permits Issued by the City of Hayward CY 2007 - Projected 2011
Attachment VI:	Strategy 5 - Estimated Annual Emissions Reductions

Attachment I – California Green Building Standards Code, Chapter 5, Nonresidential Mandatory Measures

CALIFORNIA GREEN BUILDING STANDARDS CODE – MATRIX ADOPTION TABLE
CHAPTER 5 – NONRESIDENTIAL MANDATORY MEASURES
DIVISION 1 – PLANNING AND DESIGN

Adopting agency	BSC	SFM	HCD			DSA		OSHPD				CSA	DPH	AGR	DWR	CEC	CA	SL	SLC
			1	2	1-AC	AC	SS	1	2	3	4								
Adopt entire CA chapter	X																		
Adopt entire chapter as amended (amended sections listed below)																			
Adopt only those sections that are listed below							X												
Chapter/Section																			
5.101							X												
5.102 Definitions							X												
5.106.8							X												
5.106.10							X												

CHAPTER 5

NONRESIDENTIAL MANDATORY MEASURES

Division 5.1 – PLANNING AND DESIGN

SECTION 5.101
GENERAL

5.101 Purpose. The provisions of this chapter outline planning, design and development methods that include environmentally responsible site selection, building design, building siting and development to protect, restore and enhance the environmental quality of the site and respect the integrity of adjacent properties.

SECTION 5.102
DEFINITIONS

5.102 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

CUTOFF LUMINAIRES. Luminaires whose light distribution is such that the candela per 1000 lamp lumens does not numerically exceed 25 (2.5 percent) at an angle of 90° above nadir, and 100 (10 percent) at a vertical angle of 80° above nadir. This applies to all lateral angles around the luminaire.

LOW-EMITTING AND FUEL EFFICIENT VEHICLES. Eligible vehicles are limited to the following:

1. Zero emission vehicle (ZEV), including neighborhood electric vehicles (NEV), partial zero emission vehicle (PZEV), advanced technology PZEV (AT ZEV) or CNG fueled (Original equipment manufacturer only) regulated under Health and Safety Code section 43800 and CCR, Title 13, Sections 1961 and 1962.
2. High-efficiency vehicles, regulated by U.S. EPA, bearing High-Occupancy Vehicle (HOV) car pool lane stickers issued by the Department of Motor Vehicles.

NEIGHBORHOOD ELECTRIC VEHICLE (NEV). A motor vehicle that meets the definition of "low-speed vehicle" either in Section 385.5 of the Vehicle Code or in 49 CFR571.500 (as it existed on July 1, 2000), and is certified to zero-emission vehicle standards.

PZEV. Any vehicle certified by the California Air Resources Board as a Partial Credit Zero Emission Vehicle.

TENANT-OCCUPANTS. Building occupants who inhabit a building during its normal hours of operation as permanent occupants, such as employees, as distinguished from customers and other transient visitors.

VANPOOL VEHICLE. Eligible vehicles are limited to any motor vehicle, other than a motortruck or truck tractor, designed for carrying more than 10 but not more than 15 persons including the driver, which is maintained and used primarily for the nonprofit work-related transportation of adults for the purposes of ridesharing.

Note: Source: Vehicle Code, Division 1, Section 668

ZEV. Any vehicle certified to zero-emission standards.

SECTION 5.103
SITE SELECTION
(Reserved)

SECTION 5.104
SITE PRESERVATION
(Reserved)

Attachment II – Off Street Parking Regulations (excerpt)

"SEC. 10-2.406 CREDIT FOR TWO-WHEEL VEHICLE PARKING SPACE(S). In addition to the off-street parking requirements heretofore enumerated, additional parking spaces or facilities for bicycles, motorcycles, and similar two-wheel vehicles shall be provided when more than 50 parking spaces are required. Location, area, design, and improvement of such space or facilities shall be as approved by the Director of Community and Economic Development/Planning Director.

"(a) Credit for one parking space shall be given for each 4 bicycle spaces provided, whether the spaces are required or not. Bicycle spaces shall measure at least 2-feet by 7-feet and shall be located in groups of 4 and be equipped with locking devices for each bicycle.

"(b) Credit for one parking space shall be given for each 2 motorcycle spaces provided, whether the spaces are required or not. Motorcycle spaces shall measure 4-feet wide by 8-feet long and shall provide an adequate maneuvering area to permit easy access to the space.

"(c) Credits for bicycle and motorcycle parking, or a combination thereof, shall not exceed 5 percent of the total required parking spaces.

Attachment III – Security Standards Ordinance (excerpt)

Sec. 4109 LIGHTING

The City Building Official, in coordination with the Chief of Police will ensure that the following lighting conditions shall be met.

1. Lighting in multiple family dwellings shall be as follows:

   A. Aisles, passageways and recesses related to and within the building complex shall be illuminated with an intensity of at least twenty five one hundredths (0.25) footcandles maintained minimum at the ground level during darkness.

   B. All parking lots and carports shall be provided with a maintained minimum of one (1) footcandle of light on the parking surface during the hours of darkness, and fully illuminate an average adult.

   C. Lighting devices shall be maintained, and protected by using weather and vandal resistant covers and lenses.

2. The following standards shall apply to non-residential building lighting:

   A. A computerized photometric calculation or diagramatic representation for footcandle levels for parking areas and walkways shall be submitted with the proposed plans by the builder of any building or complex of buildings requiring lighted parking and walkways.

   B. The address number of every non-residential building and parking structure(s) shall be illuminated during the hours of darkness so that it shall be easily visible and readable from the street. When multiple buildings are accessed from a common driveway(s), or walkway(s), the address numbers shall be visible and legible from the driveway(s) or walkway(s). The address numbers shall be no less than ten (10) inches in height with a minimum one-half (0.50) inch stroke width, and be of a color contrasting to the background. All back entry doors that are accessed from a common driveway, parking lot or foot passage-

way shall also be addressed with ten (10) inch numbers and shall be lighted.

C. All exterior, non-residential doors, during the hours of darkness, shall be illuminated with a minimum maintained of one (1) footcandle of light at ground level. All exterior bulbs shall be maintained and protected by using weather and vandal resistant covers and lenses.

D. All parking lots, and access thereto, providing more than ten (10) required parking spaces, shall be illuminated with a maintained minimum of one (1) footcandle of light on the parking surface during the hours of darkness when employees are still present on the job site. There shall be a minimum of .25 candlefoot (CF) during the hours of darkness when employees are not present. "Access thereto" shall be defined as all walkways that connect the required parking area(s) to the building doorway(s), driveway(s), or driving surfaces leading to or from required parking areas.

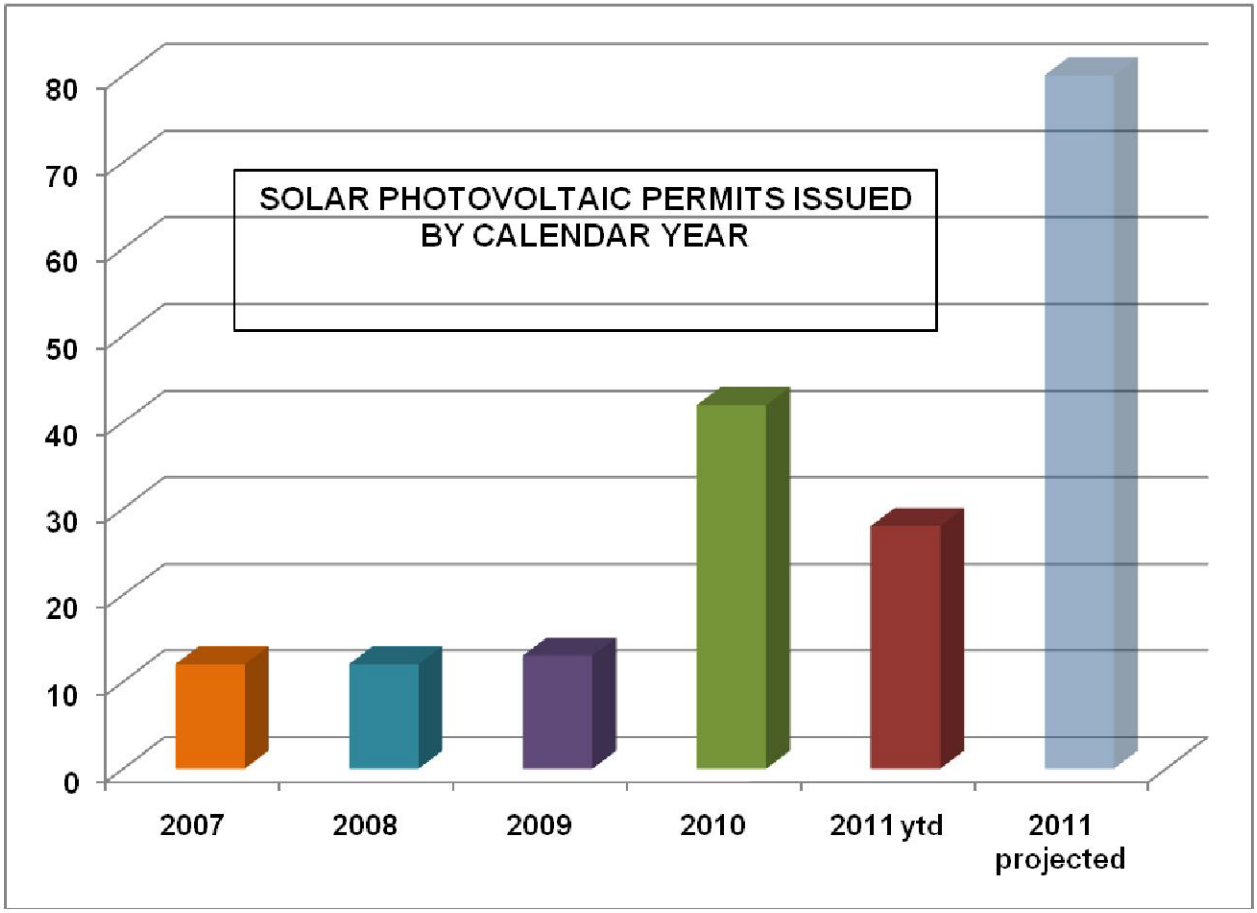
E. No lighting shall be installed on any building in such a manner that light reflects away from the structure, inhibiting visibility.

Attachment IV
CalGreen Advanced Tier One Energy Efficiency Measures

1. Install radiant roof barriers
2. Install exterior window shading
3. Complete an air sealing package
4. Install innovative HVAC systems, such as radiant, hydronic, ground source and other innovative heating and cooling systems
5. Complete a commissioning plan to meets the performance goals
6. Install energy efficiency duct systems
7. Perform duct leakage testing to verify the system is energy efficient
8. Install Whole house fans
9. Install ENERGY STAR ceiling fans all bedrooms and living areas.
10. Install energy efficient hot water systems
11. Assure that Building lighting consists of at least 90 percent ENERGY STAR qualified hard-wired fixtures.
12. Assure that each appliance provided by the builder meets ENERGY STAR if an ENERGY STAR designation
13. Install a solar photovoltaic (PV) system and Install energy efficiency measures that either meet or exceed the *California Energy Code* requirements based on the 2008 Energy Efficiency Standards by 15 percent.
14. Install a solar water heating system
15. Provide at least 300 square feet of unobstructed roof area facing within 30° of south for future solar collector or photovoltaic panels and provide rough-in penetrations through the roof for electrical conduit and water piping
16. Provide electrical conduit for future renewable energy systems from the roof.

Attachment V

Solar Permits Issued by the City of Hayward CY 2007 - Projected 2011



Attachment VI

Strategy 5 - Estimated Annual Emissions Reductions

Action Number	Description	Estimated Annual Emissions Reductions (metric tons CO2e)		Percent Contribution to target reductions	
		2020	2050	2020	2050
Total (community -wide actions implemented and long-term Strategy goals achieved)		14,751	90,862	9.4%	7.5%
Community-wide Actions					
Action 5.1	Develop a program for the financing and installation of renewable energy systems on residential buildings including single and multiple family residential buildings and mobile homes.	850	2,149	0.5%	0.2%
Action 5.2	Develop a program for the financing and installation of renewable energy systems on commercial buildings.	10,768	28,822	7.0%	2.1%
Action 5.3	Incorporate a renewable energy requirement into the Private Development Green Building Ordinance the Residential and Commercial Energy Conservation Ordinances.	2,980	24,660	1.9%	2.3%
Action 5.4	Increase the renewable portion of utility electricity generation by advocating for increased state-wide renewable portfolio standards; and consider participation in community choice aggregation, or other means	-	30,779	0.0%	2.9%
Municipal Actions					
Action 5.5	Conduct a city-wide renewable energy assessment to estimate total renewable energy potential and costs and benefits of developing that potential within City bounds. Develop a plan for capture all cost-effective opportunities	76.4	2,226	7.4%	23.8%
Action 5.6	Ensure that all new City owned facilities are built with renewable energy (i.e. PV and/or solar hot water) systems appropriate to their functions.	76.4	2,226	7.4%	23.8%

Sustainability Committee Monthly Meeting Topics for 2011

Presenting Department	Date	Topics	Climate Action Plan Action Number (Community-Wide Action Priority per Appendix D in the CAP)
~~DS & Facilities~~	~~January 5~~	~~Energy Audits of City Facilities~~	
		~~Energy Efficiency and Conservation Block Grant (EECBG) Programs (Large Energy Users, Audits, etc.)~~	
~~DS~~	~~February 2~~	~~Residential Energy Conservation Ordinance (RECO)~~	~~3.1 (11)~~
~~DS~~	~~March 2~~	~~Residential Energy Conservation Ordinance (RECO)~~	~~3.1 (23)~~
~~PW~~	~~April 6~~	~~Update on Food Scraps Programs~~	6.2 (26)
~~PW~~		~~Senate Bill 7 – Water Conservation~~	
~~DS~~		~~Annual Review of CAP Implementation and Priorities~~	
DS	May 4	Green Building - Requirements for Commercial Buildings, Parking Requirements, and Solar Requirements	4.1 (20), 4.2 (18), 5.3 (19)
PW	June 1	Transportation Demand Management (TDM) Programs/Strategies	1.1 (36)
DS		Commercial Energy Conservation Ordinance (CECO)	3.3 (2)
DS		Local Food Production/Healthy Eating	
DS		Update on Education/Outreach Efforts	9.1 (15), 9.2 (16), 9.3 (17)
PW	July 6	Report on Public Transportation	1.4 (30)
		Update on Sea Level Rise Studies	Strategy 8
Finance		Environmentally Preferred Purchasing	6.10 (14*)
	August	*No Meeting – annual recess*	
PW	September 7	Update on Recycling Programs (food scraps, construction & demolition debris, multi-family recycling, City facilities and waste to energy)	6.1 (28), 6.2 (26), 6.3 (14), 6.6 (34), 6.7 (11), 6.8 (16*), 6.9 (13*)
		CECO Update	3.3 (3)
	October 5	Update on Property Assessed Clean Energy (PACE) and Energy Upgrade California (EUC)	5.1 (29), 5.2 (8), 3.7 (6), 3.8 (7), 3.9 (1)
DS		Update on Green Team Efforts	
DS	November 2	Multi-Family RECO (introduce topic)	3.2 (24)
DS		Discussion of Topics for 2012	
PW	December 7	Plastic Bag Ordinance	6.4 (40)

*Municipal Actions Priority per Appendix D in the CAP

CITY OF
HAYWARD
HEART OF THE BAY

GREEN BUILDINGS
May 5, 2011

Marc S McDonald, *Sustainability Coordinator*

Planning Division
Development Services Department

Background

- The Climate Action Plan (CAP) was adopted in October of 2009
- The City of Hayward Green Building Ordinance (GBO) was adopted in December of 2009
- The 2010 California Green Building Standards (CalGreen) Code was adopted as state law in 2010 became effective on January 1, 2011

Strategy 5 – Use Renewable Energy

Climate Action Plan Goals

2020

- Increase the portion of renewable energy consumed in the City to 33%.
- Annual emissions savings of 14,598 metric tonnes

2050

- Increase the portion of renewable energy consumed in the City to 100%.
- Annual emissions savings of 80,409 metric tonnes.

Action 5.1 – Incorporate Renewable Energy Requirement into Hayward Green Building Ordinance (Residential)

- Solar provides half of the points needed for Green Point Rating, but cost is a factor.

Hypothetical System Costs - Hayward	System A	System B
System Size (Watts dc)	2,900	1,010
Cost per Watt	$7.50	$7.50
Total System Cost	$21,750	$7,575
Rebate	$-	$-
Federal Tax Credit	$6,525	$2,273
Net System Cost	$15,225	$5,302
Avg Ann System Output (kwh)	4,201	1,463
Avg Annual Electricity savings (25 years)	$1,006	$352
Break Even Year	14	13

http://estimator.solar-estimate.org/index.php

Action 5.2 – Incorporate Renewable Energy Requirement into Hayward Green Building Ordinance (Commercial)

Owner can install the greater of 1% or 1Kw of electricity from renewable sources for Tenant Improvement Projects, but cost is a factor.

Hypothetical System Costs - Hayward		
System Size (Kw DC)	1.01	24.85
Cost per Watt	$7.50	$7.50
Total System Cost	$7,575	$186,375
Rebate	$-	$-
Federal Tax Credit	$2,273	$55,913
Net System Cost	$5,302	$30,462
Ann Electricity replaced by solar (kwh)	1,463	35,995
Average Annual Electricity Savings (25 yrs)	$352	$8,641
Breakeven Year	20	20

http://estimator.solar-estimate.org/index.php

Action 5.2 – Renewable Energy Financing for Commercial buildings

Commercial Property Assessed Clean (PACE) projects are being pursued.

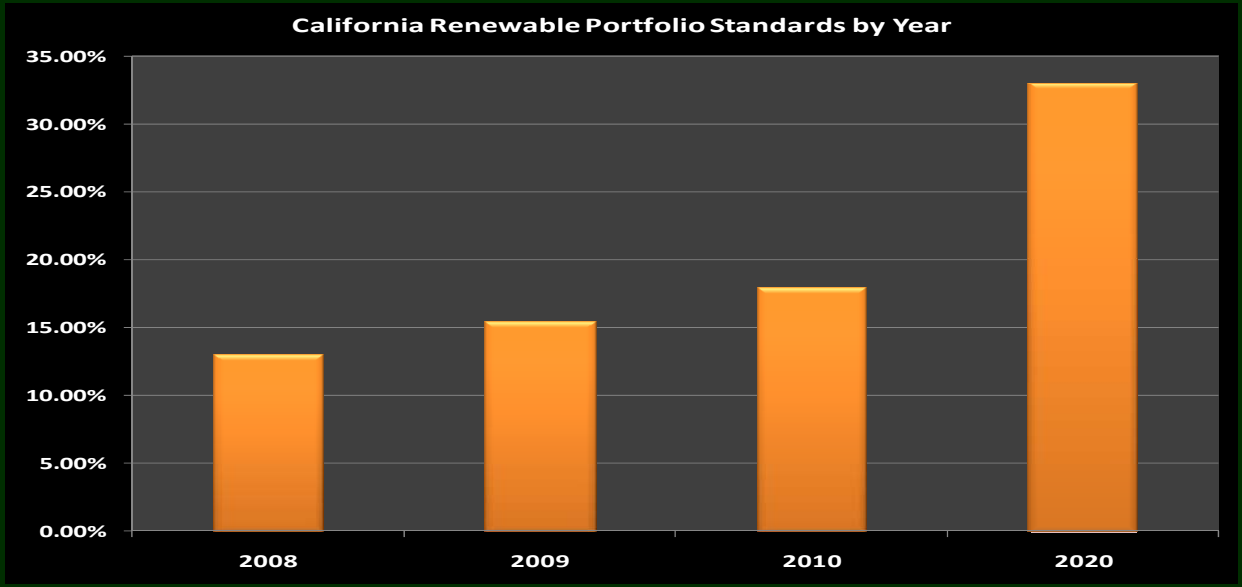
- Commercial PACE Legal Structures
  - Warehoused – Sonoma County and Palm Desert
    - Funded by County Treasury
  - Pooled Bond – Silicon Valley Joint Venture
    - Aggregate applications. Assemble a pool, then sell bond to finance the pool projects.
  - Owner Arranged – San Francisco (In development)

Action 5.3 – Amend Green Building Ordinance to require Renewable Energy

- CAP schedule establishes 2013 as dates for amendments to Green Building Ordinance to require Renewable Energy for Private Development.
- The schedule assumed residential and commercial PACE programs were active beginning 2010.
  - Development of active PACE programs has been delayed.
- Adjust schedule to amend Green Building Ordinance to require renewable energy.

Action 5.4 – Advocacy for Increased Renewable Portfolio Standards (RPS) Statewide

- California Public Utilities Commissioners appointed by Governor
- Governor established legislation requiring statewide RPS of 33% by 2020.
- Advocacy can be very effective



Action 5.4 – Participate in Community Choice Aggregation

BENEFITS	RISKS
• COMMUNITY CHOOSES POWER PORTFOLIO • ABLE TO MAXIMIZE RENEWABLE SOURCES • ABLE TO MINIMIZE NON-RENEWABLE SOURCES • PARTICIPATE IN GROUPS TO MITIGATE RISKS	• MARKET VOLATILITY • COMPETITION FOR RESOURCES • LIMITED OPPORTUNITY FOR UTILITY SCALE RENEWABLE PROJECTS IN URBAN SETTINGS

Action 5.4 Group Purchasing

- Municipal
  - Pooled Purchasing of renewable energy systems - Joint Venture Silicon Valley.
- Residents
  - Pooled Purchasing of home renewable energy systems - SunShares.

Action 5.5 – Conduct a City-wide renewable assessment.

- Review resources available to conduct a city-wide survey of facilities suitable for renewable energy systems.

Action 5.6 – Renewables on all new City Buildings

- Review available resources for staff to survey existing municipal facilities suitable for renewable energy systems.

Strategy 5 - Conclusions

- PACE structures are flexible, therefore suitable for a variety of projects and financial structures.
- Renewable projects achieve “0” GHG emissions but are costly.
- Adjust CAP schedule for PACE programs, renewable penetration and GBO Amendments
- Advocacy for statewide RPS standards are the most cost-effective action.
- CCA comes with risk. Mitigation strategies, i.e. Group Purchasing, are part of planning a CCA.
- Assess renewable resources by conducting a solar survey.

CITY OF
HAYWARD
HEART OF THE BAY

GREEN BUILDINGS
May 5, 2011

Richard Patenaude, *Planning Manager*

Planning Division
Development Services Department

Bicycle Parking – Example from SmartCode

	T2 T3	T4	T5 T6
RESIDENTIAL			
Single-Family	no spaces required	no spaces required	n/a
Multi-Family	n/a	Min. 2.0 spaces .05 spaces / bedroom	Min. 2.0 spaces .10 spaces / bedroom
OFFICE	no spaces required	Min. 2.0 spaces 1.0 / add. 20,000 sq. ft.	Min. 2.0 spaces 1.0 / add.15,000 sq. ft.
RETAIL	Min. 2.0 space, 1.0 / add.10,000 sq. ft.	Min. 2.0 spaces 1.0 / add. 5,000 sq. ft.	Min. 2.0 spaces 1.0 / add. 5,000 sq. ft.
INDUSTRIAL	TBD	TBD	TBD
CIVIC			
Non-Assembly	Min. 2.0 spaces 1.0 / add. 10,000 sq. ft.	Min. 2.0 spaces 1.0 / add. 10,000 sq. ft.	Min. 2.0 spaces 1.0 / add. 10,000 sq. ft.
Assembly	Min. 2.0 spaces 1.0 / add. 20,000 sq. ft.	Min. 2.0 spaces 1.0 / add. 15,000 sq. ft.	Min. 2.0 spaces 1.0 / add. 10,000 sq. ft.
SCHOOL			
Elementary/ High School	Min. 2.0 spaces 1.0 / add. 25 students	Min. 2.0 spaces 1.0 / add. 20 students	Min. 2.0 spaces 1.0 / add. 20 students
University	Min. 2.0 spaces 1.0 / add. 20 students	Min. 2.0 spaces 1.5 / add. 20 students	Min. 2.0 spaces 1.0 / add. 10 students
TRANSIT STATION	TBD	TBD	TBD