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.

February 2, 2011
4:30 p.m. – 6:00 p.m.

AGENDA

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 January 5, 2011

V. Residential Energy Conservation Ordinance (RECO) Discussion
Erik Pearson, Senior Planner

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, March 2, 2011
Annual Review of CAP Implementation and Priorities
Presentation of Draft Residential Energy Conservation Ordinance

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

January 5, 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
- Diane McDermott, Planning Commissioner
- Sara Lamnin, Planning Commissioner
- Al Mendall, Planning Commissioner
- Doug Grandt, Keep Hayward Clean and Green Task Force

Staff:

- David Rizk, Development Services Director
- Alex Ameri, Deputy Public Works Director
- Erik Pearson, Senior Planner
- Arlynne Camire, Associate Planner
- Vic Avila, Facilities and Building Manager
- Allen Koscinski, Electrician II
- Derrick Rebello, Sustainability Coordinator
- Marc McDonald, Sustainability Coordinator
- Debbie Summers, Senior Secretary (recorder)

Others:

- Mark Salinas, Council Member
- Simon Wong, Tri-City Voice Newspaper

III. Public Comments
None

IV. Approval of Minutes of October 25, 2010 and December 1, 2010 – minutes approved with revision from Council Member Quirk and Mr. Grandt.

V. Energy Efficiency Projects for City Hall and Police Station
Derrick Rebello, President, QuEST

Derrick Rebello, President, QuEST, provided a PowerPoint presentation summarizing the staff report. The City of Hayward and Mr. Avila's team participated in a program offered by PG&E through the East Bay Energy Watch called the Municipal Implementation Team (MIT). The role of that program is to work very closely with municipalities to help them make their buildings more energy efficient through retrofit and weather conditioning opportunities. The measures that were identified for City Hall and the Police Station are in an area called retro conditioning. Retro condition is optimizing the existing equipment. Estimated annual savings are in the neighborhood of $30,000 and will cost approximately $5,200. With incentives of $2,500, the final cost to the City will be $2,700.

Mayor Sweeny asked Mr. Rebello to give one or two examples of what he did to generate these savings. Mr. Rebello responded that when optimizing a building, it is very important to look at how the building actually functions, because we want to optimize it for its current needs. Towards that end, a number of data collection devises were employed to see how the building was operating, and spot measurements were taken to see what the actual energy consumption was during different times of day. Then that data is run through a series of engineering models to look for opportunities to save energy.

Mr. Rebello used an economizer as an example. He explained that an economizer allows you to use free cooling by bringing in outside air as opposed to creating your own mechanically cooled air. He said that it is important to make sure that the right logic is used so if the temperature is X, then the economizer should be used. When the outside the temperature is in range that you want, you close it off, because you do not want to end up bringing in too much cool air that would require heating. Getting the logic sequence correct is a fairly common problem. Mr. Rebello has seen many cases where the economizer was shut off because people cannot operate them correctly. The initiative here is to get the system tuned up so that we are using as much free cooling as we possibly can in the building.

Mr. Rebello stated that another example is scheduling and boiler lockouts. Boiler lockouts are slightly similar to the previous example. You want to make sure that you have the right sequences so that the boiler is not running at the same time that it is actually cooling. Mr. Rebello said that there will be training for City staff to assure that the systems run properly.

Planning Commissioner Al Mendall said that he was impressed by the very rapid payback as he acknowledged the energy consumption savings that have been made with the improvements to the City buildings. Mr. Mendall said you would call this low hanging fruit in terms of return. He asked how much energy and money savings potential there is in other City buildings or even in this building that has similarly impressive returns. He suggested that the buildings with improvements with less than a year returns for paybacks, that the City find those and make improvements now.

Mr. Rebello said through the MIT program our client is PG&E. As we spend PG&E dollars they want to see energy savings. So we spent a lot of time looking at the "no-brainers". He felt that the QuEST engineers have done a thorough job. He also said that we are looking for quick savings, so we are focused mainly on projects that have big energy savings payback, big savings and low cost.

Mr. Mendall also stated that we have only looked at two buildings and we have other facilities in town, such as the Fire Stations, Libraries and a few others. Mr. Rebello responded that the issue with those is that these two buildings have a control system. Much of what we see here are minor adjustments to the control systems. He stated that there are two types of saving projects. One is retrofits which are replacing existing equipment with new equipment that is more efficient. The other is retro commissioning or optimization. The optimization projects tend to be at a lower cost, because you are looking at tweaking the existing systems, not buying new equipment. Mr. Rebello added that you need good controls in the building, which is a requirement to implement these types of projects.

Mr. Mendall also asked if these are the only two buildings that have these controls. Vic Avila, Facilities and Building Manager, said that the Main Library and Branch Library have computer controls also. The Main Library has multiple systems from multiple years even though we upgraded all those mechanical systems in 1997, so they are not old even when it comes to HVAC and they are being computer controlled. They are more difficult to control, because this buildings has three units, whereas the Police Department has one primary unit for the whole building, so it is easier to control it, because it has bigger systems. He said that the main library and the branch library are just not quite big enough to get low hanging fruit.

Allen Koscinski, Electrician II, said that he thinks we have done everything we can on those two buildings, because they are called package units. He thinks with the EMS we have done everything we can do with those units now. We have replaced them and dialed in as best we can. There is not a huge economizer like at the Police Department that could be tweaked and tuned up. Mr. Avila also stated that the smaller packaging units do not have variable frequency drives where you can modulate the fan speeds. For instance, the 911Center at the Police Department has three small packaging units. Small meaning compared to this building, which has 110,000 square feet, we have three units in the communication center, which is about 1,400 square feet, so you cannot tweak them as much. The units installed resulted in cost savings and are state of the art for a small space.

Mr. Rebello said that with fine-tuning of a system, it is difficult to get bigger savings as you get into more simple buildings. Some optimization can be done in larger buildings, such as installing bigger pieces of equipment. Less complex systems such as Fire Stations are not going to be much different than a home.

Planning Commissioner Sara Lamnin stated that she appreciated this report. She likes that it is focused on local contractors so the money stays here and also keeping training as part of this implementation moving forward, so that staff stays current on what is needed so that the tune-ups are less necessary in the future. Ms. Lamnin also said this would expand on Mr. Mendall's point to moving forward and looking at other City's facilities, as the library gets built, not only how do we deal with these systems, but the training it also encompasses. Ms. Lamnin asked how you plan for good energy efficiency.

Mr. Rebello responded that for new construction, PG&E has a big program. These buildings are going to be around for 50 to 100 years and it is better to get it right initially. In addition, PG&E has offered to bring additional training to City staff and local contractors out into the communities. Right now if you want training from PG&E you have to go to San Francisco, San Ramon or Stockton, and not everybody can do this. Mr. Rebello said what we need to do is bring PG&E programs here, whether it is for City's facilities staff or contractors to try to raise the level of awareness and knowledge.

Council Member Olden Henson said that he is delighted with this and wants to get right on it now. He said that we have not seen this type of payback before. He really likes the month or two maximum periods for the payback. Mr. Henson asked the cost for repairing the Police Department economizer (Attachment I). Mr. Rebello said that it is about $2,720. Mr. Henson stated the he is amazed that the building will reap the kind of benefits that is projected. Mr. Henson asked if the economizer is main reason for the savings. Mr. Rebello responded that it is.

Mr. Henson also asked if Mr. Rebello did any comparisons with City Hall. He stated that staff moved into City Hall in January 1998. It is a new building compared to the Police Station. He said there are some plans to look at a new Police facility in the future, but if that facility does not come to fruition for a while, the City is going to get a little bit larger and we will have to start adding more personnel and we may have to add onto the Police facility. Is there anything we can do to fine tune that building again if this occurs?

Mr. Rebello responded that if the use of the building changes dramatically, absolutely, but if it changes modestly, then not so much. He stated that he has seen this in many commercial buildings that had one purpose and then the purpose changed. For instance, Macy's in downtown San Francisco has an area that used to be a restaurant and now the same area is used for clothes sales. The usage changed and it was very expensive to change the system. Mr. Henson responded that the Police Station would be the same use. We will never stop putting bad guys away. It just may mean that we get larger. Mr. Rebello replied that one thing we may have to do is work with Mr. Avila periodically to do the matrix and to make sure that we are holding onto those savings, unless the matrix goes out of whack. Mr. Rebello stated that these are our best guesses, since QuEST does not run the building.

Mr. Avila said another dimension to looking at an old building and trying to retrofit it for savings is we cannot just look at everything from 1975 and throw it away. It is too

expensive to replace everything. We take a look at what is there from 1975 and we try to use the latest technology to augment that. For instance, taking out pneumatic controls from a HVAC box and putting in new reheat coils, new boilers or replacing the joist fan, which is the main fan for the 1975 part of the building, so you are constantly replacing things, because the life on a HVAC component being what it is. The chillers at the Police Department are new (1997) and are due for replacement in 2014. You constantly have to upgrade them. Then you get energy savings because you are getting brand new equipment.

Mr. Rebello said that often times going in and making control changes requires running conduits and running wires, etcetera, which makes it expensive. He said that there are a lot of wireless controls that are very effective and are getting better and cheaper every day, so that may be something to look at in the future. Mr. Rebello stated that the MIT program goal is to continue to work with cities to push energy consumption down.

Dough Grandt, Keep Hayward Clean and Green Task Force said that he has two points. First, he is an engineer and likes to look at things in terms of sensitivity. These numbers were based on some assumption based on good input, and he presumes that this information does not represent the best or worst case. So how much better could it be and how much worse could it be if we made some mistake? Mr. Rebello replied that he could not answer the question about how much better it could be. He said that the QuEST engineers tend to be conservative and the utilities and PG&E want us to be conservative too, because we want everybody to be happy with the extra savings, not sad or mad. Mr. Grandt said that what he has done in the past is look at the possible outcomes and possible probability on things and you come up with a curve, if the curve is really flat you do not want to come down to the cent, rather within a $1,000 dollars. He is curious if they do that sort of work. He also stated that these are really great numbers.

Mr. Grandt said that his main point is community awareness. He stated that when the Climate Action Plan (CAP) was put together, one of the people at his table suggested we have demonstration projects. He sees City Hall as a good demonstration project and suggested that the City should advertise it. Mr. Grandt also stated that that he is thinking of savings potential of all the buildings in the City and the City needs to advertise to let people know what can be done. Mr. Avila suggested that the home webpage for City employees and the home webpage for the public would be a good place to advertise.

Planning Commissioner Diane McDermott asked that with the suggested changes or reparations that you are recommending, how long will it prolong the life of the usage of those systems? Mr. Avila responded that it might prolong the life of the equipment around 15 percent. The most important thing is that it takes the existing equipment, makes it more efficient and saves energy. He also said that everything in the Police Station from heating and ventilating is practically new, it is all from approximately1996. Even though it has a 1975 shell, most everything mechanical is new. He stated that in all the City buildings all of the equipment has to be replaced after so many years. Ms. McDermott said with the payback time this is not really an issue, but if the payback

period is longer then we need to look at how long the equipment is going to last, before we make an investment because the savings might not be worth it.

Mr. Rebello added that there are some potential additional projects he would like to mention and asked Mr. Avila to describe them. Mr. Avila stated that through the Facilities Division the City is applying for a California Energy Commission (CEC) loan. A CEC loan is a 15-year loan with a 3 percent interest rate. The CEC also audited City buildings over the last year and the low hanging fruit was the bigger buildings. The loan will fund retrofitting the lighting systems at City Hall parking garage across the Watkins Street, and Cinema Place parking garage. These will go from HIV bulbs, which are currently 250 watts to fluorescent bulbs that are roughly 25 to 32 watts. He said that sample fluorescent light fixtures were installed in the garage and staff measured the lights, and found that there we get more light out of the light fixtures that are 32 watts than the 175 watt bulbs. Mr. Avila stated that a lot of money can be saved on electricity and the City is looking at the light fixtures at Cinema Place Parking Garage, City Hall, City Hall Parking Garage, Police Department and Fleet buildings. Mr. Avila stated that the bottom line is we are going to save roughly $90,000 dollars a year in electricity and the cost for the improvements is about $675,000.

Mr. Avila also said that CEC would loan the City 11 times $90,000 for the 15-year loan, although we do not need that much to cover this $675,000 cost. He said that the application is about 40 percent completed. He also, said that the sewage treatment plant used a CEC loan for part of their solar 1.0-megawatt arrays. Mr. Avila added that the two solar arrays that are in this CEC project are on the Utilities building (Old Boys Club) and the Streets building. They both have relatively new roofs, so we do not have to do replace the roofs or do much to them. Mr. Mendall asked how large are the systems? Mr. Avila responded they are 45,000 kW on the Street's building and 76,000 kW on the Utilities building.

Mr. Mendall asked if the life expectancy of the fluorescent tube would be more than seven years. Mr. Avila responded that they would last up to 20 years or more, however there will be new technology so it will be outdated before 20 years. He stated that we do not have the funding to replace things as soon as the newest comes out. Mr. Avila also stated that the savings on the lighting carries the new solar arrays and we have been trying to do solar for a few years. Years ago, you could get a 50 percent rebate from PG&E for solar, but you cannot get that now.

Mr. Rebello also stated that through the EECBG there is money set aside for the LED street light replacement that is also in the works. We do not have great details on any of these things yet.

VI. Presentation by Derrick Rebello - Energy Efficiency Incentive Programs Funded by the Energy Efficiency and Conservation Block Grant

Mr. Rebello presented a power point presentation. City of Hayward was allocated over 1.3 million dollars in Energy Efficiency and Conservation Block Grant (EECBG) funds. Staff has set aside $750,000 to run three different energy conservation programs. Those programs are focused on Large Commercial Energy Users, Non-Profit and Government Agencies, and single-family residences. Mr. Rebello stated that he will go through these at a very high level and then answer questions.

Mayor Sweeny said that when we did the utilities tax we got a lot of grief from E-Signal and St. Rose Hospital. Let us make sure we reach out to these two operations and make sure that there is that opportunity.

Mr. Mendall, who works at E-Signal, stated that he likes the idea of using the money for energy efficiency but the threshold for cutoff is 1.5 megawatts of energy use annually and to run a company like E-Signal or Amazon, who just located a data center in Hayward, they are going to get hit with a very large utility tax even though their electricity usage may not be all that high. Mr. Mendall stated that he thinks that the qualification should be based on how much utility tax they are paying rather than energy usage. Mayor Sweeny responded that programmatically it is an energy conservation approach so it should be based on the energy usage. Let us make sure that if they qualify, that at least we make the effort to reach out to them.

David Rizk, Development Services Director said that it may raise concerns by the Department of Energy. For example, what is your utility tax structure and is there an incorrect correlation with energy usage. Mr. Quirk added that for smaller energy users there are other programs.

Mr. Henson asked how many large energy users are there. Mr. Rebello responded that there are around 30 and this data came from PG&E. He is not sure if this includes Amazon because the data is about one year old. Mr. Henson added that there are some exemptions on it too. Mr. Rebello replied that we purposely removed California State University (CSU), because there are very rich programs from utilities for the CSU's. Ms. Lamnin stated that St. Rose Hospital was also excluded, because there are different programs for them as well. She also suggested that it would be worth a conversation with St. Rose Hospital and anybody else about this program, including the Chamber in terms of outreach, and to talk about what is the goal, which is really about energy efficiency. If there are some groups that are going to be excluded, because some program will not meet their goals, then that is a separate conversation and they should stay on the radar.

Mr. Rebello gave a presentation on the second program: Non-Profit Commercial and Government Agencies. He said that these groups have been using their services a lot because donations are down. The question is what can we do with this EECBG money to help reduce some of their operating expenses by helping them add energy efficiency to some of their buildings.

Mr. Henson stated that most of the non-profits lease, they do not own. He also said the owner would have to agree with all of this. Mr. Rebello replied that they have been able to work very effectively with that.

Mr. Mendall said that this is an extremely intelligently designed program for the customers. One concern he has is that anything under $10,000 is zero cost to non-profits and because the application is first come, first serve, it is quite possible for someone with a 4-year-old air conditioner to realize he can save a $1,000 bucks with a new one and this will beat out someone with a 30-year-old air conditioner who could be saving $2,000 a year, because it is relatively free to them. Mr. Mendall said that if we were forcing them to pay 20 percent, then that would be less likely to happen. He also would like to see some sort of prioritizing assuming we have more applications then we can fill, not just first-come, first-served. If the first person has a weak application then he should not get it, it should be the last person that comes in before the deadline with a strong application.

Mr. Rebello replied that we spent a lot of time trying to design this and that we looked at this as not a first-come, first-served. Instead, we would get all the applications in and then we would fund those that had the best economics and greenhouse gas reduction. They thought about going down that path. He stated the problem is that this program model where the contractor is going out and doing the study, and hoping to do the installation, they are only going to do that audit and project development if they think they will get the work. Otherwise, it will have to be a completely different model. He also said to do what Mr. Mendall is talking about, a third party audit is required of all of the buildings which would incur additional costs, whereas the vehicle we have today can be dispatched tomorrow. This vehicle will be on some sort of first come first serve basis. Mr. Mendall said perhaps we could have some sort of minimum threshold saying the payback period has to be 10 years. That way we would be funding all good projects even if it were not necessarily the best.

Erik Pearson, Senior Planner, said another alternative would be for the incentive to only cover a portion of the non-profits' share - maybe 80 percent versus 20 percent. Mr. Rebello said that when something is free it is great. We could go that route, but what he thought he heard Mr. Henson saying was that these people are already strapped. Maybe the City could contribute something nominal like $1,000 or 2.5 percent of project cost that the non-profits would contribute. The initial contribution of 2.5 percent is almost guaranteed to be paid back in months. He continued that he works with some non-profits and he knows that the cash flow is an issue for them even at 2.5 percent.

Ms. Lamnin stated that, one idea is to build into the application some worthiness factor of the project return on investment. Also, the residential audit cost and maybe that gets reimbursed. She said that having an audit in the nonprofit gives the nonprofits an opportunity to learn about when to turn off lights, things that they can do themselves, as well as she would like to see a requirement where they would have to share energy education information with their clients. It can be information that the City or PG&E provides. She suggested that if the City is spending money to help non-profits to help us

reach our greenhouse gas emissions goal, then they could get their clients to help us do the same thing. Mr. Rebello said that we could add an additional education component, so people who use this service would be provided with information.

Mayor Sweeny stated in terms of where we are on this, he is big on keeping it simple and not making it more complicated. He said that unless people object, he thinks it is fine if the City has a minimum energy system threshold. He also said that if you want to have a minimum amount of what somebody has to kick in, it sounds like there is kind of a loose consensus on that, but let's not let it get too complicated. It helps the non-profits, the government, the contractors and everybody.

Mr. Rebello moved onto the last program: Residential Energy Efficiency Incentive Program. He cautioned staff not to pay for commercial audits. Mr. Rebello said to serve the small commercial sector, the City will be running a Business Energy Services Team (BEST) campaign this year. He also said that a lot of the energy efficiency money has been aimed at the residential sector to try to raise the numbers of contractors and to raise the number of energy efficient homes. This program is budgeted for $250,000. He stated what the City really wants to do is jumpstart energy efficiency for residential buildings.

Mr. Quirk stated that we have many 1950s and 1960s era homes, which have unique problems that make it very hard to do some of the energy efficiency improvements. He said he is very anxious to take a home or two in each one of the larger development neighborhoods, such as Palma Ceia, Fairway Park and Southgate, and make sure that there are a couple of homes where there are responsible people who do energy efficiency improvements, and the City sees what works before we try to do something Citywide. Mr. Quirk stated that he would like to make it a demonstration program in some way.

Mr. Rebello responded that we have done this with other programs. If only to build marketing collateral and case studies we will go out and do two to three projects on our dime, also he has done similar marketing programs with PG&E. He also said that the City might want to carve out some of this $250,000 for demonstration projects, pick six or eight homes and work with a local contractor to prove that the concept is feasible.

Mr. Quirk agreed that the City should prove the concept is feasible and that, specifically in Hayward, the larger developments built in the '50s and '60s. He said that either the more recent housing has good energy efficiency or they were built with better construction methods. Mr. Quirk said the houses built in 1920s and 1990s are probably fine. It is the houses built in-between that the City really has to emphasize as feasibly energy efficient.

Mr. Mendall suggested that we put aside $10,000, not for demonstration projects where we completed the whole audit, but for post audits to see the actual change. He also said not just two or three projects where the City has the demonstration audits, but 10 to 20 where we are going back and rechecking after the work is done, and saying not only did

they estimate this but they actually got results. Then we have a sizable study that we can stand on.

Mr. Pearson stated that staff revised our strategy document that the Department of Energy approved. We divided the amount to fund audits and retrofits. Therefore, we are not able to spend all the money on audits. There is approximately $20,000 for audits and another $200,000 for retrofits.

Ms. Lamnin said these are excellent points and to that end, she wants an evaluation of timeline rollouts. She knows that they are all scheduled to rollout simultaneously, non-profits, EECBG, social services, etc. Mr. Rebello responded that the reason this is done simultaneously is that there is a lot of pressure to spend this money and spend it quickly before the new Congress comes in and takes it away. Ms Lamnin also suggested that there are networks in addition to the advertising that are put into the proposal. In addition, there are South Hayward Neighborhood Collaborative, Home Owners Associations, Real Estate, Chambers of Commerce and many different avenues to make sure that the word gets out.

Mr. Rebello asked for clarification to Mr. Mendall's comments to do the studies, make the changes and have some resources to go back and confirm that savings was actually achieved. What he is not clear on is in order to achieve 20 percent you have to test back out. He asked if this could be a modeling approach. Mr. Rebello said we have talked about requiring participants to give us the authority to go to PG&E and get the data so we can determine the energy efficiency savings.

Mayor Sweeny said that with the discussion there is a strong consensus to test if these things will work, and confirm that after the work is done it did work. He said we need to do research if it is a modeling situation; it sounds like we are all on the same page. Mr. Quirk reemphasized importance to test the concept on the homes built in the '50's and '60's, and Mayor Sweeny gave examples of neighborhood built in the '50's and '60's; Palma Ceia, Fairway Park, Shaffer Park, Longwood, Winton Grove, Southgate, and Eden Gardens.

VII. Summary of Last Climate Action Management Team Meeting

Mr. Mendall said that he presented this Committee's description of the Climate Action Management Team role. He also said that they worked on RECO for a bit trying to provide feedback to staff on some of the questions that were brought up and they will be doing this again in two weeks.

VIII. General Announcements and Information Items from Staff

Mr. Pearson informed everyone that we have a Green Expo on March 11, 2011, from 1:00 - 7:00 p.m., and it is for the public as well as employees.

IX. Committee Referrals and Announcements

Mr. Henson said the Environmentally Preferable Product Purchase (EPP) program and the StopWaste.Org board has developed a menu list for agencies to comply along with the five green buildings, but on the mandatory list will be the EPP program, so we will have to adopt a formal EPP program in order to continue to receive the mitigation fund. Hayward is one of two agencies that are in total compliance. We are already doing it, so it is just a simple matter of adopting the policy. He has a couple of copies of the surveys that StopWaste.Org did. Mr. Henson said that we need to move this topic up on the calendar. Mayor Sweeny asked Mr. Henson and Mr. Rizk to take a look at the calendar and bring a recommendation back to the next meeting. Mr. Henson said that April is the date when we will vote to add the five mandatory elements.

Ms. Lamnin said that May 1, 2011, from 1:00 - 4:00 p.m. will be the South Hayward community festival at Mt. Eden Park/Oliver Estate. It is an opportunity to highlight some of the exciting news that we talked about tonight.

X. Next Meeting: Wednesday, February 2, 2011

Annual Review of CAP Implementation and Priorities
Residential Energy Conservation Ordinance (RECO)

XI. Adjournment: Meeting adjourned at 5:48 p.m.

CITY OF
HAYWARD
HEART OF THE BAY

V

DATE: February 2, 2011

TO: Mayor and City Council Sustainability Committee

FROM: Development Services Director

SUBJECT: Residential Energy Conservation Ordinance (RECO) Discussion

RECOMMENDATION

That the Committee reads and comments on this report.

SUMMARY

Staff is seeking final direction from the Committee on the most important components of a Residential Energy Conservation Ordinance being developed for single-family homes. Staff will take the input of the Committee to develop a draft ordinance, which will be presented to the Committee at its next meeting on March 2.

BACKGROUND

The development of a Residential Energy Conservation Ordinance (RECO) for both single family and multiple-unit homes are recommended actions in the Hayward Climate Action Plan (CAP), which was adopted by the City Council on July 28, 2009. The CAP listed RECO as a relatively high priority (11 and 12 out of 25 community-wide actions).

Staff and consultants provided the Committee with an introduction to RECO on February 3, 2010 and updates on research needed for the development of a RECO for single-family homes during the June 2, 2010 and September 1, 2010 meetings. A community meeting was held on August 11, 2010 and a special meeting of the Sustainability Committee was held on October 25, 2010 to discuss the RECO. The RECO has also been discussed at the October, 2010, December, 2010, and January, 2011 meetings of the Climate Action Management Team (CAMT). All reports and presentations for these meetings are available on the City's RECO webpage[1].

[1] http://www.hayward-ca.gov/forums/RECO/recoforum.shtm

During the September 1, 2010 meeting, staff and the consultant noted Hayward's mild climate results in relatively low residential energy use for heating and little to none for cooling. This low energy use means that efficiency measures installed will have longer paybacks than areas with greater space conditioning needs. An associated August, 2010 report prepared by Mike Gabel of Gabel Associates, LLC, is also available on the City's RECO webpage and it and staff recommended a number of combinations of retrofit measures with the following attributes:

- an installed cost of $3,000 or less;
- a simple payback (before incentives) of approximately 30-35 years;
- greenhouse gas reduction in the range of 8 to 9 percent; and
- a Home Energy Rating System (HERS 2) score improvement of more than 10 percent.

The retrofit combinations that fit these criteria include:

- Air Sealing + R-30 Attic Insulation (from no insulation)
- Air Sealing + Duct Sealing
- Air Sealing + R-19 Raised Floor Insulation (from no insulation)

The Gabel report also recommended including low-cost mandatory improvements (such as water-efficient toilets and faucets as well as weather stripping). Finally, in recognition of the potential that mandatory improvements might impose a financial burden on homeowners, the report recommended a limit on the cost of required retrofit measures.

Staff and the consultant reviewed comments made at the September 1, 2010 and October 25, 2010 meetings. While there were public comments in favor of a RECO, there were a number of objections to the proposed ordinance. Among the arguments against the ordinance were that the measure is ill-timed due to the weak housing market; some people pointed out that any additional investment in houses would not be affordable to many people in this weak economy; others stated that the climate change science is not credible and therefore it makes no sense to require people to make RECO investments; and others asserted that current regulations are sufficient. Some of those in favor of the ordinance said that they preferred that efforts be directed to educating people about the benefits of improving the energy performance of their home, and letting homeowners decide whether and when to make energy retrofits. Two speakers stated that some of the measures identified in RECO could make air quality in retrofitted homes dangerous to occupants.

Staff and the consultant addressed comments raised to date and presented the resulting recommendation for design of a RECO to the Climate Action Management Team on January 19, 2011. Input related to dates for compliance, standards for compliance, cost caps for measures, and exceptions from the obligation to comply with the requirements of RECO.

DISCUSSION

Indoor Air Quality – One of the comments raised at the October 25, 2010 Sustainability Committee meeting was that sealing a home to make it more energy efficient also contributes to increased levels of hazardous gases trapped in the home. Air sealing is part of the each of the combinations of required prescriptive efficiency measures currently being considered for the RECO. Air sealing is also one of the improvements required for participation in PG&E's Basic Upgrade incentive program. Air sealing is performed by a specialized contractor using a blower door to pressurize the home to find and seal leaks around windows, doors, light fixtures, vents, ducts and attics.

Due to the safety concerns associated with air sealing, the draft RECO will require that air sealing be performed by a contractor certified by the Building Performance Institute (BPI). BPI-certified contractors are required to test the air change rate of every home that is sealed and ensure that it meets the standards established by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). The ASHRAE 62.2 standard requires homes to maintain a minimum of 0.35 air changes per hour (ACH). If the air sealing causes a home to have fewer than 0.35 ACH, which is very unlikely, then an exhaust fan or other mechanized system that meets the whole house ventilation requirement would have to be installed. In practice, the contractor will never seal up the house to below 0.35 ACH. In addition, the BPI-certified contractor will perform combustion safety testing to ensure that any gas appliances in the home are properly vented and will not cause deteriorated indoor air quality.

Triggers – In an effort to ensure RECO compliance at the earliest possible date, staff developed a schedule of "Trigger" events which would require the homeowner to make RECO improvements. Trigger events discussed were 1) Remodel Triggers or the date the homeowner makes substantial remodel improvements to the home, or 2) Transfer Triggers or The date of transfer of the home from one person to another, or 3) Date certain Triggers or a fixed date by which improvements must be completed.

Remodel Triggers – A remodel trigger was established based on a statistical analysis of remodel projects permitted by the City over the last nine years. During this time period, an average of approximately 100 remodel permits for work exceeding $30,000 were issued annually by the City for the following types of projects:

- Room Additions
- Kitchen remodels
- Bathroom remodels
- Fire Damage Repair
- Water damage Repairs
- New Roof Structures

The draft RECO will exempt repair of fire and water damage or other eminent life/safety repairs from the remodel permits that trigger RECO compliance.

Transfer Trigger - A "Transfer Trigger" would occur on a date established by the date a property changes ownership from one homeowner to another. In response to concerns raised by the residential real estate community, who noted that the imposition of the costs and duties required of any RECO statute could chill the pace of home sales, negatively impact financing, and negatively affect home values at the date of sale, the Transfer Trigger date was extended. The new Trigger date for transfer associated RECO compliance was set at two years after the date of transfer. This new compliance date would allow the flexibility for the seller or buyer to complete RECO compliance up to two years after the date of property transfer.

At the CAMT meeting of January 19, members wanted to know whether transfers to related persons, like family members would be subject to RECO compliance. Staff and the consultant reviewed this question and subsequently agreed to recommend that transfers to immediate family members, such as spouse to spouse, parent to child and child to parent, would be exempt from RECO compliance based on date of transfer. Additional exemptions were recommended for involuntary transfers, such as transfer by law or death.

Date Certain Trigger - In an effort to ensure that individual homeowners' deadlines for RECO compliance would result in a sufficient number of homes being upgraded to contribute to timely GHG reductions, staff and the consultant recommended a schedule for homeowners to comply with RECO. CAMT members noted that staff initially proposed to establish a deadline for over 20,000 homeowners to make RECO retrofits within a four year period. Staff since revised the schedule to space each of the deadlines by two years. The extra time will make administration of the ordinance more manageable for the City and it will give local contractors more time to perform the necessary improvements.

Year Structure Built	Number Housing Units in Hayward	Approximate Number of Single-Family Homes	Recommended Compliance Deadlines	Previously Proposed Deadlines
1949 and earlier	5,336	3,074	2018	2018
1950 – 1959	12,992	7,483	2020	2019
1960 – 1969	8,160	4,700	2022	2020
1970 – 1979	9,215	5,308	2024	2021
Total subject to RECO	35,703	20,565		
Total homes in Hayward	48,273	27,805		

Exemptions – The following exemptions for RECO compliance were developed by the staff and the consultant in consultation with the CAMT:

1. Homeowners that demonstrate the RECO compliance would constitute an Economic Hardship on the homeowner would be exempt from compliance with RECO obligations.
2. Transfer Trigger compliance could be delayed up to two years from the date of transfer.
3. Transfer Triggers would not apply to transfers to immediate family members, such as spouse to spouse, parent to child and child to parent.
4. Involuntary transfers, such as transfer by law or death would be excluded from RECO compliance.
5. If none of the three prescriptive options are practical based on the specific existing conditions as verified by a BPI-certified contractor, air sealing alone will meet the compliance requirement.
6. If homeowner demonstrates that no compliance option can be completed for less than Cost Cap, mandatory features and air sealing only shall meet the requirements.
7. If no compliance option is possible, then a qualified contractor may propose an alternate course of action, subject to prior approval by staff.
8. For low income and/or disabled homeowners, Standard RECO will not apply, but will be encouraged to contact PG&E for information about how they can reduce their utility bills.
9. Previously completed work completed in compliance with RECO will qualify for compliance at later dates, regardless of triggers. The work must have been completed by a BPI certified contractor.

Incentives – On January 25, 2011, the City Council adopted a resolution obligating approximately $750,000 of the City's Energy Efficiency and Conservation Block Grant (EECBG) funds for three energy efficiency incentive programs. One of the incentive programs is targeted for single-family homes. The Residential Energy Users Incentive Program will provide three types of rebates:

- Comprehensive home energy audit - $250;
- Energy efficiency improvements installed via a prescriptive option - $750;
- Energy efficiency improvements installed via a performance option - $1,500 for a 15 percent reduction in energy use and $2,000 for a 20 percent reduction in energy use.

The rebate for the audit will only be available to homeowners who follow through with installation of efficiency improvements either through the prescriptive or the performance option. Improvements installed using the prescriptive option may or may not have an audit conducted on the home, while the performance option requires an audit to determine which improvements are most appropriate for the home.

The $750 rebate would be eligible to homeowners who participate in PG&E's Basic Upgrade option or who install any of the combinations of improvements currently being considered for RECO compliance. To receive a $1,000 rebate through PG&E's Basic Upgrade option, all of the following improvements must be made to a home:

- Attic sealing
- Attic insulation
- Duct sealing
- Hot water pipe insulation
- Low-flow shower heads
- Smoke alarm/carbon monoxide detector
- Combustion safety testing

Through the Advanced Upgrade option, PG&E currently offers a $1,500 incentive for a 15 percent reduction[2] from baseline energy use, and an additional $500 for each additional 5 percent of energy reduction up to $4,000 for a 40 percent reduction. As noted above, one of the compliance options being considered for the RECO would require a 10 percent reduction from baseline energy use. The City's Program would provide an additional $1,500 incentive for a 15 percent reduction or $2,000 for 20 percent (or more) reduction.

Finally, a $250 rebate for the home energy audit will be available through the City's incentive program. The rebate for the audit will only be available to owners who complete energy efficiency improvements on their homes – either through the prescriptive or the performance option. The audit is required to participate in the Advanced Upgrade option, but not for participating in the Basic Upgrade option or the RECO compliance.

As directed by the Council, the City's incentive for RECO measures will only be available for homes that cannot participate in PG&E's Basic Upgrade option, for example, if the home does not have an attic. The City's incentive program will allow enable the collection of data to confirm the cost-effectiveness of the measures currently being considered in the draft RECO.

Prepared by: Marc McDonald, Sustainability Coordinator

Recommended by: David Rizk, AICP, Development Services Director

Approved by:

Fran David, City Manager

[2] When this program was presented to the Sustainability Committee on January 5, 2011, PG&E's program required a minimum of a 20 percent energy reduction. On January 10, 2011, PG&E announced that the program now has a minimum of 15 percent.

Sustainability Committee Monthly Meeting Topics for 2011

Presenting Department	Date	Topics	Climate Action Plan Action Number (priority)
~~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) – Draft Ordinance	3.1 (11)
		Annual Review of CAP Implementation and Priorities	
PW	April 6	Update on Food Scraps Programs	6.2 (13)
PW		Senate Bill 7 – Water Conservation	
Finance	May 4	Environmentally Preferred Purchasing	6.10
DS		Green Building - Requirements for Commercial Buildings, Parking Requirements, and Solar Requirements	4.1, 4.2, 5.3
DS		Update on Education/Outreach Efforts	9.1, 9.2, 9.3
PW	June 1	Transportation Demand Management (TDM) Programs/Strategies	1.1 (21)
DS		Commercial Energy Conservation Ordinance (CECO)	3.3 (2)
DS		Local Food Production/Healthy Eating	8.1
PW	July 6	Report on Public Transportation	1.4 (16)
		Update on Sea Level Rise Studies	Strategy 8
DS/PW		Pedestrian Master Plan (*may be addressed in Circulation Element of GP when we do update in 2012*)	1.6 (24)
	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, 6.2, 6.3, 6.6, 6.7, 6.8, 6.9
		CECO Update	3.3
	October 5	Update on Property Assessed Clean Energy (PACE) and Energy Upgrade California (EUC)	5.1, 5.2, 3.7, 3.8, 3.9
DS		Update on Green Team Efforts	
DS	November 2	Multi-Family RECO (introduce topic)	3.2 (12)
DS		Discussion of Topics for 2012	
PW	December 7	Plastic Bag Ordinance	6.4 (25)

Erik Pearson

From: Greg Ricchini [Greg.ricchini@bhghome.com]
Sent: Saturday, January 22, 2011 9:27 AM
To: Erik Pearson
Subject: City of Hayward

For all of the good things that the City of Hayward has to offer, it may be the unfriendliest city in the county to work with regarding home improvements. This may be the reason people work "around" the city instead of working with the City. It also may be the reason so many contractors avoid working in the City of Hayward. I have help remodel many homes in Alameda county, making the homes look like Pottery Barn with beautifully landscaped yards. But I'm not going into Hayward.

If the City officials want their City to be known for the Tennyson Avenues, Havana, Tampa, keep making it more difficult on Contractors. And at what point is the City going to understand that contractors don't need to pay up to 6X's the amount for permits as they do in the County?

By the way…I'm referring to this article:

Energy Retrofits in Hayward: The City of Hayward continues to study mandatory energy efficiency retrofits. The latest proposed Residential Energy Conservation Ordinance (RECO)would require a homeowner to complete all of these energy efficiency improvements:

- Adding extra ceiling insulation
- Sealing air leaks and duct work
- Installation of new plumbing fixtures including low-flow toilets, faucets and shower heads
- Insulating hot water pipes and
- Installing fireplace closures.

The city also could require additional energy efficiency work including the installation of a new roof and sheathing. This work would need to be completed by a special contractor.

These retrofits would be required in the following instances:

1. When a home is sold or within two years of the sale.
2. Remodels or additions: Home improvement projects totaling more than $25,000 would trigger the energy efficiency mandates.
3. Homes built prior to 1978: All homes built before 1978 would be subject to the requirements.

The RECO will be discussed at the Feb.2 meeting of the Hayward Sustainability Committee.

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Erik Pearson

From: Sharon Blood [bloodsharon@gmail.com]
Sent: Saturday, January 22, 2011 10:49 AM
To: Erik Pearson
Subject: RECO

Are you kidding me??!!! Hayward is going overboard and is crazier than all get out. This kind of retrofit will have a HUGE negative impact on Residential Real Estate Sales in that City. The measures they are proposing are too expensive and do not yield a significant return.
They are proposing this at a time when they really cannot afford to make residential real estate sales more sluggish!

The California Energy Commission, CEC, does not require such drastic changes to existing structures when a party decides to alter or add to their homes and they have an enormous budget and many highly qualified Energy Engineers who are constantly studying and revising the code.
In a simple Cost Replacement Value Calculation, most times we will find that a simple payback of one year over energy costs is an effective method of determining whether or not to install or alter something as simple as a light bulb or as complicated as a new roof with underlying sheathing.

Lets discuss the sheathing. Most older homes do not have plywood or osb sheathing under the roof material. It generally has skip sheathing, boards placed at intervals to provide a nailing surface for both the tar paper and the shingles.

The life of an asphalt shingle roof manufactured and installed 40 years ago was about 15 years. Building Codes allow the re-roofing of up to 3 layers before the roof needs to be stripped down to the paper and then a new layer installed. That's when you add plywood, not at some arbitrary occurrence unrelated to the condition of the structure, such as a transfer of ownership.

Each decade improves performance on manufactured products such as Roof Materials. If the 1st install equals a 15 year life; 2nd install equals 20 years; and the 3rd install, 25-40 years. The average life of the underlying roof structure is 75 years before you would need to install plywood. The average age of a home built in Hayward is 42 years, this one suggestion cuts the life span of the roof in about half. Who wants something meant o last for 75 years to need replacement in after 42 years???

This solid sheathing under the roof is arbitrary and doesn't necessarily add a significant savings in terms of heat transmission through a roof. And it would cost about $10,000. How much energy are you going to save? If you calculate the U-value you will see that it's not significant. It would probably take at least 16 years to pay for itself. That's why the CEC doesn't ask for it! Waste is waste, so they are not improving energy consumption with this approach they are actually being reckless and wasting energy, and lots of it! Not that solid sheathing doesn't help with sound of structure but it sure isn't a high impact payoff for energy consumption. But as a Mandatory Energy Feature due to a sale, NO!

Increase insulation, sure, that's a low cost effective way to make an immediate difference. Or how about something smart like to swap out the Storage Gas water heaters for Instant Gas. That cost is about $1000-$1200 to replace a storage gas water heater with and instant gas, and would pay for itself in less than one year. Or to change out the windows from Single Glazed to Dual Glazed, the average cost is $2800 and the simple payoff

is 2 years. These guys are idiots! They should do more homework before they start randomly throwing out cost and energy consumption mandates.

Anyway, most people are voluntarily making improvements to homes with Energy savings and sound transmission at a high priority. Maybe Haward's RECO Committee should re-think their approach. They have a $4.50 per thousand City Transfer Tax which already has a negative impact on the sale of homes in Hayward, why don't they consider using some of that as a rebate or off-set the cost if new home buyers in Hayward were to voluntarily meet some energy efficient standards upon sale of their home.

I think they are just inventing things for other people to do to justify their own jobs in a down economy.

--
Sharon Blood, Realtor (Since 1978)
and Title-24 Energy Analyst (Since 1984)
(510) 565-9135

Erik Pearson

From: Corneliusco@aol.com
Sent: Monday, January 24, 2011 1:43 PM
To: Erik Pearson
Subject: Reco

Erik Pearson

I have been a real estate agent/broker for 30 + years. What Hayward does not need is another layer of beauracracy . In today's climate , it is hard enough to get buyer and seller to agree on terms to sell.
Everyone should be in favor of insulation and other energy saving measures, however making them mandatory is not the way to go. PG&E has a great rebate program with incentives for homeowners to do on a voluntary basis , what you are trying to mandate.

Find another project, like making a 15% cut in your budget.

Erik Pearson

From: Sharon Luther [sharon.luther@comcast.net]
Sent: Monday, January 24, 2011 4:05 PM
To: Erik Pearson
Cc: davids@bayeast.org
Subject: Sustainability Committee

Attention: To Those Who Genuinely Care About Hayward's Future

I wonder if the City of Hayward realizes, or even cares, the degree to which Hayward home values have plummeted in comparison to neighboring towns. It is sobering. These proposed retrofits will just add nails to the coffin.

Hayward has the most temperate climate of all of the Alameda County and Contra Costa County cities. There are plenty of other cities where these retrofits would make a serious "green statement." Please note that almost none are doing it. This is nonsense for the City of Hayward. When is someone going to expose this committee for what it is? Employment.

My own Hayward home has decreased by 66%!

32 Years Serving Hayward

SHARON LUTHER
24057 La Paz Way
Hayward, CA 94541
510 435 8842 cell
510 887 8886 home office

CITY OF
HAYWARD
HEART OF THE BAY

Sustainability Committee Meeting
February 2, 2011

Residential Energy Conservation Ordinance (RECO)

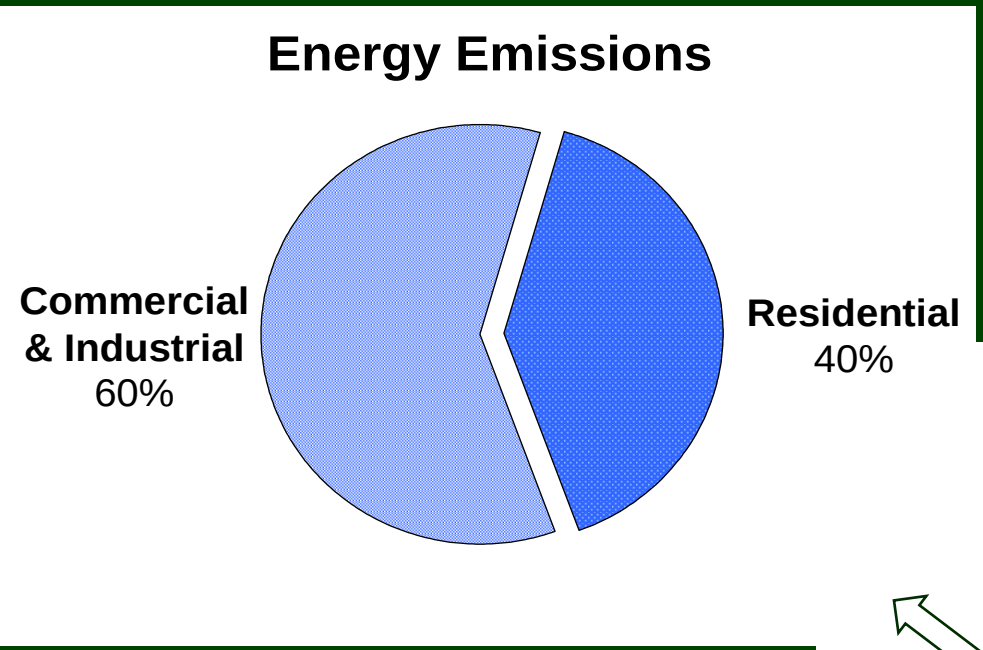
Erik Pearson, *Senior Planner*
Development Services Department

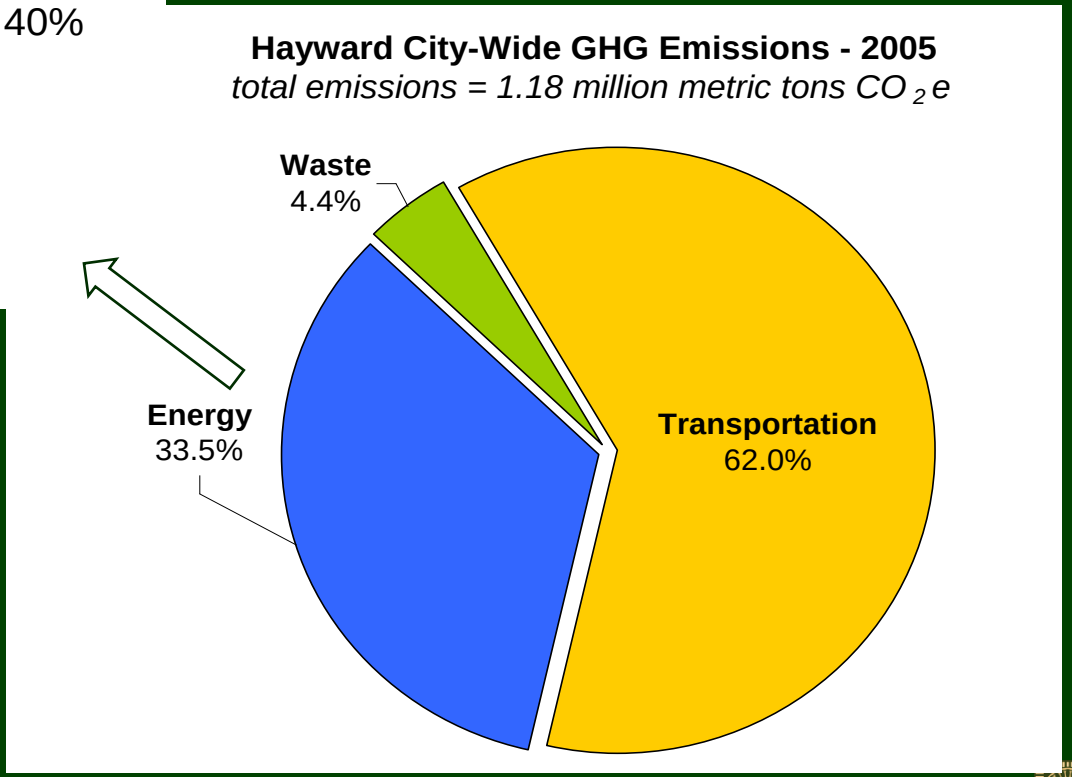
RECO Defined

- A Residential Energy Conservation Ordinance would require energy efficiency improvements in existing homes.

- The existing Green Building Ordinance addresses new construction.

GHG Emissions from Hayward's Buildings





Policy Context- State Goals

Hayward's Climate Action Plan and California's Global Warming Solutions Act

- Reduce GHG emissions by 12.5% below 2005 levels by 2020
- Reduce GHG emissions to 82.5% below 2005 levels by 2050

California Public Utilities Commission- ***Long Term Energy Efficiency Strategic Plan***

- Reduce energy consumption in existing homes by
    - 20% by 2015
    - 40% by 2020
- Recommends that local governments adopt RECOs

Hayward RECO Process

- July 28, 2009 – Climate Action Plan adopted by Council
- Feb 3, 2010 – Introduction of RECO to Council Sustainability Committee
- June 2, 2010 – Overview of RECO to Council Sustainability Committee
- August 11, 2010 – RECO Community Meeting
- September 1, 2010 – Council Sustainability Committee Meeting
- October 20, 2010 – Climate Action Management Team Meeting
- October 25, 2010 – Special Sustainability Committee Meeting
- December 15, 2010 – Climate Action Management Team Meeting
- January 19, 2011 – Climate Action Management Team Meeting
- February 2, 2011 – Council Sustainability Committee Meeting
- March 2, 2011 – Draft Ordinance to Council Sustainability Committee
- May 31, 2011 – Draft Ordinance to City Council for Work Session

www.hayward-ca.gov/forums/RECO/recoforum.shtm

CITY OF HAYWARD
HEART OF THE BAY ™

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Residential Energy Conservation Ordinance (RECO)

Overview

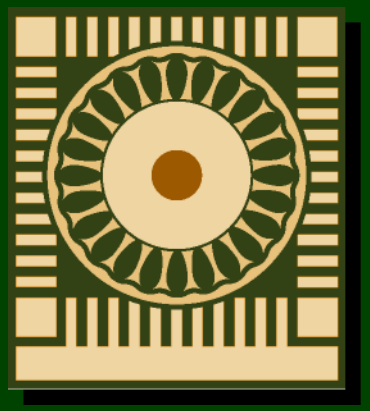
What is a Residential Energy Conservation Ordinance?

- A Residential Energy Conservation Ordinance (RECO) is a policy tool local governments can use to improve the energy efficiency of existing homes.
- RECOs typically require property owners to implement specific measures to reduce energy and water use.
- A RECO can be apply to single family, duplex and/or multi-family buildings.
- The design of the RECO will determine the types of improvements required as well as which properties are subject to the ordinance. "Triggers" for compliance can include, but are not limited to, the point of sale of a property, a significant remodel or addition, or a specific date by which all subject properties must comply. Examples of typical improvements include air sealing and insulation.

Why Develop a RECO?

- Hayward's **Climate Action Plan** (CAP), adopted by the City Council on July 28, 2009, sets the following goals:
  - Reduce greenhouse gas emissions 12.5 percent below 2005 levels by 2020
  - Reduce greenhouse gas emissions 82.5 percent below 2005 levels by 2050
- Hayward's residential buildings produce:
  - 13% of the community's total Greenhouse Gas (GHG) emissions and
  - 37% of the community's non-transportation GHG emissions
- Hayward's CAP calls for the development of a RECO to help meet GHG reduction goals in existing buildings
- The California Public Utilities Commission Long Term Energy Strategic Plan includes a goal to reduce energy consumption in existing homes by 20% by 2015 and 40% by 2020, listing RECOs as a role for local governments in reaching this goal
- Economic benefits:
  - annual energy and cost savings:

Internet 100%



Ordinance Elements

- Triggers
- Retrofit Measures
- Cost Caps & Exemptions

Trigger Options

- **Remodels > $30,000:** RECO must be met as part of the regular permit process
- **Point of Sale/Time After Sale:** RECO must be met within 2 years after property sale
- **Date Certain**: RECO must be met by a fixed deadline (e.g., 6 to 10 years after effective date)

Date Certain - Recommended Deadlines

Year Structure Built	Number Housing Units in Hayward	Approximate Number of Single-Family Homes	Recommended Compliance Deadlines
1949 and earlier	5,336	3,074	**2019**
1950 – 1959	12,992	7,483	**2021**
1960 – 1969	8,160	4,700	**2023**
1970 – 1979	9,215	5,308	**2025**
Total subject to RECO	35,703	**20,565**	
Total homes in Hayward	48,273	27,805	

Recommended Retrofit Measures

Mandatory Measures:

- Seal leaks in furnace ducts
- Replace existing toilets with low flow or ultra low-flow model
- Install approved dampers, doors or other devices reduce heat loss through chimneys
- Insulate all domestic storage water heaters
- Install low-flow devices in showerheads and faucets
- Insulate pipes within 60 inches water heater
- Install weather stripping on all exterior doors

Recommended Retrofit Measures

Compliance Options: owner chooses any one of the following options in consultation with qualified performance contractor:

1. Air Sealing + R-30 Attic or Roof Insulation; **or**
2. Air Sealing + Duct Sealing; **or**
3. Air Sealing + R-19 Raised Floor Insulation; **or**
4. HERS 2 Rating + Improve Existing House Score by ≥ 10%.

Air Sealing

- Potential for hazardous gases to be trapped in home
- Must be completed by a contractor certified by the Building Performance Institute
- Combustion safety testing
- Home must meet minimum of 0.35 air changes/hour (ACH)
- Typical home may have current ACH of 1.0 or more
- Typical Air Sealing work would reduce leaks to 0.5 ACH

Cost Cap Recommendations

- Maximum expenditure by homeowner:
  - **Remodels/Additions > $30,000**: 10% of project cost
  - **Point of Sale/Time After Sale**: 1.0% of sale price
  - **Date Certain:** 1.0% of assessed property value

Exemptions

Complete Exemptions:

- Low Income (per Federal guidelines)
- Disabled (per Federal guidelines)

Complete or Partial Exemptions:

- Compliance cannot be completed for less than cost cap
- Compliance is impossible (lack of attic or ducts)

Incentives

PG&E Rebates (Energy Upgrade California)

- $1,000 for Air Sealing, Attic Insulation & Duct Sealing

Additional Rebates Offered by City

- $750 for RECO Prescriptive Measures

HAYWARD

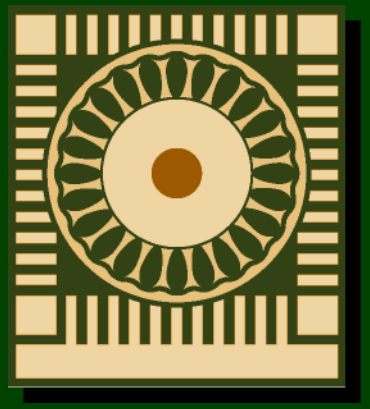
Incentives

	Cost	PG&E Rebate	City Rebate	Net Cost
Air Sealing + Attic Insulation	$2,589	$0	$750	$1,839
Air Sealing + Duct Sealing	$2,440	$0	$750	$1,690
Air Sealing + Floor Insulation	$3,016	$0	$750	$2,266
PG&E Basic Upgrade	$3,617	$1,000	$750	$1,867

Utility Incentives
– PG&E Energy Partners Program

Free for Income Qualified Owners & Renters

- No-cost home energy improvements (house, apartment or mobile home)
- Attic insulation, weather stripping, caulking, energy-efficient lighting and refrigerators, window repair and more
- Furnace and water heater repair and replacement available to qualifying home owners
- http://www.pge.com/energypartners/



Questions & Discussion