

DATE: April 6, 2011
TO: Mayor and City Council Sustainability Committee
FROM: Development Services Director
SUBJECT: Annual Progress Report on Implementation of Hayward's Climate Action Plan

RECOMMENDATION

That the Committee reads and comments on this report.

SUMMARY

This first annual progress report on implementation of the City of Hayward's Climate Action Plan (CAP) will compare CAP-recommended implementation timetables against actual progress. Appendix E of the CAP (Attachment I) is a timeline indicating when each action in the CAP should be implemented. Progress on action items that are scheduled to commence after 2012 will not be addressed in this report, but will be addressed in future reports, which staff plans to provide to the Committee and City Council on an annual basis. This report also provides an update to Hayward's 2005 greenhouse gas emissions inventory.

BACKGROUND

On July 28, 2009, the Hayward City Council adopted the Hayward Climate Action Plan (CAP)¹ with the goal of reducing the amount of greenhouse gas (GHG) emissions from activities taking place within the City. The CAP includes GHG emissions targets that align with those of the State of California for 2020 and 2050 and provides a roadmap for achieving the targets. Hayward's GHG reduction targets are as follows:

- 6.0 percent below 2005 levels by 2013 (interim target)
- 12.5 percent below 2005 levels by 2020
- 82.5 percent below 2005 levels by 2050

Appendix A of the CAP includes an inventory of all GHGs emitted in the City of Hayward in 2005. The CAP presents 9 strategies and 40 specific actions that, if fully implemented, will make it possible for the City to meet its adopted emission reduction targets.

¹ The Climate Action Plan is available at <http://www.ci.hayward.ca.us/CAP08/CAP08.shtm>

DISCUSSION

Following is a summary of the status of implementation of the nine strategies identified in the CAP, including an update on specific CAP actions recommended to commence prior to 2012. The priority number, as identified in Appendix D of the CAP, is also indicated for each action, as is a GHG reduction target as shown in Appendix B in the CAP.

Strategy 1- Transportation and Land Use: Reduce Vehicle Miles Traveled

Action 1.5(Community-wide Action Overall Priority #37)- Continue to implement and expand the City-wide bicycle master plan through aggressive pursuit of grants and other sources of funding which could be used to expand bike lanes and bike parking facilities. (2020 reduction target: 2,419 metric tons; 2050 reduction target: 7,610 metric tons)

The CAP calls for this Action to be implemented beginning in 2009. Hayward's current Bicycle Master Plan was adopted in October 2007. Most of the bikeway network improvements recommended in Chapter 6 of the Bicycle Master Plan have been completed, with the exception of the Centennial-Cannery Connector Bridge and the East Bay Greenway, which is a pedestrian/bicycle path that is proposed to follow the BART right-of-way and will be constructed by others. City staff will continue to seek grants to fund the Centennial-Cannery Connector Bridge. Also, when the City's General Plan and Circulation Element are updated, which is anticipated to occur within the next few years, policies related to the City's bicycle network will be revised.

Action 1.9(Community-wide Action Priority #27)Encourage high density, mixed-use, smart growth development in areas near public transit stations.(Emissions reductions are not quantified in the CAP.)

The CAP calls for this Action to be implemented beginning in 2009. On March 17, 2009, the Hayward City Council approved a high-density, mixed-use, transit-oriented development project at the South Hayward BART station. Additionally, the City anticipates adopting this calendar year a new Form-Based Code along Mission Boulevard between Harder Road and Industrial Boulevard and in the general area around the South Hayward BART station, and a new Specific Plan/Form-Based Code along Mission Boulevard north of Harder Road to the City limit (excluding Downtown). Such codes will follow the Smart Code template and include provisions, including those that promote walkability, which will promote smart growth development along the Mission Boulevard Corridor and near the South Hayward BART station.

Action 1.10(Community-wide Action Priority #9) - Explore the development of zoning and development standards that consider both the land uses and the urban design and form of buildings and public space, where the new standards will result in reduced GHG emissions.(Emissions reductions not quantified in the CAP.)

The CAP calls for this Action to be implemented beginning in 2009. The two form-based codes current being developed and referenced above will help to decrease automobile travel and increase walkability, but city-wide zoning amendments will be necessary as well. Additional Zoning Ordinance amendments as recommended in Appendix H of the CAP will be developed as staff resources allow.

Action 1.13(Municipal Action Priority #7) - Reinstate commuter benefits such as Commuter Checks to City employees, and when possible expand or develop other commuter benefits programs such as parking cash-out or parking pricing programs, or taking advantage of the new tax credit for biking to work. The City will amend Administrative Rule 2.26 to reflect current transportation demand management opportunities.(Emissions reductions not quantified in the CAP.)

Possible commuter benefits such as incentives for riding public transit and other transportation demand management strategies are planned to be presented to the Sustainability Committee on June 1, 2011.

Action 1.14(Municipal Action Priority #15) -Explore options in developing a car-sharing and/or bike-sharing program for City employees. If private organizations like Zip Car are not interested in managing the car sharing program, it could be administered by the City as a benefit available to City employees only. A bike share program would also be administered by the City as a benefit to City employees. (Emissions reductions not quantified in the CAP.)

Staff has discussed such programs with private firms such as Zip Car, who has indicated no interest in locating in Hayward. Staff will continue to explore options related to car and bicycle sharing.

Action 1.15(Municipal Action Priority #8) - When making decisions about where to rent or build new City facilities, give preference to locations that are accessible to an existing public transit line.(Emissions reductions not quantified in the CAP.)

Plans have been prepared for a new library to be constructed at the corner of C Street and Mission Boulevard, which is approximately one block from the Hayward BART station. Staff is currently also exploring the possibility of constructing a new police station in the downtown area. No other new City facilities are being considered.

Additional Items Related to Strategy 1:

Bus Service –Due to a budget shortfall of approximately \$18.9 million, AC Transit announced in October 2010 that starting on October 31, 2010, the bus agency would reduce service on about seventy bus lines, including ten lines serving Hayward.

Traffic Signal Timing–On December 7, 2010, Public Works Department staff presented City Council with information about a \$614,000 grant received from the Alameda County Transportation Commission for a traffic signal timing and controller replacement program on three major transportation corridors – Hesperian Boulevard, Tennyson Road and Winton Avenue. Once the upgrades required for the signal coordination are complete, all 32 intersections on the three major corridors in Hayward will be optimized and coordinated to reduce traffic congestion, thereby improving traffic flow, decreasing fuel consumption, and ultimately reducing greenhouse gas emissions. This project is scheduled to be completed in the fall of 2011.

Strategy 2 – Transportation: Decrease Carbon-Intensity of Vehicles

Action 2.1(Community-wide Action Priority #5)- Play an active role in collaborating with regional, state, and federal efforts to provide financial and non-financial incentives for residents to purchase low-carbon vehicles.(Actions 2.1 and 2.2 combined: 2020 reduction target: 129,060 metric tons; 2050 reduction target: 532,735 metric tons)

The CAP calls for this Action to be implemented beginning in 2010. Staff will continue to seek opportunities for working at the regional, state and federal levels toward making incentives for low-carbon vehicles available. Staff will present letters and resolutions to the Council when appropriate to advocate for incentives for low carbon vehicles.

Action 2.2 (Community-wide Action Priority #4) - Play an active role in collaborating with regional, state, and federal entities to promote the use of alternative fuels and increased vehicle fuel efficiency standards. (Actions 2.1 and 2.2 combined: 2020 reduction target: 129,060 metric tons; 2050 reduction target: 532,735 metric tons)

The CAP calls for this Action to be implemented beginning in 2010. Since the adoption of the CAP, many more hybrid vehicles have become available and recently, lower emission vehicles such as the Nissan Leaf and the Chevrolet Volt, have come onto the market. A Prius plug-in hybrid vehicle is scheduled to be available in 2012.

In January 2007, Governor Schwarzenegger signed Executive Order S-01-07, which directed the development of protocols for measuring the "life-cycle carbon intensity" of transportation fuels. The executive order sets an initial goal of reducing the carbon intensity of fuels used by California's passenger vehicles by at least 10% by 2020. In April 2009, the California Air Resources Board adopted the Low Carbon Fuel Standard regulation. The regulation will require fuel providers to ensure that the mix of fuel they sell into the California market meets, on average, a declining standard for GHG emissions. Staff will continue to monitor activities at the state level and recommend to the City Council adoption of resolutions that would support implementation of the Low Carbon Fuel Standard.

Action 2.3 (Municipal Action Priority #6) - Continue to procure fuel-efficient and alternative fuel vehicles for municipal vehicle fleet. (Actions 2.3 and 2.4 combined: 2020 reduction target: 54 metric tons; 2050 reduction target: 108 metric tons)

When new vehicles are purchased, fuel efficiency and/or alternative fuels will be a high priority among the factors considered.

Action 2.4 (Municipal Action Priority #12) - Continue, whenever possible, to negotiate an alternative fuel requirement into new services provided by the City's franchisee. (Actions 2.3 and 2.4 combined: 2020 reduction target: 54 metric tons; 2050 reduction target: 108 metric tons)

Beginning June 2007, the City's waste and recycling franchisee has used alternative fuel vehicles for Residential Collection of Garbage, Recyclables, and Organics. Staff will continue to seek additional opportunities to do business with firms utilizing alternative fuel vehicles.

Strategy 3 - Energy: Improve Performance of Existing Buildings.

Action 3.1 (Community-wide Action Priority #23) - Develop and implement a Residential Energy Conservation Ordinance (RECO) for detached single-family homes which would require improved energy efficiency and energy conservation in residential buildings. (2020 reduction target: 639 metric tons; 2050 reduction target: 39,304 metric tons)

The CAP calls for this ordinance to be developed beginning in 2011. The City Council Sustainability Committee and the Climate Action Management Team (CAMT) have developed general parameters for a Residential Energy Conservation Ordinance (RECO) to improve the

energy performance of existing single-family and duplex residential properties in Hayward. Language for components of a draft RECO was provided to the City Council Sustainability Committee on March 2, 2011, and will be provided to the City Council on May 31, 2011, and to the Planning Commission on June 9, 2011. The Committee recommended that staff promote incentives/rebates available to homeowners to encourage voluntary installation of energy efficiency improvements (see later discussion). That recommendation will be forwarded to City Council for the May 31 work session, and staff will track such installations over the next several months.

Action 3.2 (Community-wide Action Priority #12) - Develop and implement a Residential Energy Conservation Ordinance (RECO) for multiple-unit homes which would require improved energy efficiency and energy conservation in residential buildings. (2020 reduction target: 983 metric tons; 2050 reduction target: 33,033 metric tons)

The CAP calls for this ordinance to be developed beginning in 2011. The Sustainability Coordinator is scheduled to begin the process of developing a RECO for multiple-unit homes in November 2011.

Action 3.3 (Community-wide Action Priority #3) - Develop a Commercial Energy Conservation Ordinance (CECO) which would require improved energy efficiency and energy conservation in commercial buildings. (2020 reduction target: 5,164 metric tons; 2050 reduction target: 105,152 metric tons)

The CAP indicates this ordinance is to be developed beginning in 2011. The Sustainability Coordinator is scheduled to begin the process of developing a CECO in June 2011.

Action 3.7 (Community-wide Action Priority #6) - Develop a residential energy efficiency retrofit financing program for single-family homes. (2020 reduction target: 181 metric tons; 2050 reduction target: 40,248 metric tons)

The CAP calls for this Action to be developed beginning in 2010. Staff provided an update on the status of development of a statewide Property Assessed Clean Energy (PACE) program, called *CaliforniaFirst*, to the City Council on September 14, 2010² and to the Council Sustainability Committee on November 3, 2010³. As indicated in the November 3, 2010 report to the Council Sustainability Committee, lawsuits have been filed against the Federal Housing Finance Agency (FHFA) and/or Freddie Mac and Fannie Mae by the State of California, Sonoma County, the City of Palm Desert, the Town of Babylon in New York, the Sierra Club, and the Natural Resources Defense Council for blocking the implementation of PACE programs around the country.

While Congress did not take action on the PACE legislation that was introduced in 2010, work is continuing to prepare for the next session. There are plans for new, bi-partisan, PACE legislation to be introduced in 2011. On February 9, 2011, the National Association of Counties and the National League of Cities wrote a joint letter to the United States Congress urging them to support legislation that affirms the right of state and local governments to exercise liens or assess special taxes or other property obligations for the installation of renewable energy and energy efficiency improvements. Staff will continue to monitor PACE developments at the national level, and support efforts for such

² The September 14, 2010 Council report is at <http://www.hayward-ca.gov/citygov/meetings/cca/rp/2010/rp091410-11.pdf>

³ See Report # 1 at <http://www.hayward-ca.gov/citygov/meetings/csc/ccsc/2010/CSC-CCSC110310.pdf>

programs via letters or recommendations for letters from the Mayor or resolutions from the City Council as appropriate.

On January 25, 2011⁴, the City Council endorsed an energy efficiency incentive program for single-family homes, funded by Hayward's federal Energy Efficiency and Conservation Block Grant funds as part of the American Recovery and Reinvestment Act (ARRA). Typical improvement measures eligible for incentives include air sealing, insulation, duct sealing, and furnace and water heater upgrades. 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.

Action 3.8 (Community-wide Action Priority #7) - Develop a residential-energy efficiency retrofit financing program for multiple-family homes. (2020 reduction target: 126 metric tons; 2050 reduction target: 33,617 metric tons)

The status of the PACE program mentioned above also applies to multiple-family homes.

Action 3.9 (Community-wide Action Priority #1) - Develop a commercial energy efficiency retrofit financing program for commercial buildings. (2020 reduction target: 1,630 metric tons; 2050 reduction target: 132,025 metric tons)

The CAP calls for this action to be developed beginning in 2009. While residential PACE has been put on hold, a number of jurisdictions are moving forward with commercial programs. Staff plans to investigate the possibility of establishing a commercial PACE program when the CECO is studied.

Using the City's federal Energy Efficiency and Conservation Block Grant funds, staff recently developed and launched two programs that offer energy efficiency financing programs for commercial buildings – the Large Energy Users Incentive Program and the Non-Profit and Governmental Agencies Energy Efficiency Program.

The Large Commercial Energy Users Incentive Program will leverage the existing infrastructure and processes of PG&E's Customized Retrofit Incentive program to offer financial incentives in addition to those provided by PG&E to eligible "energy intensive" Hayward businesses that make qualifying energy efficiency improvements to their facilities. Program participation will be limited to Hayward businesses that use a minimum of 1,500,000 kWh annually and successfully participate in the above-listed PG&E program. The City will match PG&E incentives up to a maximum of \$50,000.

The Non-Profit and Governmental Agencies (NPGAs) Energy Efficiency Program will leverage the existing infrastructure and processes of the East Bay Energy Watch's Business Energy Solutions Team (BEST) program to provide financial incentives to eligible Hayward NPGAs that make qualifying energy efficiency improvements to their facilities. The NPGA program will match BEST incentives up to a maximum of \$10,000 per project installation or the project cost, whichever is less.

⁴ See Report # 4 at <http://www.hayward-ca.gov/citygov/meetings/eca/2011/CCA11PDF/eca012511full.pdf>

Action 3.10 (Municipal Action Priority #1)- Take advantage of California Energy Commission's low interest loans for efficiency retrofits and LED street lighting. (2020 reduction target: 969 metric tons; 2050 reduction target: 1,054 metric tons)

As authorized by the City Council on March 15, 2011, the City of Hayward will accept a California Energy Commission loan of \$887,152 to make lighting system upgrades at the Police Department, City Hall, Fleet Maintenance building, City Hall parking garage and the Cinema Place parking garage. The project is being supported by \$138,111 in rebates from PG&E and will result in annual energy savings worth \$111,981. In addition, \$70,000 of the City's Energy Efficiency and Conservation Block Grant funds are being used to retrofit streetlights with LED fixtures along Tennyson Road near the South Hayward BART station.

Action 3.11 (Municipal Action Priority #3)-Continue to implement energy conservation practices in City-owned buildings. Prepare an energy conservation plan and update it on a regular basis. (2020 reduction target: 330 metric tons; 2050 reduction target: 1,542 metric tons)(The GHG reduction target is combined for Actions 3.11 and 3.12.)

Facilities Division staff recently participated in a benchmarking class offered by the Association of Bay Area Governments and PG&E. The class covered PG&E's Portfolio Manager tool, which assesses normalized energy performance, and PG&E's Automated Benchmarking Service, which provides historical energy usage data as well as automatic monthly updates to the building's Portfolio Manager account. Use of these tools will allow staff to benchmark buildings, automate the entry of monthly utility data, and use the information to track performance of energy conservation activities. In addition, over the last several years, staff has implemented energy conservation practices such as replacing older light tubes with more efficient tubes, adjusting thermostats, and encouraging employees to only turn on lights that are needed.

Action 3.12 (Municipal Action Priority #2)- Improve energy performance of City buildings. Begin by auditing City buildings to identify opportunities for efficiency improvements from both operations and equipment upgrades. (2020 reduction target: 330 metric tons; 2050 reduction target: 1,542 metric tons)(The GHG reduction target is combined for Actions 3.11 and 3.12.)

City facilities have been audited by the California Energy Commission (CEC) as well as by Quantum Energy Services & Technologies, Inc. (QuEST), the firm currently serving as the City Sustainability Coordinator. The CEC audit was completed as a prerequisite to receiving the loan mentioned above. The QuEST audit was completed as part of the City's participation in the Municipal Implementation Team (MIT) program. Results of the MIT audit were presented to the Sustainability Committee in January, 2011 and the audit recommended "retro-commissioning," or making adjustments to existing heating and ventilation equipment to improve efficiency. The improvements to City Hall and the Police station, which are underway, will cost approximately \$2,500 and result in annual cost savings of approximately \$33,000.

Strategy 4 – Energy: Improve Energy Performance of New Buildings

Action 4.1 (Community-wide Action Priority #20)-Continue to implement the private development green building ordinance for residential buildings. (2020 reduction target: 979 metric tons; 2050 reduction target: 18,836 metric tons)

This Action is to be implemented beginning in 2009. The Green Building Ordinance related to private development was initially adopted on December 2, 2008. The Ordinance was revised to incorporate provisions related to energy efficiency and cost effectiveness on December 15, 2009, which became effective on January 15, 2010. On October 6, 2010, staff provided the Sustainability Committee with an overview of California's new green building code known as Cal Green, which took effect on January 1, 2011. The Green Building Ordinance and its effectiveness is scheduled to be reviewed by the Council Sustainability Committee in May, 2011.

Action 4.2 (Community-wide Action Priority #18)-Continue to implement the private development green building ordinance for commercial and industrial buildings. (2020 reduction target: 4,493 metric tons; 2050 reduction target: 77,925 metric tons)

The CAP calls for this Action to be implemented beginning in 2009. The City's Green Building Ordinance and the State's new Green Building Code, Cal Green, both apply to commercial buildings. Additionally, as recommended by the Sustainability Committee during its October 6, 2010 meeting, the City's Green Building Ordinance was amended, which increased the green building requirements for new commercial buildings in Hayward. The most significant change is that all new non-residential buildings are now required to exceed Title 24 energy efficiency standards by at least 15 percent, which is in line with CalGreen's Tier 1 standards.

Action 4.3 (Municipal Action Priority #9)- Continue to implement the Municipal Green Building Ordinance. Evaluate the program every 5 years to ensure buildings are becoming more efficient over time. (2020 reduction target: 47 metric tons; 2050 reduction target: 328 metric tons)

In 2008, the City adopted a Green Building Ordinance requiring LEED Silver certification for new municipal facilities. The certification goal for the new Library and Community Learning Center is LEED Gold or higher.

Strategy 5 – Energy: Use Renewable Energy

Action 5.1 (Community-wide Action Priority #29)-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. (2020 reduction target: 850 metric tons; 2050 reduction target: 2,149 metric tons)

This action is identified to be implemented beginning in 2010. The PACE program discussed above in Action 3.7 would provide financing for renewable energy projects in addition to energy efficiency improvements in residential buildings.

Action 5.2 (Community-wide Action Priority #8)-Develop a program for the financing and installation of renewable energy systems on commercial buildings. (2020 reduction target: 10,768 metric tons; 2050 reduction target: 22,822 metric tons)

The CAP calls for this action to be implemented beginning in 2010. The PACE program discussed above in Action 3.9 would provide financing for renewable energy projects in addition to energy efficiency improvements in commercial buildings.

Action 5.4 (Community-wide Action Priority #17) - Increase the renewable portion of utility electricity generation by advocating for increased state-wide renewable portfolio standards;

and consider participating in community choice aggregation, or other means. (2020 reduction target: 32,026 metric tons; 2050 reduction target: 77,414 metric tons)

The CAP identifies this action to be implemented beginning in 2009. Opportunities for increasing the percentage of Hayward's electricity that is generated by renewable sources include community choice aggregation (CCA), power purchase agreements, wholesale distributed generation, and advocating for increasing the statewide renewable energy generation portfolio. On April 1, 2009 and May 6, 2009, staff and guest speakers presented an overview of CCA to the Sustainability Committee. Staff hopes to review options for addressing this action with the Sustainability Committee in the near future. Also, when financing program become available (Actions 5.1 and 5.2), Hayward will see an increase in the percent of electricity generated from renewable sources.

Action 5.5 (Municipal Action Priority #4)-Conduct a city-wide renewable energy assessment to estimate the total renewable energy potential and costs and benefits of developing that potential within City bounds. Develop a plan for capturing all cost effective opportunities. (2020 reduction target: 76 metric tons; 2050 reduction target: 2,226 metric tons)

Staff recently worked with the California Energy Commission (CEC) to complete an assessment of all City facilities. Using a portion of the CEC loan of \$887,152 mentioned in Action 3.10 above, solar photovoltaic panels will be installed on the Utilities and Streets buildings this year. Also, a solar photovoltaic installation was recently completed at the wastewater treatment facility. Staff will continue to look for other opportunities to install renewable energy projects on City facilities. Also, as resources allow, a comprehensive costs/benefits analysis related to renewable energy use potential for city facilities will be completed in the future.

Action 5.6 (Municipal Action Priority #5) - Ensure that all new City owned facilities are built with renewable energy (i.e. PV and/or solar hot water) systems as appropriate to their functions. (2020 reduction target: 76 metric tons; 2050 reduction target: 2,226 metric tons)(The GHG estimate was combined for Actions 5.5 and 5.6.)

The planned Library and Community Learning Center is designed to include rooftop solar photovoltaic panels.

Strategy 6 – Solid Waste: Increase Waste Reduction and Recycling

Action 6.1(Community-wide Action Priority #14)- Increase participation in the recycling services offered to businesses through the City's contract with its franchisee. (2020 reduction target: 15,916 metric tons; 2050 reduction target: 38,216 metric tons)

The CAP calls for this action to be implemented beginning in 2010. As of December 2010, about half of the businesses in Hayward participated in collection of recyclables and/or organics. Since August 2009, participation has more than doubled in part due to outreach to businesses, including assistance implementing programs, indoor storage containers, and literature provided for employees' reference. Tonnage recycled has increased about 9.6 percent in calendar year 2010 over 2009. Outreach to businesses has included literature inserted in mailings to members of the Chamber of Commerce, presentations to the Latino Business Roundtable and brochures included in garbage bill inserts.

Action 6.2 (Community-wide Action Priority #26)- Increase participation in the recycling services offered to single-family homes through the City's contract with its franchisee. (2020 reduction target: 1,495 metric tons; 2050 reduction target: 11,963 metric tons)

Beginning in January 2009, residential food scraps have been accepted for collection in the green carts provided to single-family households. Visual surveys of those carts placed curbside indicated that in 2010, about 34% of all households recycle their food scraps. Total tons of co-mingled food scraps, food-soiled paper and yard trimmings increased about 9.5 percent in calendar year 2010 over 2009. Outreach to residents included brochures inserted in each garbage bill and placement of stickers on green carts promoting food scraps collection. On average, about 65 percent of single-family households participate in the service that collects yard trimmings, food scraps and food-soiled paper, and 75 percent participate in the service that collects co-mingled paper, and food and beverage containers.

Action 6.3 (Community-wide Action Priority #14)- Improve construction and demolition debris recycling program. (2020 reduction target: 1,953 metric tons; 2050 reduction target: 15,634 metric tons)

The CAP calls for this action to be implemented beginning in 2011. Staff plans to present possible amendments to the City's ordinance to the Sustainability Committee in September of this year.

Action 6.4 (Community-wide Action Priority #40)- Evaluate the viability of implementing a ban on certain materials from landfill e.g., yard trimmings, untreated wood, cardboard, plastic bags, or polystyrene. (2020 reduction target: 2,487 metric tons; 2050 reduction target: 2,986 metric tons)

The CAP calls for this action to be developed beginning in 2012. On October 19, 2010, the Hayward City Council adopted an ordinance that bans the use of polystyrene foam food service containers and requires restaurants and all other vendors selling food at retail establishments to use only paper, cardboard, aluminum or recyclable plastic cups, plates, bowls, trays and "to go" containers. The ordinance will become effective July 1, 2011.

In December 2010, staff provided the Sustainability Committee with an update on options regarding a possible ban on single-use plastic carryout bags. Many jurisdictions have faced lawsuits for adopting such ordinances. The Committee agreed with staff's recommendation to wait for Stopwaste.org to complete an Environmental Impact Report that can be used by Hayward to adopt a local ordinance. The EIR, which will be useful for all Alameda County jurisdictions, is expected to be completed by December 2011.

In early 2009, StopWaste.org instituted a ban prohibiting disposal of plant debris in county landfills. Plant debris includes grass, leaves, shrubbery, vines and tree branches. The ban applies to residential and commercial landscapers and gardeners, commercial and residential property managers, municipalities, institutions and commercial customers subscribing to four cubic yards or more of weekly solid waste collection service. Additional information about the plant debris ban is available at this link: <http://www.stopwaste.org/home/index.asp?page=941>.

Action 6.6 (Community-wide Action Priority #34)- Develop a program that encourages overall reduction of solid waste in residential and commercial sectors. This would include increasing participation in recycling services at multi-family properties and to eventually make recycling by

commercial businesses mandatory. (2020 reduction target: 253 metric tons; 2050 reduction target: 304 metric tons)

The CAP recommends this action to be developed beginning in 2009. Staff plans to provide a briefing regarding this action to the Sustainability Committee in September of this year.

Action 6.7 (Community-wide Action Priority #11)–Advocate for waste management strategies that aim to maximize the useful value of solid waste by, for example, utilizing landfill gas to create electricity. (Emissions reductions are not quantified in the CAP.)

The CAP calls for this action to be developed beginning in 2010. Staff plans to provide a briefing regarding this action to the Sustainability Committee in September 2011.

Action 6.8 (Municipal Action Priority #16) - Continue to implement recycling programs in City-occupied buildings. (2020 reduction target: 32 metric tons; 2050 reduction target: 71 metric tons)

On September 7, 2011, staff will provide a report to the Sustainability Committee outlining current and potential future recycling efforts in City facilities.

Action 6.9 (Municipal Action Priority #13) - Implement organics collection programs in City-occupied buildings. (2020 reduction target: 73 metric tons; 2050 reduction target: 163 metric tons)

In September of this year, staff will provide a report to the Sustainability Committee describing a possible organics collection program for City facilities.

Action 6.10 (Municipal Action Priority #14) - Develop an Environmentally Friendly Purchasing Policy. (Emissions reductions are not quantified in the CAP.)

The City's current Environmentally Friendly Purchasing Policy was established as Administrative Rule 3.9 on March 18, 2010. On May 4, 2011, the Sustainability Committee will review the City's current policies and consider possible adoption of a new or revised policy.

Action 7.2 (Municipal Action Priority #17) - Develop a protocol for maximizing carbon sequestration on municipal property by way of planting trees or other methods. (2020 reduction target: 5 metric tons; 2050 reduction target: 32 metric tons)

Hayward was successful in winning an Urban Forestry Inventory Grant from the California Department of Forestry and Fire Protection. With this grant, the City has purchased and implemented a tree management software program. Approximately 32,000 trees have been inventoried to date. The trees inventoried include City of Hayward street trees and trees on City of Hayward properties leased by the Hayward Area Recreation and Park District and trees on properties that belong to the Hayward Unified School District. This fiscal year, the inventory will be completed. Staff will continue to explore other means of sequestering carbon and tracking carbon sequestration.

Strategy 8 – Climate Change Adaptation

While there were no specific actions listed in the CAP, staff has been working with the Hayward Area Shoreline Planning Agency (HASPA) on preparing for rising sea levels. A report titled, Preliminary Study on the Effect of Sea Level Rise on the Resources of the Hayward Shoreline, was completed in March 2010. The study identifies the resources and infrastructure along the Hayward Shoreline that are vulnerable to sea level rise and it describes potential strategies for protecting or

adapting those resources. Numerous presentations summarizing the study have been made to a number of organizations, including the Bay Conservation and Development Commission, the Association of Bay Area Governments, and the Bay Planning Coalition. In part due to the work completed by the Hayward Area Shoreline Planning Agency and the partnerships established with other East Bay agencies, the East Bay shoreline, including the Hayward Shoreline, was selected as the subject of a sea level rise study by the Bay Conservation and Development Commission (BCDC) and the National Oceanic and Atmospheric Administration (NOAA) in a partnership called Adapting to Rising Tides (the ART Project). The subregion, extending from Emeryville to Union City, was selected by BCDC due to the high level of interest from local jurisdictions and for the wide variety of shoreline types in this area. More information about the ART Project is available at <http://risingtides.csc.noaa.gov/>.

In addition, staff is nearing completion of a Local Hazard Mitigation Plan, which will address flooding, wildfires, drought and other weather-related impacts of climate change. Staff is working with the Association of Bay Area Governments on updating a regional Local Hazard Mitigation Plan, and the City of Hayward's Plan will be an annex to the regional Plan, which will be presented to the City Council for adoption by November of this year.

Strategy 9 – Engage and Educate Community

Action 9.1 (Community-wide Action Priority #15)- Create a stand-alone Green Portal, or website, that would serve as the City's hub for all things green. (Emissions reductions are not quantified in the CAP.)

The CAP recommends that this action be developed beginning in 2010. The green-portal website is in development and staff anticipates completing the website by the summer of 2011.

Action 9.2 (Community-wide Action Priority #16)- Develop and implement plan to engage residents in the Citywide effort to reduce emissions. (Emissions reductions are not quantified in the CAP.)

The CAP calls for this action to be developed beginning in 2010. A Community Outreach Plan was presented to the Sustainability Committee on July 7, 2010. Staff plans to work with the Climate Action Management Team in the coming months to implement the Outreach Plan. In October, 2010, the City partnered with Alameda County and the League of Women Voters to hold an Energy Fair, which provided climate action and energy efficiency information to the public.

Action 9.3 (Community-wide Action Priority #17)- Develop and implement an outreach plan to engage local businesses in climate-related programs. (Emissions reductions are not quantified in the CAP.)

The CAP calls for this action to be developed beginning in 2010 (see Action 9.2 above).

Action 9.4 (Municipal Action Priority #9) - Offer a GHG reductions education program in which employees will learn about programs the City already offers, and/or will offer in the future to residents and businesses. (Emissions reductions are not quantified in the CAP.)

Hayward City Hall was recently recognized as a Green Business by the Alameda County Green Business program. On March 11, 2011, a Green Expo was held to inform both City staff and the public about ways to live more sustainably.

Action 9.5 (Municipal Action Priority #11) - Show leadership by setting targets to reduce municipal emissions and work diligently to meet targets.(Emissions reductions are not quantified in the CAP.)

As indicated in this report, the City is actively working to reduce its emissions. The City has enrolled in the Institute for Local Government's Beacon Award Program so that emissions reductions will be recognized.

Action 9.6 (Municipal Action Priority #10) - When awarding contracts, professional service agreements, grants, etc. to businesses or non-profit agencies, the City will request proposals or applications to include information about the sustainability practices of the organization. (Emissions reductions are not quantified in the CAP.)

Some City-issued requests for proposals (RFPs) have asked bidders to provide information about the sustainability practices of the firm or agency applying for a grant or for a City contract. Planning staff will work with staff in all City departments to share standard language that may be used in all City-issued RFPs.

INVENTORY

As mentioned above, the Climate Action Plan includes an inventory of all greenhouse gas (GHG) emissions from 2005. Staff recently began the process to update the inventory detailing GHG emitted in 2009. Emissions are aggregated and reported in terms of equivalent carbon dioxide units, or CO₂e. Converting all emissions to equivalent carbon dioxide units allows for the consideration of different greenhouse gases in comparable terms. For example, methane is twenty-one times more powerful than carbon dioxide in its capacity to trap heat, so one ton of methane emissions is equal to 21 tons of CO₂e. Also, all units of energy have been expressed in megawatt hours, or MWh, for easier comparison. Appendix A of the Climate Action Plan includes the baseline energy consumption and CO₂ equivalent production for an inventory of the following Hayward sectors: Community-Residential; Community-Commercial/Industrial; Community-Transportation; Community-Waste; Municipal Buildings; Municipal Vehicle Fleet; Municipal Streetlights; Municipal Water/Sewage; and Municipal Wastewater Treatment Plant.

Community-wide Emissions – The 2005 inventory indicated that Hayward's community-wide emissions totaled 1.183 million metric tons of greenhouse gases (GHG). The 2009 inventory also shows a total of 1.183 million metric tons of GHG. As the table below shows, 2009 city-wide emissions increased by only 347 tons over 2005 emissions. A detailed comparison of 2005 and 2009 emissions is included as Attachment II. The table below is a summary of those estimated emissions.

Community Emissions Summary – Comparison of 2005 and 2009

	Equiv. CO2 (tonnes)		Equiv. CO2 (% Change)	Energy (MWh)		Energy (% Change)
	2005	2009		2005	2009	
Residential	158,529	177,069	12%	813,932	822,690	1%
Commercial/Industrial	238,227	243,332	2%	1,152,496	1,009,035	-12%
Transportation	734,086	740,342	1%	2,902,981	2,990,055	3%
Waste	52,439	22,191	-58%	NA*	NA*	--
Total CO2e	1,183,281	1,182,934	0%	4,869,409	4,821,780	-1%

*As shown in Attachment II, data for waste emissions is not expressed in terms of energy use, but in tonnage, which can and has been converted to equivalent CO2 emissions.

Overall, energy use has gone down slightly. However, greenhouse gas emissions have not changed. This is because PG&E's emission factor for electricity has changed. In 2005, the emission factor was 0.489 lbs./kWh. In 2009, the emission factor was 0.641 lbs./kWh. GHG production is calculated by multiplying an emissions factor times the quantity of energy consumed. In 2005, the emissions factor was low because PG&E produced energy using a significant quantity of hydropower which produces "0" GHG. Between 2004 and 2009 there was a drought, leading to a reduction in available hydropower. To meet PG&E customer needs, PG&E purchased power from out of state. A significant amount of that power is produced using coal. Coal produces significant quantities of GHG for each watt of energy produced. The result was a higher emissions factor used in 2009 than in 2005. The result was an increase in GHG production, despite a decrease in energy consumption.

Energy use in residential buildings increased slightly by 1%. As indicated in the detailed summary (Attachment II), electricity use increased by five percent and natural gas use decreased slightly. Energy use in commercial and industrial buildings represents an overall decrease of 12%. This is composed of a 19% decrease in electricity use and a 4% decrease in gas use. Transportation fuel use increased by three percent.

Both GHG and tonnage for waste have decreased significantly. This is in due part to changes in reporting, recycling rates and the economy. Previously, certain materials that were classified for paper recycling are being recovered as compostable materials. Examples of this category include used paper food containers that were previously classified as paper and are now classified as compostables. Other paper materials that were previously classified as paper, but were not actually suitable for recycling have been excluded from the inventory as they are now treated as trash. Due to the aggressive efforts of City staff and Waste Management, recycling rates have gone up for green waste and paper. Finally, the downturn in the economy has slowed new home construction and renovations. The result was a substantial reduction in wood waste suitable for recycling.

As noted in Attachment II, the average daily cover (ADC) used at the landfill has decreased by 51 percent between 2005 and 2009. Staff is not confident in the accuracy of the 2005 figure because specific reporting requirements for ADC were not established until 2007. Tonnages for the different materials are estimated based on waste characterization studies prepared under the direction of Stopwaste.org in 2000 and 2008. The schedule for future waste characterization studies is unknown at this time. As the City's GHG inventory is updated in the coming years, actual landfill and recycling data provided by Waste Management will likely be used. The data is not separated by material, but it is collected on a regular basis and would be more meaningful to compare from year to year.

A new standard protocol for estimating community-wide emissions is anticipated to be available by the end of this year. Hayward's next inventory will be completed in early 2012 and will compare data from 2005, 2009, and 2011.

Municipal Emissions –

City staff is still compiling 2009 emissions data associated with municipal activity and operations, and will present such data for the full City Council and Planning Commission for the April 19 joint work session.

ECONOMIC IMPACT

While some programs called for in the Climate Action Plan will require upfront investment, many will benefit the community by reducing energy costs over the longer term. The continued implementation of the CAP is expected to result in a community with cleaner air, healthier residents, and recognition that Hayward is doing its part to mitigate the effects of global climate change.

FISCAL IMPACT

Implementation of the CAP is currently being administered by the City's Sustainability Coordinator, which is being funded by an Energy Efficiency and Conservation Block Grant from the Department of Energy as well as by various City staff in their day-to-day work. Grant funding for the Sustainability Coordinator will expire in December 2012. Additional resources will need to be identified to continue CAP implementation in 2013 and beyond.

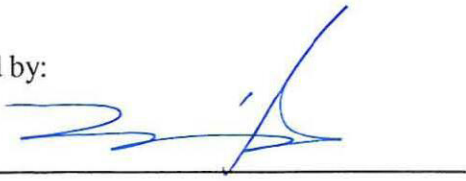
NEXT STEPS

Staff will continue to implement the CAP, following the Implementation Timeline, to the extent possible, given staffing levels and resources.

Prepared by: Erik J. Pearson, AICP, Senior Planner

Recommended by: David Rizk, AICP, Development Services Director

Approved by:



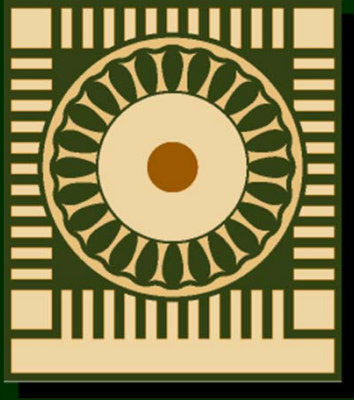
Fran David, City Manager

Attachments

- Attachment I: Appendix E of the Climate Action Plan – Implementation Timeline
- Attachment II: Detailed Comparison of 2005 and 2009 Community-wide Emissions

**Community Greenhouse Gas Emissions in 2005-2009
Detailed Report**

	Equiv. CO2 (tonnes)		Equiv. CO2 (% Change)	Energy (MWh)		Energy (% Change)
Residential	2005	2009		2005	2009	
Electricity	54,252	73,767	36%	242,674	253,711	5%
Natural Gas	104,277	103,302	-1%	571,258	568,979	0%
<i>Subtotal Residential</i>	158,529	177,069	12%	813,932	822,690	1%
Commercial/Industrial	2005	2009		2005	2009	
Electricity	151,793	160,681	6%	678,989	552,635	-19%
Natural Gas	86,434	82,651	-4%	473,507	456,400	-4%
<i>Subtotal Commercial/Industrial</i>	238,227	243,332	2%	1,152,496	1,009,035	-12%
Subtotal Buildings	396,756	420,401	6%	1,966,428	1,831,725	-7%
Transportation - Local Roads	2005	2009		2005	2009	
Gasoline	227,502	241,598	6%	926,326	977,896	6%
Diesel	59,429	52,514	-12%	208,359	210,137	1%
<i>Subtotal Transportation - Local Roads</i>	286,931	294,112	3%	1,134,685	1,188,033	5%
Transportation - State Hwy	2005	2009		2005	2009	
Gasoline	354,540	356,357	1%	1,443,589	1,442,395	0%
Diesel	92,615	89,873	-3%	324,707	359,627	11%
<i>Subtotal Transportation - State Hwy</i>	447,155	446,230	0%	1,768,296	1,802,022	2%
Subtotal Transportation	734,086	740,342	1%	2,902,981	2,990,055	3%
Subtotal Community (exclu Waste) - Hayward	2005	2009		2005	2009	
Buildings	396,756	420,401	6%	1,966,428	1,831,725	-7%
Transportation	734,086	740,342	1%	2,902,981	2,990,055	3%
Total - Community (exclu Waste) - Hayward	1,130,842	1,160,743	3%	4,869,409	4,821,780	-1%
	Equiv. CO2 (tonnes)	Equiv. CO2 (% Change)	Tonnage Tons	Tons (% Change)		
Waste	2005	2009	2005	2009		
<i>ADC Tonnage</i>						
Plant Debris	119	58	-51%	1,436	697	
<i>Subtotal ADC Tonnage</i>	119	58	-51%	1,436	697	-51%
Landfill Waste	2005	2009		2005	2009	
Paper Products	29,052	16,197	-44%	38,733	21,514	-44%
Food Waste	9,094	3,588	-61%	21,432	22,442	5%
Plant Debris	2,276	555	-76%	9,436	6,694	-29%
Wood/Textiles	11,898	1,793	-85%	44,908	10,530	-77%
All Other Waste	0	-		-	-	0%
<i>Subtotal Landfill Waste</i>	52,320	22,133	-58%	114,509	61,180	-47%
Subtotal Waste	52,439	22,191	-58%	115,945	61,877	-47%
	2005	2009		2005	2009	
Total - Community (inclu Waste CO2e)	1,183,281	1,182,934	0%			
Total - Community Energy Mwh (exclu Waste Tonnage)				4,869,409	4,821,780	-1%
Total - Community Waste Tonnage				115,945	61,877	-13%



CITY OF
HAYWARD
HEART OF THE BAY

**CLIMATE ACTION PLAN
IMPLEMENTATION
APRIL 6, 2011**

Erik Pearson, *Senior Planner*

Marc S McDonald, *Sustainability Coordinator*

Planning Division, Development Services Department



Climate Action Plan Implementation

- Review of actions recommended by CAP

GHG Emissions Inventory

- Comparison of 2005 and 2009 Estimates



Climate Action Plan Implementation

- Most Actions called for in the Climate Action Plan are proceeding on schedule.
 - Exception: City program to finance renewable energy projects.
 - Property Assessed Clean Energy (PACE) on hold pending federal action.
- Items remaining this Calendar Year include:
 - Single-Family RECO Ordinance to City Council, May 31
 - Updates to Recycling and Food Scraps Programs
 - Review Green Building Requirements and PACE status
 - Address Transportation Issues
 - Healthy/Local Eating
 - Complete Green Portal Website
 - Review CECO and Multifamily RECO issues



Community Actions - Direct City Control

	Action	Priority	Complete	On Schedule	Behind Schedule	Progress
3.9	EE Financing program - Commercial Buildings	1		X	PACE Program on hold.	City providing rebates for Commercial EE upgrades.
3.3	Commercial Energy Conservation Ordinance	2		X		To be addressed by Staff in September 2011.
3.7	EE Financing Program for Single-Family Homes	3		X	PACE Program on hold.	City providing rebate for residential EE upgrades.
3.8	EE Financing program for multi-family homes	4			X	PACE Program on hold pending federal action.
5.2	Renewable E Financing - Commercial buildings	5			X	PACE Program on hold pending federal action.
6.3	Improve Construction and demolition debris program	6		X		To be addressed by Staff in September 2011.
4.2	Continue to implement GB ordinance for commercial buildings	7	X			
5.3	Add Solar Requirement to GB Ordinance for private development	8		X		To be addressed at the May 2011 Sustainability Committee Meeting
4.1	Continue to implement GB ordinance for residential buildings	9	X			
3.1	Implement RECO for Single Family Residential Homes	10		X		To City Council Work Session on May 31, 2011.



Community Action – GHG Savings Not Quantified

	Action	Priority	Complete	On Schedule	Behind Schedule	Progress
2.2	Collaborate with state and federal levels to promote low-carbon vehicles and fuels	1		X		
2.1	Provide Incentives for low-carbon vehicles and fuels	2		X		Collaborate with Federal and State levels of government to promote low-carbon vehicles and fuels.
1.10	Align zoning policies to minimize vehicle travel	3		X		Form-Based Codes being developed.
6.7	Maximize the useful value of waste streams	4		X		To be addressed at the Sept. 2011 Sustainability Committee Meeting
9.1	Create Green-portal website	5		X		Complete Summer 2011.
9.2	Engage residents in emissions reductions activities	6		X		CAM Team will develop engagement strategies as it builds the Communications Program.
9.3	Engage local businesses in climate-related programs.	7		X		CAM Team will develop engagement strategies as it builds the Communications Program.
1.9	Encourage high density, mixed-use development near public transit.	8	X			Transit Village approved for South Hayward Bart Station. Form-Based Codes being developed.



Municipal Action – Direct City Control

	Action	Priority	Complete	On Schedule	Behind Schedule	Progress
3.10	Upgrade streetlights to LEDs	1		X		Complete July 2011
2.3	Buy fuel efficient/low-carbon fuel vehicles for municipal fleet	2		X		Prioritize fuel efficiency/low-carbon vehicle purchases
3.12	Audit City buildings and identify energy savings opportunities	3		X		Audits completed in 2010 and currently in progress.
3.11	Prepare and implement EC plan for municipal buildings	4		X		Track performance through Benchmarking
2.4	Include alternative-fuel and fuel economy requirements into contracts	5		X		Recycling franchisee uses alternative fuels. Seek new opportunities.
6.9	Implement food scraps collection programs in city buildings	6		X		Address at the Sept. 2011 Sustainability Committee Meeting
5.5	Audit city buildings and identify buildings best suited for solar	7		X		Completed with CEC. Seeking new sites.
5.6	Install renewable generation on municipal property	8		X		New library will include rooftop photovoltaics
4.3	Continue to implement municipal green building ordinance	9	X			LEED Silver Certification required new buildings
6.8	Continue recycling programs in City-occupied buildings.	10		X		Address at the Sept. 2011 Sustainability Committee Meeting



Municipal Action – GHG Savings Not Quantified

	Action	Priority	Completed	On Schedule	Behind Schedule	Progress
1.13	Provide commuter benefits to government employees	1		X		To be addressed at the June 2011 Sustainability Committee Meeting
1.15	Prefer facilities with convenient access to public transit	2		X		Planned library will be convenient to BART
9.4	Offer climate education programs to city employees	3		X		Green Expo held on March 11, 2011
9.6	Contract awardees to include information about sustainability practices.	5		X		Currently used for some RFPs. Planning to share standardized language with other departments.
9.5	Set Municipal reduction targets. Work to achieve those targets	6		X		City is actively working to reduce emissions.
6.10	Develop environmentally friendly purchasing program	7	X			Administrative Rule 3.9, Environmentally Friendly Purchasing Policy adopted.



Comparison

City Emissions and Energy 2005-2009

- City wide energy consumption decreased while City-wide CO₂e production remained unchanged.
 - Each watt of electricity consumed in 2009 produced more CO₂e than in 2005.
- Municipal energy consumption decreased while municipal CO₂e increased.
- Community energy consumption decreased while community CO₂e remained unchanged.



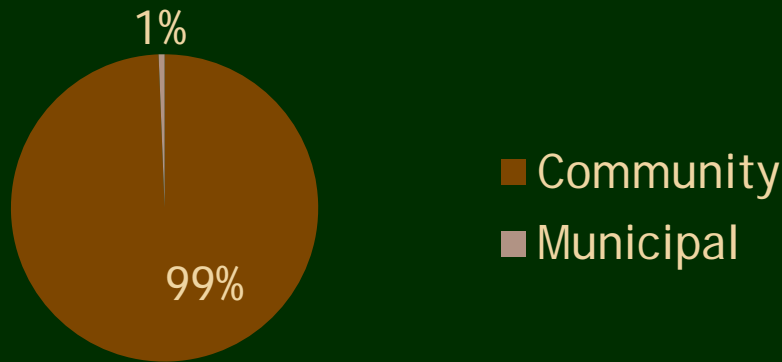
City Emissions/Energy 2005-2009 Comparison

	Equiv CO2 (tonnes)		%	Energy (MWh)		%
	2005	2009	Change	2005	2009	Change
Community Emissions/Energy 2005 - 2009 Comparison	1,183,281	1,182,934	0%	4,869,409	4,821,780	-1%
Municipal Emissions/Energy 2005 - 2009 Comparison	7,422	7,591	2%	32,221	28,076	-13%
Total	1,190,703	1,190,525	0%	4,901,630	4,849,856	-1%

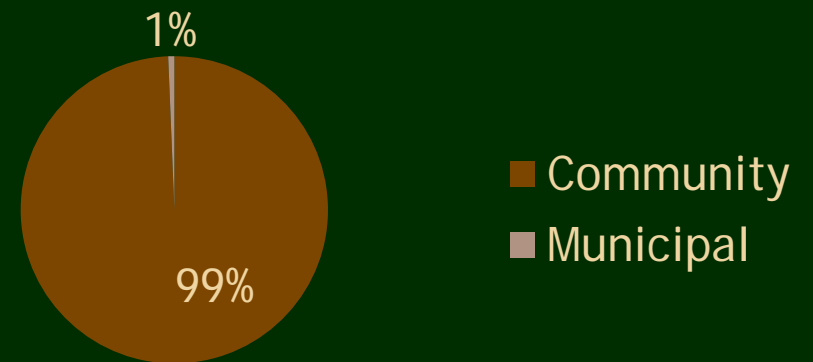


Community, Municipal Emissions

Community, Municipal
CO₂e (Tonnes) 2005

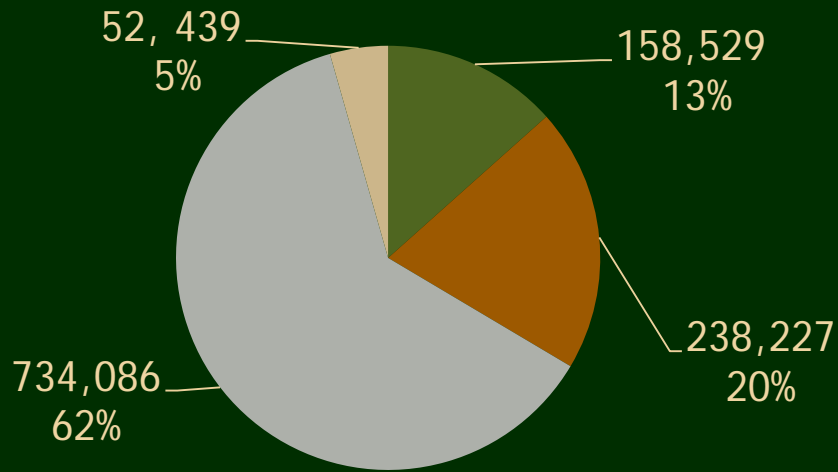


Community, Municipal
CO₂e (Tonnes) 2009



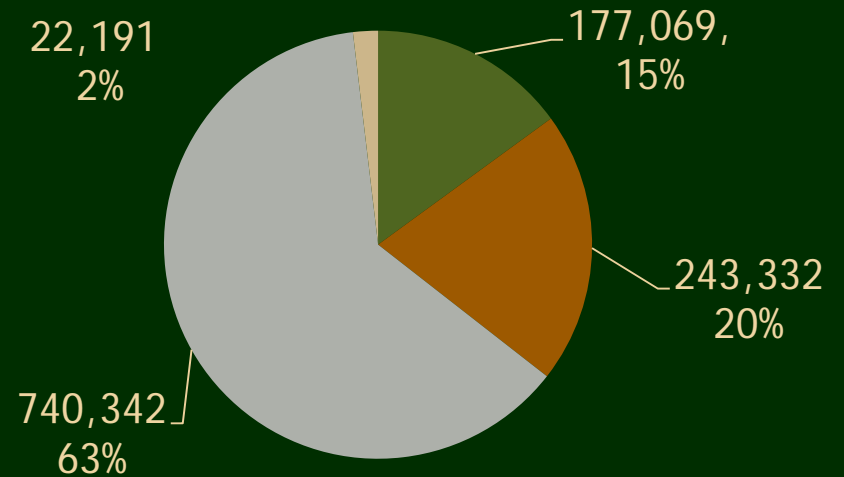
Community Emissions

Community CO2e (Tonnes) 2005



- Residential
- Commercial/Industrial
- Transportation
- Waste

Community CO2e (Tonnes) 2009



- Residential
- Commercial/Industrial
- Transportation
- Waste



Slide 11

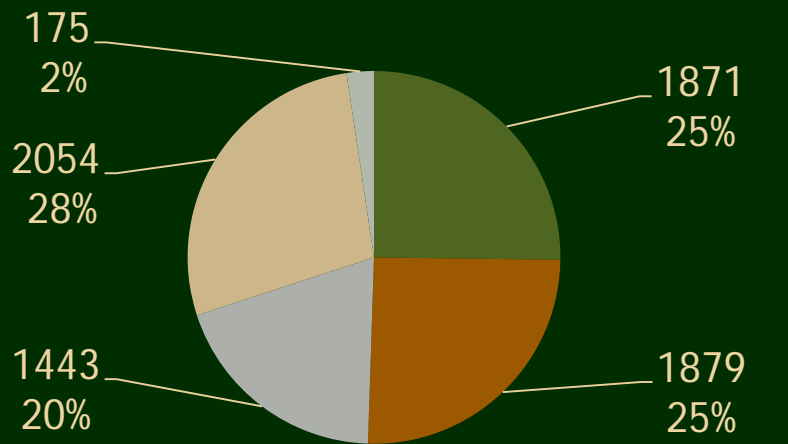
EP5

pie charts and the text on these last 2 slides needs to be larger!

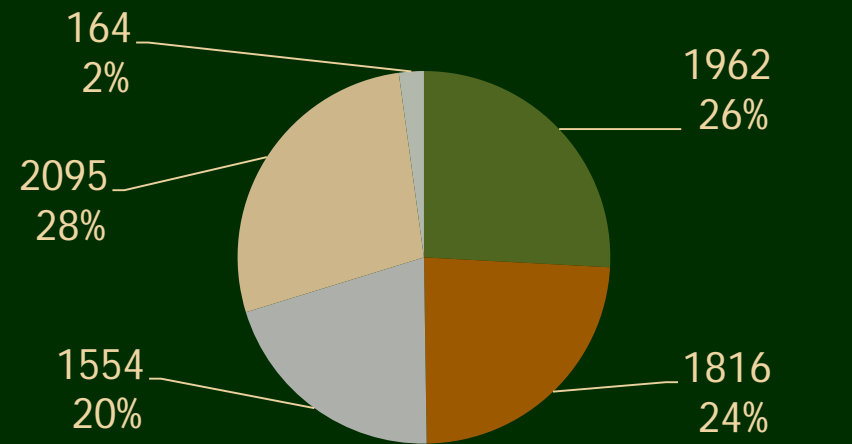
Erik Pearson, 4/4/2011

Municipal Emissions

Municipal CO2e (Tonnes) 2005



Municipal CO2e (Tonnes) 2009

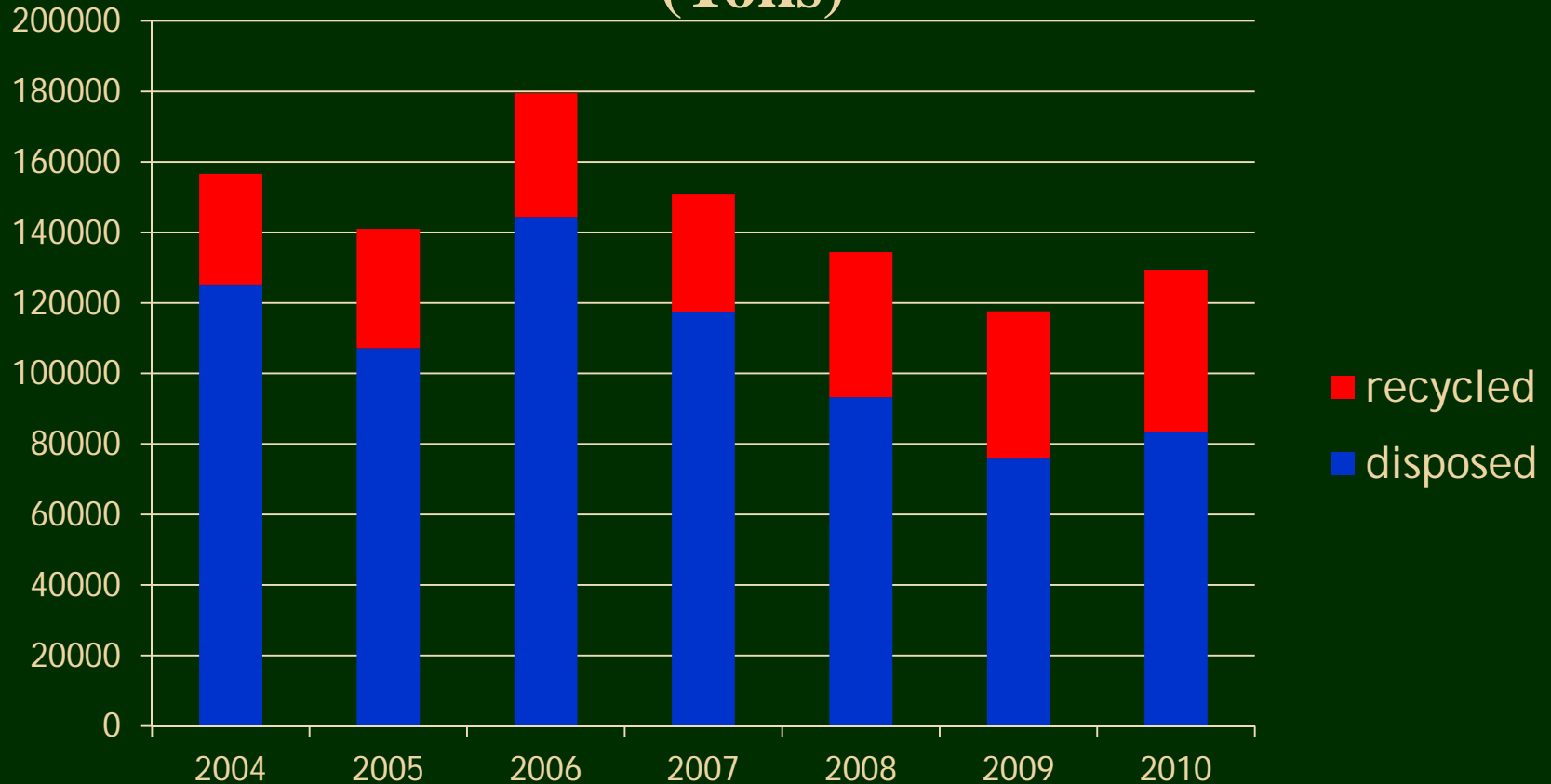


- Facilities
- Fleet
- Streetlights
- Water/Wastewater
- Waste

- Facilities
- Fleet
- Streetlights
- Water/Wastewater
- Waste



Franchised Waste Disposed and Recycled (Tons)



Landfilled tonnage has declined steadily since 2007 due to the economic downturn
Tonnage recycled has increased since 2007 due to new programs

Source: Reports provided by Waste Management, Inc.

