



Agenda Item #: \_\_\_\_\_

# Staff Report

## City of Manhattan Beach

**TO:** Honorable Mayor Tell and Members of the City Council

**THROUGH:** David N. Carmany, City Manager

**FROM:** Jim Arndt, Public Works Director  
Sona Kalapura, Environmental Programs Manager

**DATE:** February 7, 2012

**SUBJECT:** Status Update on Energy Efficiency and Water Conservation Programs from the Environmental Task Force

---

**RECOMMENDATION:**

Staff recommends that the City Council receive and file this status update on the energy efficiency and water conservation programs of the Environmental Task Force.

**FISCAL IMPLICATION:**

There is no fiscal implication associated with the recommended action. Funds to support the activities listed have been provided for in the current year budget.

**BACKGROUND:**

The mission of the Environmental Task Force is: "To unite the community in a comprehensive effort to promote sustainable living in the City of Manhattan Beach." To meet this mission the Environmental Task Force is working through several of the goals identified in the Environmental Work Plan adopted by City Council on January 18, 2011. The Environmental Task Force has developed overall targets and outreach programs in the areas of Energy Efficiency and Renewable Energy, and Water Conservation and Sustainable Landscaping, to meet these goals.

*Commitment to Reduce Greenhouse Gas Emissions*

The City is making an effort to reduce greenhouse gas emissions, and has endorsed the U.S. Mayors Climate Protection Agreement, committing to reduce greenhouse gas emissions within municipal operations and throughout the community 7% below 1990 levels by 2012. This target has been updated to coincide with statewide goals to reduce community-wide greenhouse gas emissions 15% below 2005 levels, to 287,893 metric tons of CO<sub>2</sub> equivalent, by 2020. This figure includes the City's CO<sub>2</sub> emissions from the use of: industrial fuel; natural gas; transportation fuel; electricity; and solid waste.

The City is well on its way to meeting these emissions reductions goals. Based on a recent analysis completed by the South Bay Environmental Services Center, the City has already reduced electricity consumption approximately 3% below 2005 levels, from 99,091 to 95,981 metric tons of

CO2 equivalent in 2010. Additional data is being calculated to provide the City's overall emissions levels from the community's fuel, gas and electricity usage.

#### *Water Conservation Goals*

The City enacted a water conservation ordinance to help the community adhere to "Stage 2" drought restrictions enacted by the Metropolitan Water District to meet California's drought. As last winter's rain season provided an abundance of water and snow, the Governor officially declared an end to the drought in April 2011. Accordingly, the City's Stage 2 Drought Restrictions, limiting landscape watering to two days a week, were lifted, but the Permanent Water Conservation Requirements in the ordinance still remain active. Through implementation of the water conservation ordinance, the 20% target was achieved. However, with the lifting of the drought restrictions the City has seen a drop of approximately 5% in community-wide water conservation. The City is following the statewide goal (SBX7-7) to reduce per capita water consumption 20% by 2020, and is implementing water conservation measures to meet this goal, and it is important for the community to do the same. The water conservation goal represents a water usage of 5,397 acre-feet by 2020, and current water production is at 5,622 acre feet.

#### **DISCUSSION:**

In an effort to further the City's environmental commitment, the 2011 Environmental Task Force developed program goals and recommendations to assist the community in efforts to conserve energy and reduce water consumption. The Environmental Task Force presented several programs to City Council, which were each approved on October 4, 2011. These projects include:

1. "Watt Watcher" Energy Conservation Contest
2. Green Business Challenge
3. Solar Display at Metlox
4. Landscape Sustainability Audit
5. Community Mulch Pilot Program
6. Post Office Demonstration Project
7. Efficient Water Use Slogan and Logo Contest

Since then, progress has been made in each of the approved projects, and this report will serve as a status update on each of the above mentioned programs.

#### *Program Outreach*

The City has conducted extensive outreach on the programs of the Environmental Task Force through posting on the City's Going Green website, distribution of e-news announcements and the Citywide mailing of the Manhappenings recreation guide, and discussion of the programs at public meetings. The Watt Watcher Contest, Landscape Sustainability Audit, and Community Mulch Program, have been advertised in the Beach Reporter and through several articles written in local newspapers, an ETF flyer distributed throughout the community, and a street banner announcing the programs. Local partners, like the South Bay Environmental Services Center (SBESC), VOICE, and EPN have also sent out e-notifications to their members announcing the programs. The City will also place an announcement of upcoming programs in the Spring 2012 utility billing.

*Efforts to Reduce Energy Consumption in Manhattan Beach*

The City has taken steps towards reducing its municipal operations’ impact on the climate by implementing various energy efficiency measures, conducting a Level III energy audit to identify how best to make municipal buildings and facilities more energy efficient, and adopting a Climate Action Plan. These changes, coupled with a strong education and outreach campaign spearheaded by the programs of the Environmental Task Force, have had a significant impact on the City’s emissions levels. Community-wide emissions from electricity usage have decreased an estimated 3% below 2005 levels. When considering Southern California Edison’s statewide requirements to provide more electricity from renewable energy sources, the City’s emissions levels will be reduced by another 7% by 2020. To meet the 15% emissions reduction goal by 2020, the City will need to continue its downward energy consumption trend, continue its outreach to the community, and implement other energy-saving measures. To assist in these efforts Southern California Edison, the Gas Company, and the South Bay Environmental Services Center offer rebates and incentives to reward the City, and its residents, for implementing energy-saving measures.

*Status Update on Recommendations to Promote Energy Efficiency and Renewable Energy*

The Environmental Task Force working group on Energy Efficiency and Renewable Energy has developed three proposals to reduce community-wide greenhouse gas emissions. They include the following three programs to reduce greenhouse gas emissions.

1. The **“Watt Watcher” Energy Conservation Contest** is a residential program with a goal of educating and engaging the community in the environmental and economic benefits of reducing energy consumption. The Environmental Task Force would like to reach 100 Manhattan Beach households in an effort to implement simple measures to reduce residential energy consumption, and educate the public about reducing greenhouse gas emissions.

Table 1: Status Update: Watt Watcher Energy Conservation Contest

Program Cost	Program Value to Overall Goal	Sustainability of the Program
<p>Approved Budget: \$2,000</p> <p><i>Costs to Date:</i></p> <ul style="list-style-type: none"> <li>*Advertising = \$1,500</li> <li>*Brochure and workshop materials = \$200</li> </ul> <p>Staff time = 5 hours/week</p> <p>Included in the FY 11-12 budget</p>	<p>Estimated reduction in energy consumption = 900,000 kWh (621 metric tons of CO<sub>2</sub>e) based on participation of 100 families, and 50% energy reduction</p> <p>Primary Values = Educational awareness and civic engagement to encourage reductions in energy consumption</p>	<p>The Watt Watcher contest is designed as a one-time program. If the City wishes to continue the program, it can be run by City staff, and/or coordinated with regional partners and potentially with other volunteer groups to help gather program participants and monitor program results</p>

*Program Update*

The Watt Watcher contest has been well-received by the community, with several local organizations sponsoring the contest by providing tools and resources for contest participants, and prizes for the winning household and winning school. Each program entrant received an Energy

Saver booklet from the Department of Energy with tips on how to save energy in each room of the home. Participants also received an energy monitoring tool, the Conserve Insight, donated by Belkin, and a shower timer donated by West Basin. South Cal Electric will also provide ten free in-home energy audits to assist participants with further energy savings. Over 150 participants have signed up for the contest, and the program has been very well received by the community.

The household that can reduce the most electric use during the contest period will be named the winner and receive a grand prize of \$1,000 (donated by California Ethanol), a free Energy Upgrade California home assessment (donated by Koch Development), dinner with the Manhattan Beach Fire Department, and gifts from the City’s Centennial Committee. The school that has the most households enroll in the contest will also win a \$1,000 donated by local sponsor South Bay Green. Several prizes for the participating residents, teachers and classrooms have also been donated by Shorewood Realty, Bentley Prince Street, Audrey Judson, Skechers, South Bay Environmental Services Center (SBESC), Sage Steps, Grow, Go Green Lunchbox, South Bay Branch of the US Green Building Council, and the Bank of Manhattan. SBESC also offers free energy efficiency classes, one coordinated with the Environmental Task Force in October 2011 to help promote the Watt Watcher contest, and another class held at Mira Costa High School in January 2012. SBESC will host another free course in Manhattan Beach to provide contest participants with further information on how they can save energy at home.

2. The **Green Business Challenge** is a program to recognize Manhattan Beach businesses that are actively trying to reduce their environmental impact. The program will educate businesses that want to understand the economic and environmental benefits of conserving energy and water, and reducing waste.

Table 2: Status Update: Green Business Challenge

Program Cost	Program Value to Overall Goal	Sustainability of the Program
Approved Budget: \$2,000  No costs incurred to date  Estimate staff time = 3 hours/week  Included in the FY 11-12 budget	Estimated reduction in energy consumption = energy savings of 30%. This would result in an energy savings of 112 metric tons of CO2 to the community  Primary Values = Educational awareness and engagement of the private sector to reduce energy consumption	The green business challenge can initially be run offline to determine interest and participation while the partnership with Waste Management is finalized. Waste Management will then take over maintenance of the program as part of its contracted obligations

*Program Update*

Businesses that invest strategically in energy efficiency measures can reduce utility costs and greenhouse gas emissions 30%, without sacrificing service, quality, style, or comfort. Under the new solid waste contract, Waste Management will run a business certification and recognition program for all businesses in the community with the input of the Environmental Task Force, and assistance from the South Bay Environmental Services Center. The program will be managed through the California Green Business Program Network, which is overseen by the Department of

Toxic Substances, and will target an initial list of 30 small businesses. The program will incorporate the sustainability components created by the Environmental Task Force, and will be available to all businesses in the community when the certification forms are made available on an online entry form at the end of February 2012.

The green business program will encourage participating businesses to measure and track energy and water consumption, monitor waste generation, and incorporate recycling practices. City staff and Waste Management have made initial contact with the Chamber of Commerce and business associations, to gather support and participation for this program. The Chamber and business districts will partner to distribute program information to its members to help recruit business participation. The Environmental Task Force has an initial listing of nearly 40 businesses that have participated in previous City environmental programs, and will also coordinate with the 100 businesses in the existing Clean Bay Certification and Cash for Kitchens programs to gather initial participants for the green business recognition program. Waste Management will work with these businesses to secure 30 participants for initial recognition during the City’s Earth Day celebrations on April 28, 2012.

3. The **Solar Display at Metlox** is a demonstration project to install bi-facial solar panels and an educational solar powered display in a public area to increase awareness on the benefits of renewable energy. The goals of the program are to introduce cutting edge renewable energy technology to the community, and to display educational content on the benefits of renewable energy and energy efficiency.

Table 3: Status Update Solar Display at Metlox

Program Cost	Program Value to Overall Goal	Sustainability of the Program
<p>Estimate Budget = \$26K                      * Funding for the project is being raised from local businesses                      *\$15K raised to date                      *\$3,800 Edison rebate</p> <p>Staff costs to develop educational message (2 hours/month); maintenance staff time to ensure panels are kept clean (4 times/year)</p> <p>Staff costs included in the FY 11-12 budget; Project funds obtained through fundraising</p>	<p>The project will reduce greenhouse gas emissions by 126 tons of CO2 over the 25-year life of the project</p> <p>Primary value of the project is to increase awareness on the benefits of renewable energy and promote the use of solar power in the community</p>	<p>The solar display is a one-time project recommendation to install a permanent renewable energy feature in a public space</p> <p>Regular cleaning will be required, and the system is warrantied for 10 years</p>

*Program Update*

The Environmental Task Force has coordinated with the Public Works and Community Development Departments, and the businesses surrounding Metlox Plaza to present the solar display project, and has received the support of the parties involved. The site design for the project has been completed, and involves the installation of a 4.7KW bifacial solar photovoltaic system in the area above the escalators leading to the Metlox parking garage. The system will generate enough power to offset a portion of the energy consumption from the escalators, the City's weekly Farmers Market, and plaza lighting. Community sponsorships for the solar display have been sought, and \$15,000 towards the project cost has been received to date, with two additional donors pending release of the request for proposals for the project. The City is prepared to seek bids for a contract to install the solar installation in the Metlox plaza area, and will release an RFP on February 28<sup>th</sup>. Once all funds are raised City Council will be asked to award the contract.

*Efforts to Conserve Water in Manhattan Beach*

The City is taking action to reduce water consumption by making use of grant funding to remove inefficient water fixtures and pumps, replace water-intensive turf with sustainable gardens, and implement a Water Conservation Ordinance. These efforts, in coordination with targeted outreach to the community on the importance of water conservation, have resulted in water production levels dropping below statewide water conservation goals. However, with the removal of the region's drought restrictions last year, water consumption has increased from 5,378 acre feet in 2010 to 5,622 acre feet in 2011. The City is working with community members and regional partners to promote programs that will increase conservation efforts citywide, and raise awareness on the importance of preservation of this natural resource.

*Status Update on Recommendations to Promote Reduction in Community-wide Water Consumption*

The Environmental Task Force working group on Water Conservation and Sustainable Landscape has developed four proposals to reduce community-wide water consumption. One program has been postponed (art contest), and the following three programs are being implemented in an effort to assist the City in an effort to ensure that water consumption does not exceed 5,397 acre feet by the year 2020.

1. The **Landscape Sustainability Audit** is a program to assist residents in identifying the aspects of their landscaped property that can be changed to conserve water, reduce runoff, and maintain landscapes that are California-friendly and climate appropriate. The Environmental Task Force has developed a landscape sustainability checklist that approved landscape professionals will perform with each interested homeowner. The goal of the audit is to provide the resident with information pertaining to California-friendly landscaping, including reducing turf to 20% of overall landscaped areas; water-efficient irrigation systems and rain sensors; rainwater retention and harvesting; composting and growing an organic vegetable garden, etc.

Table 4: Status Update of Landscape Sustainability Audit

Program Cost	Program Value to Overall Goal	Sustainability of the Program
Approved Budget = \$1,500  Costs to Date *Advertising = \$1,100 *Workshop materials = \$100  Staff time: 5 hours/week  Included in the FY 11-12 budget	The program is expected to draw 60 participants a year, which would result in a total water savings of 1.9 million gallons (6 acre feet)  Primary value = provision of an actionable tool to guide residents in conserving water, reducing runoff, and saving money while maintaining an environmentally sustainable landscape	The pilot program will result in several households with completed sustainability audits. Should the City wish to continue this program, it can vet contractors with the assistance of City staff, the Environmental Task Force or another volunteer group such as the Manhattan Beach Botanical Garden

*Program Update*

The Landscape Sustainability Audit is available on the City’s website for interested residents to review. The Environmental Task Force vetted several local landscape contractors who have agreed to perform the Sustainable Landscape Audit for residents at no charge. The contractors are required to meet specific qualification criteria to participate in the program, including maintaining the proper licenses and insurance, certifications, and additional experience in sustainable landscape projects. Any default on the criteria, or negative feedback from residents will result in removal from the program.

The program is self-initiated, and residents may go through the audit on their own, or setup an appointment with a landscaper contractor through the information provided on the website. Four audits have been conducted to date, and two audit feedback forms have been submitted by residents that completed the audit with a landscape contractor. Several residents have expressed interest in the program, and are expected to go through the audit in the coming months as the weather gets warmer, and increased irrigation causes higher water bills. Interest in the program will also be generated through completion of the Post Office demonstration garden, anticipated in mid-April 2012. Status on the program will be provided to City Council in June 2012.

2. The **Community Mulch Pilot** is a program to provide citizens easy access to free organic mulch for their yards and community projects. This program provides a local resource to easily pick up mulch, and provide residents with a sustainable method of maintaining their landscapes. Organic mulch is an essential component of a water-wise, sustainable garden and helps reduce or eliminate the need for pesticides by promoting soil health, maintaining soil moisture, and assisting in retention of water on-site.

Table 5: Status Update of Community Mulch Pilot Program

Program Cost	Program Value to Overall Goal	Sustainability of the Program
Approved Budget: \$2,000 Costs to Date: *Advertising = \$1,500 *Signage materials = \$500  Staff time = 2 hours/week  Included in the FY 11-12 budget	The program is expected to draw 100 participants a year, resulting in a total water savings of 3.9 million gallons (12 acre feet)  Primary value = provision of free mulch for residents to utilize in sustainable landscape project, resulting in water conservation and improved soil health	The program is intended as a 6-month pilot that will be monitored by City staff and the Environmental Task Force. Should the City wish to continue this program, it can assign the program to City staff, or seek the assistance of other volunteer groups

*Program Update*

The Environmental Task Force has worked with the Public Works Department to locate an area to store the mulch in the parking lot at the Public Works Yard. This area is large enough for truck deliveries and residential pick-up. The Environmental Task Force has contacted a list of local tree trimmers who have agreed to provide safe, organic mulch to the City at no cost. The tree trimmers have been vetted by the Environmental Task Force members, a certified arborist, and the Public Works Department. City staff can gauge the use of the program through the number of mulch loads that have been delivered to the property (four to date). The mulch pile is continuously refilled at the Public Works Yard, and seems to be a successful, self-service program.

**3. Post Office Demonstration Garden**

The Environmental Task Force has partnered with the Leadership Manhattan Beach 2012 class to install a sustainable garden on the municipal property in front of the Post Office. The Environmental Task Force recommended converting the landscape surrounding the U.S. Post Office located at 425 15th Street in Manhattan Beach, to water-conserving, sustainable landscape with at least 50% less lawn, environmentally appropriate plantings, a water-conserving irrigation system, mulch applied between shrubs and trees, and efficient walking paths made up of decomposed granite or mulch. The lawn areas measures 4,381 square feet and consumes a substantial amounts of water -- 2,274 gallons of water per week.



Table 6: Status Update of Post Office Demonstration Garden

Program Cost	Program Value to Overall Goal	Sustainability of the Program
<p>Estimated Budget: \$20,000                      *Funding will be raised by Leadership Manhattan Beach                      Staff time = 2 hours/week                      Staff costs included in the FY 11-12 budget; Project funds obtained through fundraising</p>	<p>This project will save on average 68,940gallons per year (.21acre feet)                      Primary value = generate awareness of sustainable landscape practices through a case study on public property</p>	<p>The program can be completed in two-phases, as funding permits, and will be managed and installed through the efforts of Leadership Manhattan Beach</p>

*Program Update*

After receiving City Council approval of the project, the Environmental Task Force sought local partnerships to implement the proposal. Leadership Manhattan Beach selected the proposal for its 2012 class project, and will secure funding to create the demonstration garden. An initial project design has been developed and shared with the City Council, along with a listing of plants, trees, and shrubs that would be ideal for the location. This information was also shared with the public at a community meeting held on January 12<sup>th</sup> to discuss the staff recommendation to remove two diseased trees from the project site, before any work on new landscaping should occur. Comments from members of the public were addressed during this meeting, and through written responses and phone calls with community members. The City Council unanimously approved the recommendation to move forward with the Post Office demonstration garden project, and site preparation has begun. The two diseased trees have been removed, as has the turf on the property. The Leadership Manhattan Beach class held a volunteer workday to lay down the mulch on the site on January 28<sup>th</sup> to smother any remaining grass, and enrich the soil for planting of California natives and other climate appropriate plants in the coming months. Leadership Manhattan Beach will begin raising funds to purchase the materials, plants, and trees that will be installed on site, and aims to complete the project by mid-April. All donations to the project are tax-deductible.

4. The **Efficient Water Use Slogan and Logo Contest** was designed as a program to engage the youth of Manhattan Beach in developing an efficient water use message with which residents could identify and feel ownership. However, due to a conflict with the timing of an existing Centennial Committee program, the Water Use Contest has been postponed for the time being.

Since the contest was intended to partner with West Basin Municipal Water District, it is possible that the proposal can be reexamined in the future to coordinate with the annual West Basin contest starting in January 2013. The contest would involve any resident youth in Manhattan Beach schools interested in developing a slogan and logo that promotes the efficient use of water. The goal of the contest is to design a message that will be communicated community-wide as a statement on the need for efficient use of water as a lifestyle change to maintain the reliability and sustainability of the region’s water resources.

**CONCLUSION:**

The Environmental Task Force has developed a comprehensive program to promote sustainable living to the community. The programs have been well received by the community, and are running as expected. Many of the programs will be completed at the end of April 2012 to coincide with the City's 20<sup>th</sup> annual Earth Day celebrations at Polliwog Park. Staff will return with a final status report on the Environmental Task Force programs at that time. Should any programs wish to be continued by City Council, staff can return with more information.

At this time, staff recommends that City Council receive and file this status update on the energy efficiency and water conservation programs of the Environmental Task Force.

cc: Juan Price, Maintenance Superintendent  
Raul Saenz, Utilities Manager