

County of Marin Sustainability Status Report

Energy Conservation
Water Conservation
Waste Reduction
Pollution Prevention

December 2007

Energy Conservation Practices

In an effort to conserve energy and increase sustainability the County has embarked on an energy management program. Using in-house maintenance personnel and outside contractors, the county surveyed all County-owned buildings for ways to conserve energy. This energy management program is utilizing the following approaches to move forward and institute conservation:

Energy Conservation Practices

Lighting retrofits. Replaced thousands of light fixtures throughout County facilities with higher efficiency T8s are estimated to cut lighting energy need by up to 48%.

Lighting Control. An electronic lighting control system by “Globalight” has been installed to regulate power and stabilize voltages saving 111,873 kWh annually.

Variable Frequency Drives. At the Civic Center variable frequency drives and energy saving motors were added to the chillers reducing energy costs by \$70,000 annually.

Equipment Replacement and Upgrades. Civic Center boilers have been retrofitted with computerized controls, saving energy and reducing emissions to the environment. This has resulted in an annual savings of \$5,444 for electricity, and \$10,250 for gas. Older, less efficient chillers have been replaced with high efficient chillers using environmentally safe refrigerants. The energy savings of this measure is approximately 29%.



Energy Conservation Practices

Photovoltaic

General Service Building. A 75 kW photovoltaic (PV) system was installed on the County General Services Building in 2004. This PV array is saving \$24,000 annually in energy costs.



Throckmorton Fire. The new fire station includes multiple energy efficiency measures, a 38KW photovoltaic system, rapidly renewable and recycled content building materials, low-emitting materials including paints, sealants and carpets, day lighting for 75% of spaces, 50-75% construction waste diversion, and water efficient landscaping. The building will be LEED certified, and plans are for the LEED rating to meet the gold standard.



Energy Conservation Practices

Additional Projects

Cultural Services Department. Installation of a 205.6 KW photovoltaic panels array on the exhibit hall as well as improving energy efficiency by assisting with the upgrade of current HVAC systems with energy efficient systems. It is anticipated these upgrades will save \$97,314 annually.

Marin Health and Wellness Campus. This project consists of renovating about 83,000 square feet of building space for the use as the Health and Wellness Campus by Health & Human Services and Marin County Clinic. This project is being renovated to meet minimum LEED silver standard with a goal of meeting the LEED gold standard

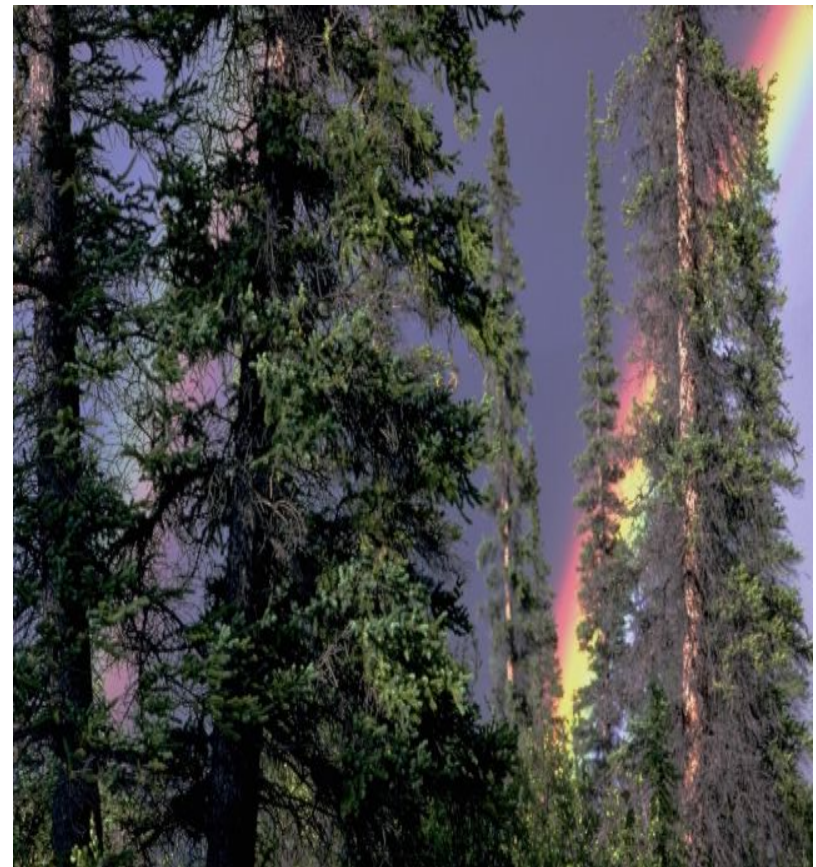
120 N. Redwood Drive. A 164.4 kW photovoltaic (PV) system is being installed on Social Services Building at 120 North Redwood Drive saving \$46,524 annually. There is also a lighting upgrade going on at this building which will result in additional savings of about \$8,000 annually.

Energy projects completed. A retrofit of the HVAC unit with a variable frequency drive is planned for the County Jail. At Juvenile Hall the HVAC system compressors and cooling towers will be replaced and economizers will be installed on air handlers at both buildings.

Energy Conservation Practices

In total these conservation efforts annually save energy equal:

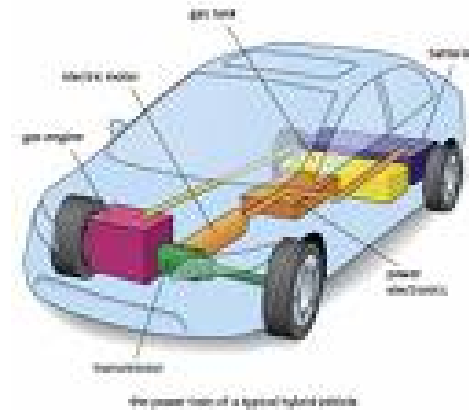
- To provide 16,931 homes with air- conditioning.
- To the equivalent of planting 424 acres of trees.
- To a total reduction of green house gas emissions of 3,093,048 lbs. per year.



Energy Conservation Practices

Alternative Fueled Vehicles

Hybrid vehicles. The County has taken an important step through its selection of new vehicles. In 2002 Public Works began purchasing hybrid vehicles to add to the fleet when old vehicles were ready for replacement. By the end of 2006, the fleet included forty hybrid vehicles.



Biodiesel Pilot. In 2004 a pilot program began to test biodiesel fuel for diesel vehicle in the County fleet. A fuel consisting of 20% biodiesel and 80% standard diesel (B20) is still in use at the Civic Center.



Water Conservation Practices

Water is a key resource needed to sustain communities. Rainfall feeds the creeks, streams, and rivers that fill reservoirs, and provide recreation for the residents of Marin. Consumption and conservation of water has long been a focal point for the County of Marin due to the prevalence of drought in past decades. As a result, using water wisely has been a focus of County operations by reducing water consumption with a variety of measures.

Water Conservation Practices

Water Projects Completed

Low Flow Toilets A project to replace all Civic Center toilets to low-flow models was completed in June 2003 and will save overall water usage by as much as 5%.

Each year, these measures conserves enough water to provide the average household water for twenty-five years as well as additional energy savings due to reduction in pumping and water treatment.

Reclaimed Water The County utilizes reclaimed water for landscaping needs and in the cooling towers, which provide heat during the winter months. Reclaimed water use has increased from 19% of overall water usage in 2001 to 27% in 2003.

Combined, these conservation measures put in place have reduced water consumption 11% between 2000 and 2003. This is enough water to provide irrigation to a 1,081 acre vineyard.



Water Conservation Practices

Water Projects Underway

Bathroom Renovation. Motion sensor faucets and waterless urinals are being installed for water conservation. It is estimated a standard urinal uses 48,000 gallons of water per year. The County is in the process of installing 63 waterless urinals



The waterless urinals alone will save a total of 3,024,000 gallons of fresh water per year.

This amount is the equivalent of a three year supply of drinking water for 4,320 persons.

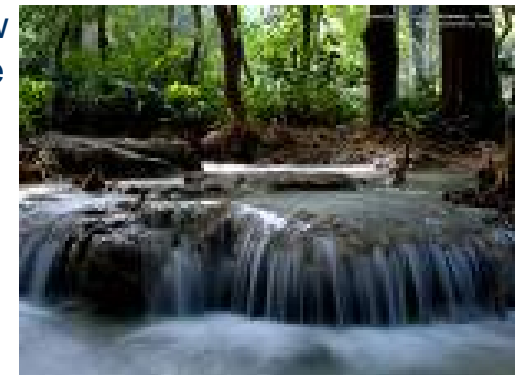


Water Conservation Practices

Future Water Projects

Irrigation Technology In addition, a two-year study using new technology that measures the evapo-transpiration (ET) rate has been tested in two County parks and several residential and commercial areas. There has been an overall 25% water efficiency gain for all sites tested by using this technology. The County is now working with Marin Municipal Water district on a study to determine which of the new ET technologies works most efficiently.

Vehicle washing The County garage has proposed replacing it's automatic car washer which has been inoperable for the past three years because of unavailable service parts that are no longer manufactured. Currently, vehicles are hand washed, a process that uses approximately 100 gallons per car. The proposed carwash system will filter and reuse 90% of wash water for estimated water savings of 896,400 gallons a year.



Waste Reduction & Recycling Practices

County staff in partnership with local government, industry, and the public manage over **800,000 tons** of waste generated each year in Marin by reducing waste whenever possible, promoting the management of all materials to their highest and best use, regulating the handling, processing and disposal of solid waste, and protecting public health and safety and the environment.

Waste Reduction & Recycling Practices

Waste Reduction

Purchasing Policy. The County currently gives a 15% price preference to recycled products with 50% secondary and post-consumer content and 10% or greater post-consumer content. Recycled products include paper as well as all other materials, goods and supplies.

Junk Mail. County staff are working with the Marin Hazardous and Solid Waste Joint Powers Authority and the Bay Area Recycling Outreach Coalition on a Stop Junk Mail Kit in efforts to help reduce and eliminate junk mail.

If half of Marin's citizens stopped their junk mail, it would save up to 150,000 trees.



Waste Reduction & Recycling Practices

Waste Reduction

MarinMax MarinMax is a waste exchange which allows an individual to post an item that is no longer wanted so that another individual can collect the item at no charge. The website was launched in December 2004 and has diverted from disposal over 37,611 pounds of material. www.MarinMax.org

Reusable Bags. County staff working with Marin's incorporated cities and towns have begun to implement a program to eliminate single use bags. To date staff have distributed more than 5,000 reusable bags at farmers markets and events in Marin.



Using these 5,000 reusable bags Marin residents can reduce their generation of waste plastic bags by 7,300,000. An amount equal to conserving 869 barrels of oil annually.



Waste Reduction & Recycling Practices

Recycling

Recycled content products Letterhead, envelopes, note cards, copy, computer and fax paper are all purchased with recycled content. Recycled paper with 30% post-consumer content is used for most standard printing. This level of post-consumer content goes beyond the county's policy that mandates a minimum of 15% post-consumer content in paper purchases. In some cases, recycled paper with a higher post-consumer content, up to 100%, is used.

Tires. County hosted two waste tire amnesty events in 2007 as a follow up to their 2005 tire recycling program. To date these events have collected 5,909 waste tires for Marin residents.



The Tire Amnesty Program recycled the equivalent amount of energy to drive a car from Los Angeles to New York nearly 160 times.



Waste Reduction & Recycling Practices

Recycling

Battery Recycling Currently, there are 22 County sites at County facilities participating in used battery recycling. This recycling helps eliminate batteries in landfill where they constitute 88% of mercury and 54% of cadmium deposits. To date this program has prevented 1,113 pounds of waste batteries from reaching landfill.

County Recycling County building paper recycling service have been instituted at the Civic Center and all off-site locations. Additionally, recycling services are provide at large venue events, such as the Marin County Fair and Marin Home Show, held at the Marin Center and fair grounds.

In calendar year 2006, the County Facilities Recycling Program reduced waste sent to landfill by over 286 tons ... more than 1.3 times the weight of the Statue of Liberty.



Construction Practices

Reused asphalt grindings as shoulder material thus saving 12,000 tons from going to Landfill

Reused 1000s of tons of storm material as shoulder backing instead of going to landfill

The construction and demolition ordinance requires that all remodel and demolition projects under County jurisdiction reuse or recycle at least 50% of construction material.





Pollution Prevention Practices

Pollution prevention is reducing or eliminating waste at the source by modifying production processes, promoting the use of non-toxic or less-toxic substances, implementing conservation techniques, and re-using materials rather than putting them into the waste stream.

Pollution Prevention Practices

Green Commute

Employee Green Commute Program.

County employees are offered a pre-tax program to pay for public transit tickets. Carpooling incentives include preferred parking as well as a ride-matching service. A guaranteed ride home is provided for registered carpoolers and transit users. Bike incentives include lockers. Showers have been installed at the Civic Center, and are available to employees to facilitate biking to work.

Stipend Program County has developed a pilot stipend incentive program to encourage employees to come to work without using other than single occupant motor vehicles. This program is underway and will be closely monitored for its effectiveness.

To date, these measures have resulted in a significant decrease in the fuel costs and an estimated 400 ton reduction of CO2 emissions associated with employee commuting.

Pollution Prevention Practices

Toxics

Pesticide Use All highly-toxic (Class I) and moderately-toxic (Class II) pesticides have been completely eliminated within County buildings. Pesticides rated slightly-toxic (Class III) and non-toxic (Class IV) are used only on an as needed basis.

Print Shop Because oil-based inks are not environmentally friendly, the print shop has piloted the use of soy-based inks and rubber-based inks. Soy-based inks required a chemical-based drying agent to allow efficient processing so rubber-based inks have been selected as the preferred alternative .

HHW Facility The Marin Hazardous and Solid Waste Management Joint Powers Authority, administered by DPW's Waste Management Division, expanded their household hazardous waste (HHW) collection program to include cathode ray tubes (a component of TV's and computer monitors), computers and electronic devices. The HHW Program operates six days a week at the JPA' s permanent HHW Collection Facility in San Rafael.

In FY 2006-2007, the HHW Program collected 1,489,357 pounds of hazardous waste or nearly 15 pounds for every Marin household.



Pollution Prevention Practices

Storm Water and Watershed

Erosion Control For erosion control, natural fibers such as jute, coconut fiber or locally harvested willow branches are used. No herbicides are used as they could impact water quality and threaten local habitat.



MCSTOPPP Printed and electronic information promoting creek protection and water quality protection is generated by MCSTOPPP (www.mcstoppp.org) and is available on many topics including: less toxic gardening and yard maintenance, water protection measures for dog owners, horse owners, food handling facilities, construction operations, swimming pools and composting sites. Printed material also includes information about preventing the release of pharmaceuticals and hazardous wastes into the water stream.



Vehicle Washing The vehicle washing area has a lock system to keep contaminants from entering storm drains. The steam cleaning of vehicles is conducted with a similar lock system process to take out heavy materials for safe disposal.



Pollution Prevention Practices

Green Businesses

Vendor Selection Practices Vendors have been selected with “green” credentials including use of LEED certified products. This includes the uniform company, Aramark, which has received a Green Award for using biodegradable cleaning agents, minimal water usage, and recycled water. Landscaping vendors are selected in part, based on their experience with water conservation, drought-tolerant plants, and removal of non-native plants.

Green Business Program. The Green Business Program is a voluntary partnership among business leaders, government agencies and non-profit organizations. We recognize and promote businesses that demonstrate continuous compliance with applicable environmental regulations, conserve energy, water, and other materials, implement sound environmental practices that prevent pollution and waste generation, and share environmentally responsible practices with other businesses in our community.





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Caring For Our Creeks

Marin County Stormwater Pollution
Prevention Program (MCSTOPPP)



FLOWS TO BAY

Caring For Our Creeks

Marin County Stormwater Pollution
Prevention Program (MCSTOPPP)

COUNTY OF MARIN
CA EXEMPT
1185025
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www.mcstoppp.org

PARTNERSHIP WITH PRIVATE BUSINESSES

Our goal was to have 250 certified Green
Businesses by 2010

As of December 4, 2007 we have certified

245

Green Businesses

Pollution Prevention Practices

Future – Extended Producer Responsibility

Extended Producer Responsibility. Extended producer Responsibility aims to place financial and environmental responsibility of proper disposal and recycling on the product manufacturers. The Joint Powers Authority was also one of the first jurisdictions to join the California Product Stewardship Council, a statewide group aimed at developing and instituting Extended Producer Responsibility legislation.