



COUNTY OF YOLO

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Yolo County Works to Reduce Greenhouse Gas Emissions

(Woodland, CA) – Today, the Yolo County Board of Supervisors received a report on the county's actions to account for, and reduce greenhouse gas (GHG) emissions in compliance with Assembly Bill 32 (California Global Warming Solutions Act of 2006). This legislation, signed into law in the fall of 2006, established annual mandatory reporting of GHG emissions for significant sources, and set emission limits to cut the state's GHG emissions to 1990 levels by 2020. The bill followed the 2001 action by then Governor Gray Davis which established the California Climatic Change Registry and mandated emission protocols.

In July 2007 Yolo County joined the California Climatic Action Registry (CCAR) and started assembling the data to report its carbon for 2006 as a base year. The county's comprehensive records on purchases of fuel, electricity and natural gas, accounted for nearly 99% of the county's total GHG generation. In August Yolo County submitted a Total Emissions Summary Report to the CCAR, which detailed all emissions information for facilities, fleet and stationary sources for its 53 buildings and 916,401 square feet that are under direct control of the Board of Supervisors.

According to protocols directed by the state and the CCAR the data submitted required an independent audit by an approved consultant. With this in mind the county contracted with Tetrattech, a Rancho Cordova consulting firm. Tetrattech, the California State Air Resources Board and the California Energy Commission conducted an audit on the carbon accounting submitted by the county which concluded the reporting of GHGs was consistent with the protocols, and the county contributed approximately 8,200 metric tones of GHG to the environment in calendar year 2006.

Some of Yolo County's actions to identify GHG emissions, and steps already underway to reduce impacts, which were reported in this audit include the following:

- In fall of 2007 the Yolo County Board of Supervisors adopted a Cool Counties Climate Stabilization declaration. The declaration stated the county would create an inventory of operational GHG emissions and implement policies, programs and operations to achieve significant, measurable and sustainable reduction of those operational GHG emissions to help contribute to regional reduction targets. The declaration also stated the county would work closely with local, state and federal governments, and other leaders, to reduce county geographical GHG emissions to 80% below current levels by 2050, by developing a GHG emissions inventory and regional plan that establishes short-, mid-, and long-term GHG reduction targets, with recommended goals to stop increasing emissions by 2010, and to achieve a 10% reduction every five years thereafter through to 2050.

- Yolo County has standards that meet Electronic Product Environmental Assessment Tool silver criteria which means computers purchased by Yolo County meet a 23 point standard for green efficiency plus 50% of the more stringent optional criteria that results in a greener operational cost (power consumption, earth friendly disposal, etc.).
- Yolo County is designing the Winters and West Sacramento library replacement projects to meet LEED (Leadership in Energy and Environmental Design) Silver criteria. The Winters project will include a new technology that freezes a large storage device during nighttime hours and uses the ice to reduce daytime cooling by as much as 60% during the next day. Both green buildings will result in reduced carbon and in an earth-friendly design.
- Yolo County operates a state-recognized landfill operation as a controlled bioreactor to attain a number of environmental and cost savings benefits. Yolo County requested the Environmental Protection Agency (EPA) grant regulatory flexibility from the Resource Conservation Recovery Act that precluded addition of useful bulk or non-containerized liquid amendments, and flexibility on other restrictions regarding landfill cover and containment. Liquids, including groundwater and possibly gray water, and food-processing wastes normally having no beneficial use, can beneficially enhance the biodegradation of solid waste in a landfill. Yolo County is evaluating the bottom linings of the site based on project performance, available controls, and environmental safeguards which have been demonstrated in a smaller-scale 9,000-ton test program at the landfill. The release of GHG emissions is reduced both by higher recovery rates of landfill gas and from offsetting fossil fuel use with landfill gas energy. Methane, which comprises about 50-60% of landfill gas volume, is about 24.5 times more potent (mass per mass) as a GHG than carbon dioxide. Controlled land filling also eliminates fugitive emission beyond the 30-year post closure period.
- In July 2007 the county was recognized as an EPA Green Power Partner. The U.S. EPA acknowledged Yolo County's Herbert Bauer Health and Alcohol, Drug & Mental Health Building for making a significant impact by producing green power. This recognition program helps to reduce the risks associated with climate change by supporting technologies that are more sustainable for businesses and communities.
- 2002-2004 Yolo County embarked on a wide energy conservation retrofit project which included, lighting, boilers, HVAC, economizers, chillers, vacuum fluorescent displays, fans, co-generation equipment, water heaters, motors, etc., as well as a countywide computer energy management system that provided electronic computerized climate control in all major county buildings. The project cost was \$5.8 million, the energy savings will be \$6.9 million over 15 years and the county received a PG&E rebate in the amount of \$253,273.
- 2002-2007 Participation in PG&E energy programs:
 - PG&E Rebate Program - Countywide Energy Conservation Retrofit Project
 - PG&E Rebate Program - Bauer Building Solar Project
 - PG&E Demand Bidding Program - traded kilowatts for dollars by reducing load
 - PG&E Critical Peak Pricing - discounts on non-critical peak days for customers able to reduce or shift electricity demand during critical peak days
- 2003-2009 the county proceeded with a building closure plan closing old buildings that lacked energy efficiency and had other major problems with cost impacts. The project cost was \$550,000 and will save \$2.6 million over 15 years.

- 2003-2007 the county proceeded with a wide air quality emissions reduction project. In 2003, Yolo County had six emission sources (generators and boilers) that were not permitted by the Yolo-Solano Air Quality Management District that had been in operation for twenty plus years, and did not have Best Available Retrofit Control Technology emission reduction controls on the units. Retrofitting the generators and boilers resulted in reduced emissions thereby cleaning the environment and avoiding severe fines from the air district.
- In 2006 the county completed construction on the Bauer Building which resulted in a sustainably designing, energy efficient, green office building that is Leeds Silver certified-equivalent. The building has a renewable energy source, optimized energy performance reduction, water miser technologies (waterless urinals save more than 400,000 gallons of water per year), light pollution (light that bleeds outside the property), landscape design that is water efficient (reducing needs by 50%), and an extremely efficient heating and cooling process. The initial project cost was \$9 million (building is leased and will be owned after 20 years) and the facility affords a 30% reduction in energy for similar non-LEED certified buildings.
- The Bauer Building also includes 147,000 KW renewable solar energy installation – the largest high tech plastic solar cell installation in northern California. The system produces the equivalent energy used by 200 homes, leaving that energy on the grid for use by other ratepayers and for other uses. Annually, the solar system reduces 600 tons of carbon dioxide from being emitted into the atmosphere as produced by a typical gas-fired power plant. It takes 50 acres of trees to absorb that much carbon dioxide from the atmosphere annually. The system produces 40% of the total energy needs for the building. The project cost of \$1.043 million will result in an energy savings of \$1.05 million over 15 years. The county received a PG&E rebate in the amount of \$397,981 to offset the cost thereby reducing total expenses by nearly \$400,000 and reducing GHG generation by 600 metric tons.

Going forward, to achieve a minimum reduction of 10% each year, as referenced in the Cool Counties initiative, the following actions will be necessary and are currently under consideration:

- Develop a GHG adverse purchasing policy that mandates all purchases of electrical equipment meet or exceed the PG&E Energy Star rating. This would require departments to purchase improved efficiency refrigerators, microwaves and related appliances that have greater power efficiencies and less GHG impacts.
- Mandate that departments replace refrigerators and related electrical appliances over a two-year period with Energy Star units. This project would replace all old appliances in the county that are not energy efficient and reduce consumption. For example, the county has more than fifty refrigerators that are over twenty years old. These can be replaced to save energy (as well as reducing older ozone damaging refrigerants). Going to an energy star unit will reduce electrical consumption and therefore emissions by 5-7%.
- Request departments reduce their use of electricity by turning off lights, computers and monitors when not in use.
- Request departments reduce their use of vehicles by 10%, which will reduce the county's carbon footprint by more than 180 metric tons.

- Transition to smaller engine vehicles reducing emissions by 8-9% each year resulting in a greater than 30% reduction in five years. That will reduce carbon emissions by approximately 172 metric tons each year.
- Approve a cogeneration modification project as a component of the Monroe Detention Facility Expansion Project. This project would use the current natural gas cogeneration unit to produce most of the electrical demand from the jail expansion. The unit currently has excess capacity and the addition of the jail expansion load will make the unit more efficient. The cost will be included in the jail expansion project and result in a substantial energy savings. The county will apply for PG&E rebates once designed.
- Proceed with a County Wide Computer Energy Management Conservation Project Phase 2. This project is planned to utilize the computer energy management system to adjust building operations to reduce energy consumption. In addition, the project will look at specific energy conservation measures that can be implemented to reduce energy consumption. Each potential reduction measure will be evaluated for cost benefit. An example is the administration building automatic doors on the first floor. The doors currently are too wide and both doors stay open too long on automatic operation, thereby wasting energy. Reducing the size of the openings and making only one of the doors open will reduce temperature loss by 60%. The lighting in the administration building and the courthouse also will be evaluated as there are new lighting technologies that will increase efficiency with less emissions and lower environmental impact, and will reduce operating costs.
- Direct General Services to make appropriate heating and air conditioning adjustments that will reduce the use of hydrocarbon consuming equipment. This would mean that buildings would be cooled and heated a little less, but could result in reduced GHG emissions by hundreds of tons of carbon annually.

“The Yolo County organization should be very proud of what we have accomplished to date. The actions proposed for the future are very achievable,” notes Yolo County Supervisor Matt Rexroad. “If every county employee takes action, we can easily exceed the 10% reduction.”

Finally, Yolo County has partnered with a University of California at Davis (UCD) engineering class to evaluate its buildings, fleet and systems. The review fostered significant study opportunities and perspectives on developing policies and strategies to lower the county’s environmental impacts. At a future Board of Supervisors’ meeting the class will present its findings and policy comments. The presentation will focus on:

- Energy use, conservation, increasing efficiency;
- Building energy audits with recommended energy management system settings and improvements that result in better decision making; and
- Modifications to the fleet of vehicles and stationary sources that result in reduced GHG.

“It is Yolo County’s intent that this enhanced focus on reducing GHG emissions, and involving UCD, is good public policy,” notes Supervisor Rexroad. “While the county gains analysis and a perspective from very bright professionals and students, the involvement of students and professors adds value by increasing public involvement. It is hoped that some of these students will see that their involvement in local government can impact their future and change their community.”

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