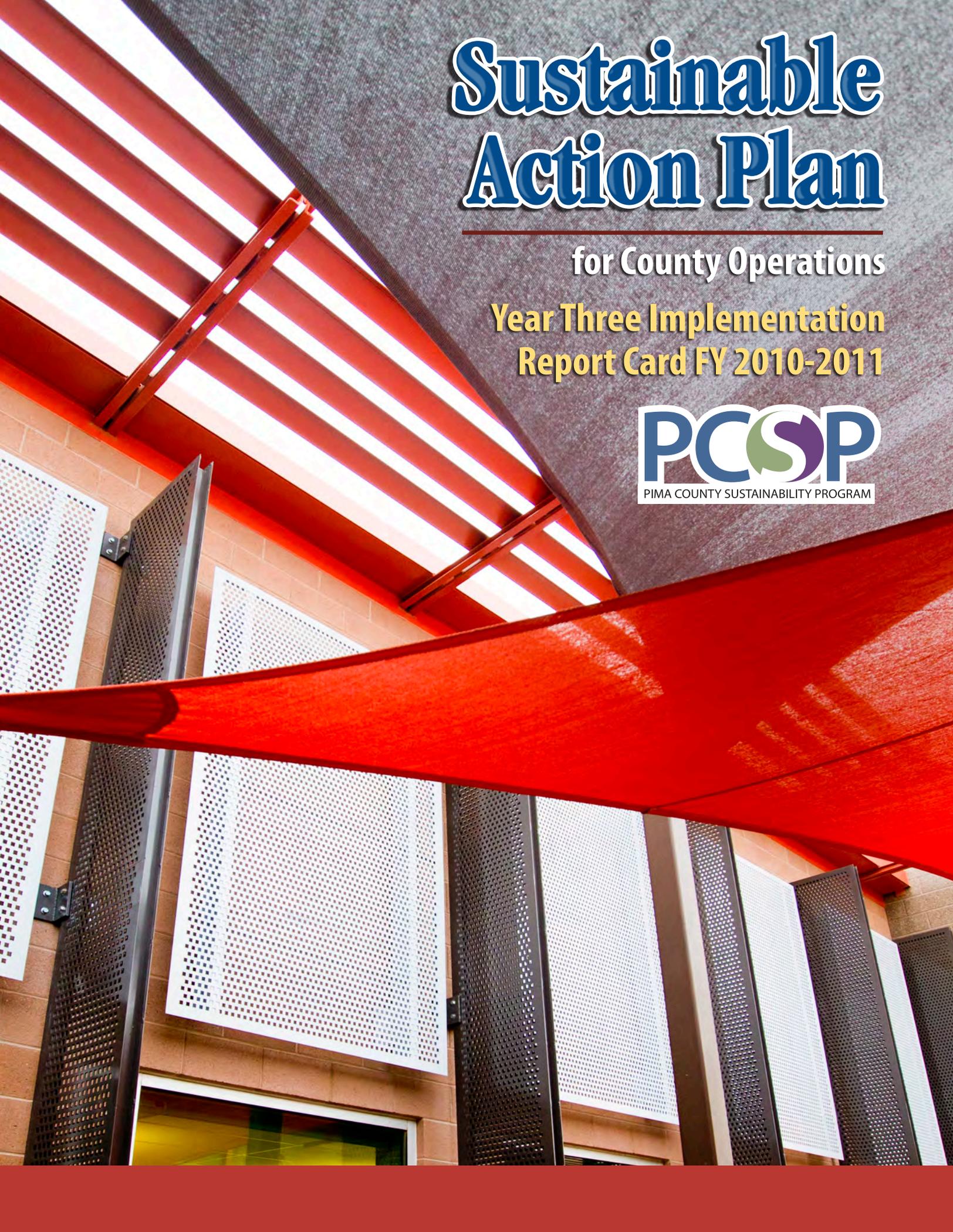


Sustainable Action Plan

for County Operations
Year Three Implementation
Report Card FY 2010-2011



Making and Measuring Our Progress

The Board of Supervisors unanimously adopted the Sustainable Action Plan for County Operations in August 2008. Since then, staff has taken on a diverse range of activities and programs designed to integrate sustainable practices into virtually all facets of the way County government operates - from the cars we drive to the energy and water we consume, to the construction of our buildings, to the products we purchase, to the way in which we view and handle our "used" materials.

This 2010/2011 Sustainability Report Card charts the Action Plan's third year of implementation.

In all, County Departments tackled 54 action items programmed for FY 2010/2011, resulting in significant accomplishments in waste reduction, energy conservation, green building, renewable energy, land conservation and management, green purchasing, and water conservation and management. New this year, 15 employees representing seven departments worked as a team to begin the development of the Health and Wellness Chapter to the Sustainable Action Plan for internal operations.

This report card showcases some of these successes and also provides important feedback to County Supervisors, staff, and the public on how the County is performing on 30 specific "success indicators." The success indicators include measurable performance targets allowing the County to track its progress during each year of the 5-year action plan. The indicators also help guide the County and its decision makers in areas where it strives to improve its performance, particularly in response to the availability of resources or evolving policies, technologies and best practices.

To view or download copies of the Sustainable Action Plan for County Operations or this Sustainability Report Card, please go to www.pima.gov or visit your nearest Pima County Public Library.

Comments and suggestions are always welcome. Please direct them to the Pima County Steering Committee, attention Robin Johnson, Sustainability Manager, at robin.johnson@pima.gov or (520)740-6946.

On the Cover

The new Water and Energy Sustainability Center at the Water Reclamation Campus has extensive water conservation and water harvesting features. To reduce energy usage, all of the motors are fitted with variable frequency drives and an Aircuity active monitoring system which will further reduce energy consumption.



Tedra Fox

The 2010-2011 Pima County Sustainable Action Plan for County Operations Report Card is dedicated to the late Tedra Fox, Pima County's first Sustainability Manager who died March 17, 2011. Although she is dearly missed, her leadership, inspiration and conviction to protect and preserve our resources live on.

Through Tedra's guidance The Action Plan, initiated in 2008, and subsequent Report Cards showcase the progress made in the areas of renewable energy, land and water conservation and management, green building, waste reduction and much more.

Pima County is committed to continuing the important work that Tedra Fox began and expresses deep gratitude for her dedication to a more sustainable Pima County and world.

As a result of the combined efforts of multiple departments, thousands of dedicated staff and the support of County leadership, Pima County achieved these sustainability successes in FY 2010/2011:

- Reduced energy expenses by \$1.1 million over Fiscal Year 2010 and by \$2.3 million compared to the baseline year 2008;
- Managed 2.278 megawatts of solar photovoltaic, which is 4.4% of the County's total energy load and represents a cost avoidance of around \$500,000 in electricity;
- Increased the use of methane gas as an energy source by 18.3% over the baseline year of 2008;
- Increased the number of Sheriff's Department fleet of alternative fuel vehicles by 38% so that alternative fuel vehicles now are 35% of its fleet;
- Acquired 4,505 acres of land for open space conservation;
- Increased the proportion of office supply dollars spent on eco-friendly products by 199% over the baseline year of 2008, which surpassed the 2011 milestone;
- Increased the percentage of recycled paper purchased by all Departments by 16%;
- Partnered with the City of Tucson to open the "Solar One Stop Center" and create the website www.Solaronestopaz.org, which encourages the use of solar technology by providing regional information for residents, businesses and solar companies; and
- Began the development and implementation plan for a new Employee Health and Wellness Chapter to be added to the Sustainable Action Plan.

Areas in Need of Additional Focus for FY 2011/2012

This Report Card helps County officials and staff identify areas where solid sustainability advances are being made, as well as areas in need of more attention. In response to the latter goal, this Year Three Report Card includes "improvement plans" for a handful of success indicators. These improvement plans spell out actions the County will take to enhance performance in those specific areas.

In addition, because the Sustainable Action Plan for County Operations is intended to be adaptive and evolve over time based on changing conditions and knowledge and technologies, a few success indicators include "recommended amendments." These amendments are designed to make the indicator more meaningful by suggesting another form of measurement (as in the case of Indicator 24) or to make adjustments based on changed circumstance or the need for greater flexibility (as in the case of Indicator 25).

The end result is the evolution of a Sustainable Action Plan and a County organization that is committed to achieving excellence in operational sustainability and efficiency.



Using entirely Energy Efficiency and Conservation Block Grant (EECBG) funds, two projects to improve lighting and reduce energy costs were completed. The removal and replacement of antiquated light fixtures in four County-owned buildings replaced 16,000 lamps. Electrical cost-savings is expected to be approximately \$106,000 annually and is estimated to reduce CO₂ emissions by 825 metric tons.

Report Card Legend



Achieved Target



In Process



**Not Met,
But Shows Progress**



Not Met

1



Not Met,
But Shows
Progress

Success Indicator: Number of Environmentally Friendly Fleet Vehicles

Responsible and Supporting Departments: Fleet Services, All Departments

Target: 100 vehicles, or 25% of vehicle fleet, by 2008; 30% of the fleet by 2009; and 50% of the fleet by 2017 (excluding Sheriff's vehicles)

Score / Progress Report: Just under 25% of the County vehicles (excluding Sheriff Vehicles) are alternative-fuel vehicles (294 of the 1,200 total). Fleet Services will make every effort to meet the goal of 50% of the fleet to be environmentally friendly by 2017. When replacing vehicles Fleet considers the Department use of the vehicle and attempts to replace it with either an alternative fuel vehicle or a smaller, more efficient vehicle. Fleet Services will be purchasing a few electric vehicles to see how they perform. The Sheriff's Department purchased alternative fuel vehicles during this fiscal year. Now 35% of its fleet is considered environmentally friendly.

Improvement Plan: As economic conditions improve, the County anticipates achieving the 50% target by 2017.

2a



Not Met,
But Shows
Progress

Success Indicator: Education of County Employees

Responsible and Supporting Departments: Fleet Services, Risk Management, Information Technology Department

Target: 100% of new employees using County vehicles trained on how to drive more efficiently and reduce vehicle miles traveled. 100% of employees enrolled in Defense Driving class trained on how to drive more efficiently.

Score / Progress Report: The Defensive Driving Course and Driver Energy Conservation Training (DECAT) are both online web-based opportunities available for internal instruction. The County didn't meet the 100% target this year but expects to next year.

2b



Achieved

Success Indicator: Education of County Employees

Responsible and Supporting Departments: Department of Environmental Quality, Sustainability and Conservation Office, Human Resources, Information Technology Department

Target: Articles promoting travel reduction, alternative fuel vehicles and fuel-efficient driving techniques published in employee newsletters and on County websites.

Score / Progress Report: The Department of Environmental Quality (PDEQ) presented at 24 New Employee Orientations (NEO). Participants receive information and encouragement to choose fuel-efficient or alternative fueled options when using the County fleet of vehicles and are provided with information and resources explaining benefits and access to alternate modes of transportation. PDEQ e-mailed employees 9 times during the year with information promoting the use of bicycles, transit, carpooling, PAG Sun Rideshare commuter contests, and related community events. PDEQ also posted and updated information on the employee intranet site, provided transit Ride Guides and bike maps for employees in the lobbies of some downtown County buildings, and distributed 42 Two-Free Ride bus passes in response to inquiries after Travel Reduction Program (TRP) e-mails were distributed.

They also facilitated open house events for employees in facilities along the Ajo Road Corridor and provided information at the Pima County/ City of Tucson Employee Health Fair. The County collaborated with Pima Association of Governments (PAG), City of Tucson and other groups and agencies to coordinate Car Free Day, Bike Fest, Bike to Work Day, Cycloviva Tucson and National Park(ing) Day.

3



Not Met

Success Indicator: Participation of County Employees in Trip Reduction Programs

Responsible and Supporting Departments: Department of Environmental Quality, Human Resources, Information Technology Department

Baseline: Historical participation rate of 25%

Target: Achieve a minimum of 30% participation by FY 2010

Score / Progress Report: According to a PAG Employee Travel Reduction Survey conducted in 2010, 19.2% of Pima County employees used alternate modes of transportation for commutes. PDEQ continued to provide presentations, information, and resources to employees encouraging them to use alternate modes. In an attempt to expand interest in alternate modes, PDEQ, in cooperation with PAG, hosted an open house at Abrams Public Health Center for employees working along the Ajo Road corridor. Information about commuting via bus, bike, and carpooling was available as well as prizes solicited from local merchants.

Improvement Plan: PDEQ will continue to collaborate with PAG to identify ways to improve County participation in trip reduction. In 2011/12 a pilot commuter challenge will be implemented. PDEQ will continue to educate County employees via New Employee Orientations, e-mail messages, and via the TRP intranet website to provide resources and encourage use of alternate modes. The next PAG employee survey is scheduled for 2014.

4



Success Indicator: Attendance at Green Building Educational Series

Responsible and Supporting Departments: Development Services, Facilities Management

Target: Minimum of 20 in attendance

Score / Progress Report: Green Building Program offered nine training sessions last year to more than 240 building professionals and members of the public.

5



Success Indicator: LEED Accreditation of County Employees

Responsible and Supporting Departments: Development Services, Facilities Management

Target: Minimum of 14 Leadership in Energy and Environmental Design (LEED) Accredited Professionals by 2010.

Score / Progress Report: No staff achieved accreditation this year and one accredited staff retired bringing the total number of County LEED-accredited professionals to at least 14.

6



Success Indicator: Percentage of LEED Silver-Certified Buildings

Responsible and Supporting Departments: Facilities Management, Development Services

Target: 100% of all new occupied County-funded buildings and 100% of all building additions greater than 5,000 square feet

Score / Progress Report: The administration and maintenance buildings at the new Wastewater Reclamation Facility will be LEED certified. The new Joint Courts Complex, Pima County Wireless Integrated Network (PCWIN) and Office of Emergency Management and Homeland Security building are being designed to meet LEED Silver standards

7



Success Indicator: New and Existing Contracts Include "Green" Specifications Pursuant to Sustainable Action Plan, Activity No. 8

Responsible and Supporting Departments: Procurement, All Departments

Target: 100% of new contracts to include green specifications by January 2009; all contracts in subsequent years to include green specifications whenever applicable. 100% of existing contracts updated with green specifications, as applicable, by June 2010

Score / Progress Report: When practical, pursuant to Board of Supervisors Procurement Policy D29.2, Section IV, Department Directors are responsible for assuring that specifications be provided and used to establish contracts to optimize the achievement of County Sustainability policies. Departments have affirmed general conformance when establishing new and renewing existing contracts.

Improvement Plan: In association with Indicator Number 11, The Sustainability Manager will work with the Department Directors and Green Purchasing Representatives to facilitate their identification of eco-friendly contract specifications and subsequent education and training needs. The Department Staff assigned to develop and maintain contract specifications will review, expand and assure optimization of new and existing contract specifications. Measurable actions will include the County Intranet posting of contract language, examples of specifications and training presentations that can be utilized by others to train Staff assigned to develop contract specifications.

Sustainability Success Stories:

Pima County Regional Wastewater Reclamation Department (RWRD) and Facilities Management (FM) are enrolled in the TEP DemandSMART™ Program. The RWRD has committed to a 600 KW demand reduction and FM has committed an additional 520 KW demand reduction during declared events. This program is for commercial, institutional and industrial organizations in the TEP service area. Program participants voluntarily reduce their electricity consumption during times of peak demand or high wholesale electricity prices. The County earns regular payments in exchange for reducing nonessential energy use when the electricity grid needs relief. Through access to on-demand energy data, the County can see real-time energy data that helps identify new opportunities for energy efficiency and savings. Participation in this program supports increases in the efficiency of the electric grid and helps reduce the need for constructing new generation plants.

Facilities Management has procured EnergyCAP® software to improve reliability and identify annual electrical consumption, to monitor use trends, document savings and troubleshoot spikes in consumption. This new software will allow the County to better determine the current total energy load.



Green Purchasing

8



Achieved

Success Indicator: Percentage of Eco-friendly Office Supply Purchases on the Staples Website

Responsible and Supporting Departments: Procurement, All Departments

Baseline: 9.1% of products (= \$170,844)

Target: 18% of products purchased in FY 2010

Score / Progress Report: County Departments spent an average of 27.17% of their office-supply budget on eco-friendly purchases.

9



Achieved

Success Indicator: Purchase of Energy Star-Rated Appliances and Equipment

Responsible and Supporting Departments: Facilities Management, Procurement, All Departments

Target: 100% of appliances and equipment purchased to meet ENERGY STAR™ standards by June 2010

Score / Progress Report: In FY 2010/11 Facilities Management adopted an equipment standard for new construction and tenant improvements that requires, at a minimum, ENERGY STAR™ rated appliances.

With software improvements proposed for the summer of 2011, Facilities Management will be notified when a Department makes a request to purchase an appliance so it can evaluate the energy ratings to ensure the best choice is made.

10



Achieved

Success Indicator: Use of Non-toxic Products for Janitorial Services

Responsible and Supporting Departments: Facilities Management

Target: 100% of janitorial service contracts to be updated with non-toxic and environmentally friendly product specifications in 2010

Score / Progress Report: Janitorial services continue to require the use of green cleaning supplies, daylight cleaning and use of Green Seal Standards. Research to improve green contract specifications will begin in FY 2011/12.

11



Achieved

Success Indicator: Employees with Purchasing Responsibilities Attend at least One Green-Purchasing Training Session a Year

Responsible and Supporting Departments: Procurement, All Departments

Target: Employees with purchasing responsibilities to attend at least one green purchasing training session a year, regardless of whether it is offered by the Department Trainer or another Department. This will provide Departments with more flexibility in acquiring the training.

Score / Progress Report: An Eco-Friendly Product Show was held for the Green Purchasing Representatives to investigate office green products and discuss attributes with vendors in September 2010. Over 15 vendors showcased a variety of products that have a reduced environmental impact. A Contract Specifications Power Point presentation was offered to provide major Department Purchasing Representatives with a template that may be customized to focus on commodities and contracts for which the Department is a major user. Departments with basic purchasing needs may opt to attend a training presented by one of the major purchasing Departments or they may attend a general quarterly Procurement training, which covers Green Contract Specifications.



Sustainability Success Stories:

A-7 Ranch. A solar conversion at a Pima County-owned working ranch in the Redington Pass/San Pedro River area allows it to operate without depending on diesel generators, as it had for years. Acquired with 2004 GO Bonds, the ranch is located in the Rincon Mountains, away from electrical infrastructure.

Using Energy Efficiency and Conservation Block Grant (EECBG) funds, competitive bids were obtained to provide and install a photovoltaic system to fulfill all daytime power needs, including stored solar energy using battery backup. The diesel generators will remain on site to serve as emergency back-up. The Project was 100% funded with \$127,515 from the EECBG grant. Diesel fuel-cost savings is expected to be approximately \$18,500 annually and is estimated to reduce CO₂ emissions by 27 metric tons per year.

12



Success Indicator: Purchase of recycled and/or Forest Stewardship Council Paper

Responsible and Supporting Departments: Procurement, All Departments

Target: All Departments to purchase 30% post-consumer recycled paper

Score / Progress Report: Currently 68% of the departments purchase paper that meets the 30% post-consumer recycled-content target; this is an increase of 9.25% from FY 2009/10.

Improvement Plan: Quarterly purchase reports are issued to Department Directors and Green Purchasing Representatives for appropriate review and action. Education materials for Departments will be developed and posted on the County Intranet website to improve compliance with Pima County Policy.

Sustainability Success Stories:

The Solar One Stop Center, Arizona's first, opened in 2011 in the lobby of the Public Works Building. A new solar website www.Solaronestopaz.org was created to encourage the use of solar technology by providing regional solar information for residents, businesses and solar companies. At the Solar One Stop Center, multiple communication venues convey the message. They include large-scale informational posters, brochures and bookmarks, displays of solar elements and a large-screen monitor featuring solar videos and slide shows.

A computer monitor and keyboard allows the public immediate access to solar information, such as solar permit requirements for multiple jurisdictions in the County, financial incentives and rebates, and solar technologies applicable to homes and businesses.

The Center has a highly visible physical display featuring a photovoltaic panel, solar tube, solar water-heater collector, DC inverter and pool heater, all donated by local companies. The website offers a "Who's Who in Solar;" solar permitting requirements; solar technologies for residences, businesses and industry; incentives and rebates; installer information and case studies; upcoming events and updated regulatory information. One display shows the real-time generation of solar energy used to power the Roger Road Wastewater Reclamation Facility.



The Sheriff's Department purchased 72 alternative fuel vehicles, bringing its total up to 264 or 35% of the 757 vehicles in its fleet. In 2007 when the Sustainable Action Plan was created the majority of vehicles used for patrol were not offered as alternative-fuel vehicles. Now Crown Victorias and Chevrolet Tahoes are available as alternative-fuel vehicles.

Fleet Services identified 15 under-utilized vehicles that were transferred to new departments in FY 2010/11. This equates to a savings of \$321,875 in vehicle replacement costs and approximately \$19,000 in annual fuel costs.

Renewable Energy & Conservation

13



Achieved



Success Indicator: County Expenditures for Energy

Responsible and Supporting Departments: Facilities Management, All Departments

Baseline: Energy expenditures for FY 2008 (\$15.1 million)

Target: Energy expenditures do not exceed \$15.1 million

Score / Progress Report: The County spent \$1.1 million less in FY 2010/11 than in FY 2009/10 and \$2.3 million less in energy costs than in the base year of 2008. Total energy costs in FY 2010/11 were \$12,728,262. Electricity costs were \$10,209,472 and the natural gas consumption cost was \$2,518,791.

Facilities Management Department has successfully begun numerous best practices to reduce energy use and operating costs. A few of the best practice methods are benchmarking, energy audits, retrofitting, employee education, technology improvements and policy changes. These measures, combined with innovative collaborations and keeping a continuous eye on the bottom line, have helped the County achieve significant savings on energy expenditures.

14



In Process

Success Indicator: Energy Consumed by County Buildings and Facilities

Responsible and Supporting Departments: Facilities Management, All Departments

Baseline: Electrical use in FY 2009 (50.16 MW)

Target: To be determined based on efficiency goals established through County-wide audit

Score / Progress Report: Software (EnergyCAP®) has been purchased to monitor energy usage for all County buildings and facilities. Facilities Management is working on uploading historical data to determine the 2009 baseline. A target will be established during FY 2011/12. The 8% reduction in cost (as noted in Indicator Number 13) suggests an 8% reduction in natural gas and electrical usage. We will continue to monitor and determine if this is a trend.

15



In Process

Success Indicator: LEED Silver Energy Credits in County Projects

Responsible and Supporting Departments: Facilities Management

Baseline: Projects designed after June 30, 2008

Target: All new buildings obtain a minimum of 65% of available energy credits in LEED–New Construction (NC)

Score / Progress Report: Facilities Management continues to design all new projects to take advantage of the optimum energy credits based on the facility use, budget, design, and funding opportunities. No new construction projects were completed during FY 2010/11.



Sustainability Success Stories:

The Stadium District contract specifications include language stating that companies and vendors are expected to practice green methods of operation, including recycling, and other green stewardship actions. Green waste is recycled as much as possible via mulching and composting. Waste diversion is a top priority.

Water harvesting is utilized whenever possible at the 158 acre Kino Sports Complex. This includes a stadium, 12 sports fields and 2 softball fields. Water harvesting practices allow Pima County to forgo the purchase of water for up to three months a year, saving water and money. One example of a green purchase change occurred when all water pumping motors were converted to lubrication with water instead of petroleum-based products. This change saves money and reduces or eliminates the potential for contamination and pollutants entering the waterways.

16



Achieved



SURPASSED!



EARLY!

Success Indicator: Renewable Energy Use in County Buildings, Parks, and Other Facilities

Responsible and Supporting Departments: Facilities Management, Regional Wastewater Reclamation Department, Department of Environmental Quality

Baseline: FY 2009 renewable energy use is 1,588 KW

Target: Provide 5% renewable energy for County facilities by 2012; 10% renewable by 2017; and 15% by 2025

Score / Progress Report: The County's renewable energy portfolio now contains more than 3.6 megawatts (MW) of methane-to-electric (1.3 MW) and solar electric (2.3 MW) projects combined. This represents 7.3% of its 46.5 MW approximate annual electric load.

Renewable Solar Electrical Energy Inventory for Pima County Operations

4.6 KW The Jackson Employment Center 2009;

1 MW Roger Road Wastewater Reclamation Facility (WRF) 2010;

1 MW Ina Road WRF 2011; and

225 KW Abrams Public Health Center 2011.

A total of 2.278 MW (4.4% of its 46.5 MW) of solar photovoltaic energy was generated in FY 2010/11.

The Tangerine Landfill Gas-to-Energy Project is the first landfill gas-to-energy/electricity generation plant for Pima County Operations. Pima County is working closely with Sexton Energy, which is providing 100% of the funding for project installation and operation. Methane collected at the Tangerine Landfill will power an engine that generates electricity that will be sold to Tucson Electric Power. Methane will be collected from the landfill via a closed system of collection wells and conveyance systems. Pima County will receive a percentage of the revenue from the sale of electricity and a portion of any greenhouse gas credits, once the costs of the system are recovered. The gas-to-energy plant is expected to be operational in 2012. This is a triple win for Pima County, which will emit less greenhouse gasses, generate revenue and provide electricity at no cost to the County.

17



Achieved



SURPASSED!

Success Indicator: Methane as an Energy Source

Responsible and Supporting Departments: Regional Wastewater Reclamation Department

Baseline: Methane use in FY 2006/2007 (169.84 million cubic feet)

Target: Increase use by FY 2011

Score / Progress Report: The Regional Wastewater Reclamation Department (RWRD) used approximately 200.9 million cubic feet of methane gas this year as an energy source. This is an 18.3% increase over the baseline year.

Sustainability Success Stories:

Department of Transportation roadway improvement projects are increasing the percentage of plants that will become established without reliance on potable water and without using a traditional irrigation system as a result of low-water-use plant selection and the use of "tall pot" planting technology.

Examples include: The La Cholla Boulevard from Magee Road to Overton Road Project (42% of all plants); La Canada Drive: Ina Road to Calle Concordia (16% of all plants); Cortaro Farms Road/ Magee Road Improvements: Thornydale Road to Mona Lisa Road (18% of all plants).



18



Not Met

Success Indicator: Amount of Waste Diverted from Landfills

Responsible and Supporting Departments: Facilities Management, Human Resources, Department of Environmental Quality, All Departments

Baseline: Tons of landfill waste generated by County operations in FY 2008 (5,593 tons)

Target: 25% reduction by FY 2011

Score / Progress Report: This year the County saw an increase in waste landfilled compared to last year. In FY 2010/11 the County landfilled 5,563 tons of County-generated waste with a 10% recycling diversion. This is 30 tons below the baseline, and 923 tons above FY 2010. Participants attending New Employee Orientations receive information and encouragement to participate in the Recycle While You Work program.

Improvement Plan: The continued improvement in accounting measures will provide more accurate figures. We will prepare new education and outreach events and materials for employees and visitors to decrease waste disposal and increase recycling rates to meet the target. Additional waste diversion opportunities will be explored.

19



Not Met

Success Indicator: Green Events at County facilities

Responsible and Supporting Departments: Economic Development and Tourism, Information Technology Department

Target: 100% of special events to implement an Integrated Waste Management Plan beginning in FY 2010

Score / Progress Report: An Integrated Waste Management Plan (IWMP) has been created, signed and received from 16 of 20, or 80% of the County's major leased properties. Of those four outstanding, one is considered an honoree due to its already extremely efficient operation; one is closed to the public; one is newly opened and getting established and the last was recently transferred to leased properties. The County's goal is to encourage the latter two to create their specific plans in the next fiscal year. Until these partners adopt IWMP, these properties are "green partners" in spirit, as each of them have expressed their excitement and willingness to do what they can to help carry forward the sustainability initiatives of the County.

The Improvement Plan in Year Two called for the development of "green" guidelines for special events. We incorporated waste management guidelines into the planning of many County-sponsored events including The Green Living Fair, Cyclovia Tucson, The Water Festival, and Solar Rock. The guidelines included a focus on encouraging participants to bring their own water bottles and providing water-fill stations at events. This waste prevention and reuse strategy has now been adopted by other event planners and is an effective way to reduce waste in this dry desert environment. We will always encourage recycling and reuse, while making waste reduction the top priority.

Improvement Plan: Explore the feasibility of incorporating "green" guides at special events as a component of the Land and Permit Management System.



Sustainability Success Stories:

The Loop, a bond-funded project, will create a 55-mile off-street, multi-use, car-free, active public transportation pathway around the metro Tucson area. The Loop connects four river parks, five municipalities, four major employment centers, 27 recreation centers, 29 public bus routes, 500 miles of regional bike paths and more than 600,000 Pima County residents.

In addition to helping to create healthy communities and spur job retention, the Loop helps advance dozens of Pima County's Sustainability Initiatives, including creating a greener and more healthful built environment; improving air quality and reducing greenhouse gas emissions; conserving irreplaceable natural and cultural resources; encouraging the growth of markets for environmental products and services; reducing the carbon footprint through the trip-reduction program; and promoting the use of alternative modes of travel. The County anticipates 90% of the Loop will be completed by 2013.

20



In Process

Success Indicator: New Buildings Maximize LEED Silver Water-Efficiency Credits

Responsible and Supporting Departments: Facilities Management, Regional Wastewater Reclamation Department

Baseline: Projects designed after September 2008

Target: All new buildings obtain at least 60% of the water efficiency credits available

Score / Progress Report: The new laboratory and training facility, The Water and Energy Sustainability Center (WES Center), at the Water Reclamation Campus located adjacent to the existing Roger Road Wastewater Reclamation Facility is being built to LEED Silver Standards. A total of 70% of available credit for water conservation will be achieved through the use of 100% non-potable water resources (treatment plant effluent) for irrigation purposes. The WES Center will include dual plumbing for toilets and cooling towers, enabling potential future use of quality reclaimed water. The administration and maintenance buildings at the new campus will also be LEED Silver certified. Also, the new Joint Courts Complex is being designed to meet LEED Silver standards.

21



In Process

Success Indicators:

21. A. Annual employee education offering (on water efficient landscape and water conservation practices) increases.

21. B. Develop low water-use and non-potable water-use guidelines in FY 2012/13

Responsible and Supporting Departments: Regional Flood Control District, Facilities Management, Regional Wastewater Reclamation Department, Stadium District, Natural Resources Parks and Recreation, Department of Transportation.

Target: A21. A. Twelve Pima County Natural Resources Parks and Recreation (NRPR) employees completed the Pima County Cooperative Extension's 'Smartscape' training on water-efficient landscape practices.

Target: A21. B. Regional Flood Control District (RFCD) is currently developing guidelines for use of water harvesting practices to support riparian vegetation within new and retrofitted regional detention basins.

Sustainability Success Stories:

The Pima County Public Library (internal operations) Freecycle™ @ Work program offers employees the opportunity to share resources within their system and reduce the need to purchase new items. The employees post items that they no longer need on the Library internal intranet site; employees may reserve those item(s) for their use, thereby avoiding purchase and or disposal. More than 100 employees have participated. In addition, the children's librarians often hold their own Freecycle™ event at the end of their monthly meetings for items that are of specific interest to other children's librarians. Freecycle™ @ Work for library employees was instituted by Karen Greene, Adult Services Librarian at the Joyner Green Valley Branch Library, the very same Eco-Champion who is the inspiration and force behind the Freecycle™ Holiday Swap and the Bookbike. We will explore expanding Freecycle™ @ Work to more County Departments in FY 2011/12.

The Bookbike will arrive in Tucson in FY 2011/12. This opportunity will allow Bike Ambassadors and Library staff to take the Bookbike out to community events and neighborhoods to encourage literacy, and sign up for a free Library card, in addition to providing information about bike routes, bicycling in our community and other bicycle-oriented events. In addition, specially trained volunteers will ride along to the events on their own bikes to help with this project.

The Freecycle™ Holiday Swap offers the community an opportunity to reduce unwanted items in the home by sharing with others who can use them. This event, which invited the community to several libraries, encourages people to leave an unwanted item or two and pick up something they need. From baby shoes to a quality guitar to wrapping paper and more, the Holiday Swap was a great success and will become an annual post-holiday event.

Library Eco-Champion Landis Kearnon, OSL III, started the Book Swap in partnership with Freecycle™. The Book Swap is an opportunity for residents to give and receive books for free at the Green Living Fair. Books left after the event were donated to the Bookbike and Friends of the Pima County Public Library. More than 300 people participated in the first Book Swap and we plan to continue this successful community opportunity.

The Green Living Fair is an annual free Fair that brings local experts from the green community together so folks can talk to the experts in home repair, solar, waste management and recycling, gardening, composting, greening their transportation and more. The event is held in partnership with Habitat for Humanity's HabiStore. The Fair was conceived by the Sustainability Division and PDEQ.

Several Green Purchasing Reps and Eco-Champions hosted events at their work sites to increase recycling participation on America Recycles Day. Arizona State Retirement System (ASRS) implemented online enrollment for all new members that will result in a reduction of paper use by county employees.

Water Conservation & Management

22



In Process

Success Indicator: Water Consumed by Existing County Buildings, Ornamental Landscaping and Roadway Landscaping

Responsible and Supporting Departments: Regional Flood Control District, Facilities Management, Regional Wastewater Reclamation Department, Stadium District, Natural Resources, Parks and Recreation, Department of Transportation

Baseline: Establish baseline in FY 2010

Target: Reduce baseline water use by at least 5% by 2012; 10% by 2017; and 15% by 2025

The utility-bill management program is in the development phase and is expected to begin in 2012. The program will allow for a baseline to be established. Water consumption was reduced by approximately nine acre-feet per year through removal of non-functional turf and the closing of a County park.

Score / Progress Report: The old County Courthouse and buildings in the downtown government complex were re-landscaped using native Sonoran Desert vegetation.

An upgraded low-water-use plant list for riparian habitat revegetation requirements was developed as part of Regional Flood Control District's (RFCD) new Riparian Guidance Manual. County projects are subject to the riparian habitat mitigation requirement and guidelines were developed to support internal departments' ability to meet the requirements with low-water-use plants.

Water consumption on roadway projects was reduced through re-vegetation with low-water-use, native and drought-tolerant plantings with an emphasis on use of cacti and succulents which have natural water-harvesting mechanisms and require minimal to no supplemental irrigation to become established and no supplemental irrigation after establishment.

Water-use efficiency was increased through irrigation system upgrades on ball fields at Mehl Foothills Park.

23



In Process

Success Indicator: County Parks Served by Reclaimed Water

Responsible and Supporting Departments: Regional Flood Control District, Facilities Management, Regional Wastewater Reclamation Department, Stadium District, Natural Resources, Parks and Recreation

Baseline: 10 parks served by reclaimed water in FY 2006-2007 (285 AF of reclaimed water)

Target: 20 parks served by 2018

Score / Progress Report: Reclaimed water lines were extended to Udall Park, Juhan Park and Rillito Park from Mountain Avenue to Campbell Avenue. Staff identified 14 priority parks for extension or expansion of reclaimed water lines based on completed capacity analysis by Tucson Water. RFCD is coordinating a project to bring reclaimed water online at Christina Taylor Green Canyon Del Oro River Park and Northwest Community Park. NRPR has proposed funding be included in the next bond election to pay for the extension of reclaimed water lines to priority County parks and upgrades to outdated and inefficient ball field irrigation systems.



Sustainability Success Stories:

Pima County is leading by example with its water-use efficiency practices. At Roger and Ina Road WRFs, the largest public works capital improvement project in Pima County is underway with the construction of the Regional Optimization Management Plan (ROMP). ROMP is a showcase of water-use efficiency through its use of 100% non-potable and renewable water resources (treatment plant effluent) for irrigation and dust-control purposes. A new lab includes dual plumbing for toilets and cooling towers, which will enable potential future use of reclaimed water, conserving non-renewable groundwater resources.

Numerous County-owned buildings use reclaimed water and rainwater harvesting for their landscape needs such as the Pima County Native Plant Nursery, the RWRD laboratory and training facility, Pima County Wireless Information Network (PCWIN) building, the Behavioral Health building, the Crisis Recovery building, the Roger Road Reclamation Facility, and the Ina Road Wastewater Reclamation Facility. Reclaimed water is also used for RWRD construction activities, saving tens of thousands of gallons of water and dollars in potable water costs.

24



In Process

Success Indicator: Water Consumed by Existing County Park and Recreation Facilities

Responsible and Supporting Departments: Regional Flood Control District, Facilities Management, Regional Wastewater Reclamation Department, Stadium District, Natural Resources, Parks and Recreation

Baseline: 733 AF of water used in 2006. Note: Baseline was adjusted to include the 39 urban parks operated by the County.

Target: Reduce baseline water use by at least 5% by 2012; 10% by 2017; and 15% by 2025.

As noted in Year Two Report Card, watering levels at some parks became suboptimal due to cost-saving measures, so water use is likely to increase. In FY 2010/11, water use was lower than the baseline and water consumption was reduced by approximately 9 acre feet per year through removal of non-functional turf and the closing of a park. However, the addition of new turf for ball fields and parks, coupled with the need to maintain turf integrity, resulted in increased water use over Year Two.

Recommended modification: More water use is expected to be required to maintain turf viability particularly in light of sustained drought in the future. Staff agrees that the County's long-term sustainability goal is to provide healthy, water-efficient public green spaces, thereby reducing the need for turf at individual residences. To this end, the County's goal for water management at parks is to increase irrigation efficiency. Staff recommends creating a modified indicator, including an appropriate baseline and target, that measures water-use efficiency at parks.

Improvement Plan: Create a more effective methodology for measuring water efficiency at parks and recreation facilities.

25



In Process

Success Indicator: Acres of Natural Habitat Established or Maintained by County Effluent and Reclaimed Water Sources

Responsible and Supporting Departments: Regional Flood Control District, Facilities Management, Regional Wastewater Reclamation Department, Stadium District, Natural Resources, Parks and Recreation, Sustainability and Conservation Office

Baseline: 340 acres of riparian habitat enhanced or restored in FY 2009/10 with effluent/reclaimed water and stormwater harvesting.

Target: 465 acres enhanced or restored by FY 2014/15; 590 acres by FY 2019/20; and 715 acres by FY 2024/25.

Recommended modification: In Year Two Report Card, Indicator 25 was modified to measure acres of habitat restored with effluent and other non-potable water sources. A slight refinement of this revised indicator is recommended. Although the baseline includes acreage established with a variety of non-potable sources, staff recommends measuring only acreage added that was established or maintained with effluent and reclaimed sources for the following reasons: 1) Effluent and reclaimed water are and will continue to be the major source of water for environmental purposes 2) The County's long-term goal is to foster increased use of this growing water resource for environmental purposes 3) Effluent and reclaimed water use can be easily measured. The existing 340 acres of restored habitat was maintained with non-potable water sources.

Several restoration projects are currently underway. By 2015 restoration acreage will be added for the following projects using effluent or reclaimed water: West Branch Bosque Basins (estimated addition of 7 acres); Paseo de las Iglesias Phase 1 (acreage not available at this time); Canoa Ranch Ecosystem Restoration (possibly to be included in the 2015 calculation. Acreage is not available at this time).

Sustainability Success Stories:

The Pima County Native Plant Nursery has begun growing a portion of its plant inventory that will be used on Pima County projects in "tall pots," rather than conventional containers. The tall pots provide a significant reduction in a plant's water requirements after installation. These plants, grown in PVC tubing, develop long tap roots and can be installed in the ground along with a gel compound that releases water as it degrades. This "dry water" technique can provide cost savings in landscape irrigation system installation and water usage in future projects.

Reclaimed water is also used for RWRD construction activities including dust control, soil compaction and hydroseeding, whenever feasible. Reclaimed water is also made available to other Departments by RWRD for nearby construction projects. This saves tens of thousands of gallons and dollars in potable-water costs in construction activity at the RWRD sites.



Land Conservation & Management

Year Three

Number	Success Indicator	Target	Score / Progress Report
26	 Achieved	Success Indicator: Acres of Conservation Lands System Conserved Responsible and Supporting Departments: Administration, Sustainability and Conservation Office Target: Acres conserved greater than sites impacted	Score / Progress Report: The County acquired 4,464 acres within the Conservation Lands System (CLS) to be managed for conservation. County public improvements impacted 52 acres of land elsewhere in the CLS.
27	 Not Met	Success Indicator: Number of Cultural Resources Sites Conserved Responsible and Supporting Departments: Administration, Sustainability and Conservation Office Target: Acres conserved greater than sites impacted	Score / Progress Report: The County did not acquire any acres of cultural resource sites this year, but an unknown number of cultural resources are likely to be present on the CLS land acquired in FY 2010/11. County public improvement projects impacted 44 acres of previously recorded cultural resource sites.
28	 Achieved	Success Indicator: Acreage of Designated Riparian Habitat Conserved Responsible and Supporting Departments: Administration, Sustainability and Conservation Office Target: Acres conserved greater than sites impacted	Score / Progress Report: The County acquired 41 acres of designated riparian habitat to be managed for conservation. County public improvement projects impacted 9.47 acres of designated riparian habitat elsewhere.
29	 Achieved	Success Indicator: Education of County Employees Responsible and Supporting Departments: Administration, Sustainability and Conservation Office, Natural Resources Parks and Recreation Target: Provide annual training to employees on environmental education	Score / Progress Report: Project Managers who oversee construction of public facilities were educated on the importance of early consideration and avoidance of impacts to riparian areas, cultural and archaeological resources and the Conservation Lands System of the Sonoran Desert Conservation Plan.

Sustainability Success Stories:

Pima County constructed park facilities adjacent to Robles Elementary School in Altar Valley. The park facilities included a soccer field, playground, ramada, bleachers, parking, access road and landscaping. The facilities were built on approximately 4 acres the County has identified as being within the Conservation Lands System. The Conservation Lands System includes land that is important to conserve for plants and wildlife.

In the same year, the County purchased the Sweetwater Canyon property in the eastern foothills of the Tucson Mountains, which expanded the County's 700-acre Sweetwater Preserve by 188 acres. The Sweetwater Preserve, and now the Sweetwater Canyon property, are actively used by hikers, mountain bikers, and horse riders and contain lands important for plants and wildlife within the Conservation Lands System.

The County's purchase of the Sweetwater Canyon property offset the impacts to plants and wildlife caused by the park facilities constructed adjacent to Robles Pass Elementary School.



30



In Process

Success Indicator: Reduction in the Carbon Footprint of County Government

Responsible and Supporting Departments: Facilities Management, Department of Environmental Quality, Sustainability and Conservation Office

Baseline: 2007 County Government Emissions = 141,739 CO₂ metric tons

Draft Target: In 2020, generate no more CO₂ emissions than in 2007; by 2040, reduce CO₂ emissions by 50% below 2007 levels

The County prepared its first greenhouse gas emissions forecast in FY 2010.

The forecast projects that County Operations will not generate more CO₂ in 2020 than in 2007, the baseline year. Through aggressive implementation of the County's sustainability initiatives, including achieving renewable energy, energy efficiency and water reduction and conservation targets by 2020 instead of 2025, the County can offset the emissions created by new growth (County operations) between 2007 and 2020.

Sustainability Success Stories:

Using entirely Energy Efficiency and Conservation Block Grant (EECBG) funds, the Downtown Government Complex Central Plant is being upgraded and modernized. Upgrades include valve(s) replacement, pump replacements, boiler replacement and heat exchanger improvements. All new equipment will be high efficiency and variable speed. Electrical cost savings are expected to be approximately \$98,364 annually and are estimated to reduce CO₂ emissions by 712 metric tons per year.

Combined Heating and Power (CHP) is typically defined as the simultaneous service of a thermal load (hot water) and production of electricity from a common fuel input (natural gas powered reciprocating engine). The Adult Detention Center is an outstanding candidate for CHP due to the need for both significant power and hot water (inmate showers and commercial kitchen). Facilities Management is aggressively pursuing this alternative energy approach and is working with the Procurement Department to determine the various options for engineering and contracting. Net annual avoided utility cost is estimated at \$82,000/year with annual reductions of CO₂ emissions of 1,400 tons.

The Regional Wastewater Reclamation Department (RWRD) has added another 1.0 MW of ground-mounted solar electric power this year. This is expected to reduce CO₂ emissions by an additional 1100 metric tons per year.

A 225 KW rooftop solar installation was completed at the Abrams Public Health Center. The annual electrical cost savings is expected to be approximately \$43,000 and is estimated to reduce CO₂ emissions by 825 metric tons per year. Electrical cost-savings is expected to increase over time as energy rates rise.

In March 2010 the Pima County Health Department received a \$16-million-dollar grant from the Centers for Disease Control and Prevention as part of the Communities Putting Prevention to Work (CPPW) initiative. The goal of CPPW is to prevent or reduce the spread of obesity and related chronic diseases by implementing sustainable policy, systems and environmental changes that will increase opportunities for improved nutrition and active living in our community.

Approximately 130 employees participated in the "Eat Your Greens" Healthy Snacks Sampling Event at the Abrams Public Health Center as part of the Communities Putting Prevention to Work (CPPW) work-site initiatives.

The Sustainability Intranet site is being created to offer timely educational and operational information for employees. The site will be launched in early FY 2011/12.





Pima County Board of Supervisors

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- Ramón Valadez, Chairman, District 2
- Sharon Bronson, District 3
- Ray Carroll, District 4
- Richard Elías, District 5

County Administrator
C.H. Huckelberry

A portion of the energy generated by the 1 megawatt solar array will be distributed at both the new Water and Energy Sustainability Center and the Roger Road Wastewater Reclamation Facility.



Acknowledgment

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