Sustainable Action Plan

for County Operations

July 2014

PCSP
PIMA COUNTY SUSTAINABILITY PROGRAM

PIMA COUNTY

Acknowledgments

The 2014 Sustainable Action Plan for County Operations was made possible through the ongoing support and commitment of the Pima County Board of Supervisors, County Administration, and the many employees and departments across the County who provided time and resources to updating the Plan over the past year.

More than 200 County employees and volunteers from more than 30 departments were responsible for successfully implementing the first Plan through the Pima County Sustainability Teams (S-Teams), comprised of County staff who volunteered to prepare and evaluate each sustainability area or chapter. Each member brought invaluable expertise to their respective teams to refine and prepare this document. It is through their commitment and ongoing work that Pima County has been able to achieve and surpass many of the Sustainability Plan objectives initially adopted by the Board of Supervisors in 2007 and carried forward in the 2014 Plan.

Comments and suggestions are always welcome and may be directed to the Pima County Sustainability Manager at 520-724-6940 or SustainabilityPrograms@pima.gov.

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Introduction

We live in an era marked by great challenges, a rapidly growing population, shrinking resources, aging infrastructure, a changing climate, and an evolving economy, all of which will play a role in determining our community's future success and quality of life. The cost of energy, food, water, building materials and health care all continually rise. Pima County recognizes the increasing need to address sustainability in its operations while making it more resilient to these challenges, and is taking advantage of this opportunity to rethink how government services are provided in the 21st century. With present and future generations in mind, the County seeks to integrate sustainability into every facet of its operations. It recognizes the role and responsibility of public agencies to protect and conserve natural resources, use financial resources effectively and efficiently, and to implement policies and practices that can be continued indefinitely without adversely impacting the quality of life of its residents.

Pima County strives to create and maintain a sustainable community that promotes individual well-being and opportunity, sound resource conservation and stewardship, and a strong and diverse economy for all of its residents both current and future. On May 1, 2007, the Board of Supervisors unanimously adopted Resolution No. 2007-84, which sets forth a series of initiatives designed to promote and advance sustainability. The resolution provided the basis for the 2008 Sustainable Action Plan for County Operations, which recommends specific actions for enhancing County performance in eight key areas: Greenhouse Gas Emissions, Renewable Energy and Energy Efficiency, Green Building, Alternative Fuel Vehicles, Water Conservation and Management, Land Conservation and Management, Waste Reduction, and Green Purchasing.

Through the collaborative work of County employees representing nearly every County department, guiding principles, goals, targets, indicators, baselines, and action items were developed for each of the eight areas. Together these components formed the initial eight chapters, which comprised the Plan. In April 2012 the Board of Supervisors broadened the scope of the Plan by adopting the Health and Wellness Chapter addendum, expanding the Plan to nine chapters. This plan provides a framework and set of actions that help to maintain the County's continued provision of high quality services in a fiscally prudent, environmentally sound, and socially responsible manner while ensuring current needs are met without compromising the ability of future generations to meet their own needs.

The County is committed to transparency and accountability and to ensuring its sustainability efforts produce measurable results, provide long-term benefits, and improve operational efficiency. Sustainability teams (S-Teams) comprised of employee subject matter experts in each of the nine chapters were formed to help guide the Plan's development and implementation, and annually assess the progress made during the previous fiscal year and prepare an annual report card. The Report Card provides an assessment of where the County is excelling, meeting its targets, and where performance can be improved.

Sustainability: Achieving balance between economic development, social well-being, and environmental protection to ensure the needs of current generations can be met without compromising the ability of future generations to meet their own needs.

2008-2013 Sustainable Action Plan Success Highlights

Minimizing the Carbon Footprint of County Operations

- Began tracking its greenhouse gas emissions, and completed two greenhouse gas inventories.
- Established measurable targets for reducing its emissions and implemented a number of strategies to meet these targets, including:
  - Sourcing 15% of electricity used by all County facilities from renewable resources by 2025.
  - Using alternative fuels in at least 25% of fleet vehicles and "right-sizing" its fleet.
  - Systematically upgrading facilities with energy-conserving equipment.

Renewable Energy and Energy Efficiency

- Achieved a net savings of $7,136,000 in energy costs to Pima County through its efficiency, conservation and renewable energy efforts.
- Brought 7 megawatts of renewable energy into production, more than tripling its renewable energy capacity. The County now receives approximately 14% of its electricity from renewable sources and has nearly reached its 2025 target.
- Developed a system-wide master plan for the beneficial utilization of biosolids and biogas produced from County wastewater treatment processes and for the improvement of the sustainability and overall efficiency of the County wastewater system.

Green Building

- Implemented LEED Silver standards in all new County facilities over 5,000 square feet.
- Awarded "LEED for Homes" provider status by U.S. Green Building Council.

Alternative Fuel Vehicles

- Increased the number of vehicles in its fleet that are flex fuel, alternative fuel, or hybrid vehicles to 44%.
- Increased the percentage of employee trips using alternative modes of transportation for work commutes by 41% since 2010.

Water Conservation and Management

- Increased the number of County parks served by reclaimed water by 120% from 10 to 22.
- Implemented utility management software to monitor and evaluate the cost and consumption for water, electricity and natural gas; helping the County optimize resource consumption and identify areas where additional improvements in efficiency can be achieved.

Land Conservation and Management

- Acquired 27, 354 acres of open space lands for conservation.
- Developed a mechanism to monitor the impacts of County building projects on the Conservation Lands System.

Waste Reduction

- Reduced waste sent to landfills from County facilities by 46%.
- Expanded the recycling program from 10 to over 65 facilities.

Green Purchasing

- Increased the purchase and use of "eco-friendly" office supplies by 318%.
- Updated its janitorial service contracts to include nontoxic and eco-friendly products.

Health and Wellness

- Adopted the Health and Wellness Chapter into the Plan.
- Increased employee participation in health and wellness programs by 64%.

2014 Sustainable Action Plan Update Process

The Sustainable Action Plan for County Operations is intended to be an adaptive plan that will be responsive to new ideas, technologies, partnerships, and shifts in available resources. Major updates are conducted every five years, with smaller adjustments occurring as needed, based on the results of an ongoing monitoring and evaluation program. The 2014 Plan is the product of the first major update to the original five-year Plan. The update process began in February 2013 by comparing the key components of the 2008 Sustainable Action Plan to those of eight other local government sustainability plans that also address internal operations and to the Sustainability Tools for Assessing and Rating (STAR) Communities Index. The Plan was found to be robust and comprehensive, addressing the same major areas of sustainability addressed in other plans including resource consumption, waste production, water, energy, greenhouse gas emissions, and future development. Overall, no major deficits were identified in the Plan; however, a list of recommendations to further strengthen the Plan was compiled and incorporated where practicable. Upon completing the comparative analysis, S-Team members met for several months to identify ways in which the County can build upon, and enhance its sustainability practices and incorporated modifications intended to improve the Plan's effectiveness in advancing the County's sustainability objectives.

Update Process Summary

The following summarizes key steps completed by the Sustainability Teams and the Office of Sustainability and Conservation during the update process:

1. Compared the 2008 Sustainable Action Plan to the action plans of eight other local jurisdictions and the STAR Communities Index, and developed recommendations for the updated Plan.
2. Updated the current guiding principles, goals, targets and indicators.
3. Assessed and updated the action items and programs in the 2008 Plan. Completed programs and action items and eliminated those deemed infeasible. New programs and action items were recommended to achieve the updated goals and targets.
4. Presented the draft updated plan to the Sustainability Steering Committee for review.
5. Modified the Plan based upon recommendations provided by the Sustainability Steering Committee.
6. Presented the updated plan to the Board of Supervisors for adoption in June 2014.

2014 Plan Overview

Plan Architecture
The Plan is built on ten Guiding Principles that provide a basis for decisions and define priorities. It contains nine Chapters, each dedicated to a specific area of sustainability related to County operations.

Each Chapter is comprised of the following core elements:

- **Goal:** A broad overarching objective or desired outcome outlined within a chapter.
- **Target:** A measurable milestone in pursuing the chapter Goal(s), meant to be achieved within the five-year timeframe of the Plan.
- **Success Indicator:** Quantitative or qualitative measures used to assess performance relative to a Target.
- **Baseline:** A starting point or benchmark used to assess progress toward reaching a Target.
- **Success Highlights:** Each chapter outlines accomplishments and achievements made during the implementation of the 2008 Plan.
- **Continuing Actions:** Many of the elements of the 2008 Plan have become a standard part of how the County operates, and to ensure the continuation of these successes, these elements have been brought forward into this updated Plan as "Continuing Actions."
- **Five-Year Implementation Timeline**:
The implementation timeline recommends specific action items to achieve the chapter's targets and goals, establishes a schedule, and identifies oversight for each action item. Each five-year implementation timeline includes the following components:
  - **Action Item:** A planned strategy or activity to help achieve the chapter Targets.
  - **Completion Year:** The year the action item will be carried out.
  - **Lead Party:** The primary departments or groups responsible for overseeing the action item's implementation.
  - **Supporting Party:** Departments or groups responsible for supporting the Lead Parties in overseeing the action item's implementation.
  - **Target Supported:** The Target advanced by implementing the Action Item.
  - **Goal Supported:** The Goal advanced by implementing the Action Item.
  - **Benefits:** Impact areas measurably benefitted by implementing the Action Item. Symbols identify the Benefits associated with each Action Item.

Desired Results
- Creating a "greener", healthier built environment.
- Increasing water and energy conservation, efficiency and independence.
- Improving air quality and reducing greenhouse gas emissions.
- Conserving irreplaceable natural and cultural resources.
- Encouraging the use of eco-friendly products and services.
- Increasing employee participation in workplace sustainability.
- Reducing County expenses over the long term.

Full Engagement
To encourage the full engagement of all departments and employees in these successes, Pima County will offer sustainability training as part of new employee orientations, appoint Green Purchasing Representatives, Eco-Champions and Wellness Action Committee members for each department, and recognize employees who contribute practical and cost-effective suggestions for improving sustainability.

Reporting and Accountability
The County will continue to publish an annual Sustainability Report Card to chart the progress made toward achieving the Plan's objectives. The Report Card is intended to provide feedback to the Board of Supervisors, County Administration, staff and the public on how the County is performing relative to the targets outlined in the Plan.

Guiding Principles

1. Pillars of Sustainability
Achieving balance between economic development, social well-being, and environmental protection is essential to ensuring the needs of current generations can be met without compromising the ability of future generations to meet their own needs.

2. Lead by Example
Leading by example is essential to developing social change.

3. Mutual Dependence
Environmental quality, social welfare, and economic health are mutually dependent.

4. Vision
The decisions of today have long-term implications for the future.

5. Efficiency
Finite and renewable resources are essential to the functioning of our economy and quality of life and therefore must be used efficiently and effectively to ensure an adequate future supply.

6. Prevention
Preventing harm is cheaper, easier and less dangerous than reacting to it after it has taken place.

7. Protection
Protecting environmental resources is essential to the economic prosperity, social well-being and quality of life of current and future generations.

8. Quick Wins
Implementing projects with the quickest return on investment and greatest benefit will help hasten progress and maximize resources.

9. Smart Growth
Maximizing the use of existing infrastructure and services is essential to fostering a sustainable community.

10. Durable Prosperity
Using resources wisely and operating in a sustainable manner is essential to enduring prosperity.

CHAPTER 1

Minimizing the Carbon Footprint of County Government

New biodigesters at the Tres Rios Water Reclamation Facility are a crucial part of the County's plan to utilize methane gas generated at the facility to produce clean energy and reduce carbon emissions.

Introduction

Climate change is one of the greatest challenges facing society. It poses threats to infrastructure, food production, human health and the economy. Human activities causing the release of greenhouse gases are driving unprecedented climate change. Every individual, organization and community has a "carbon footprint," which is the sum of all of the greenhouse gas emitted as a result of the daily activities of that individual or entity. Pima County recognizes the importance of reducing greenhouse gas emissions resulting from its operations and has established ambitious targets to reduce its emissions. This chapter describes the County's five-year plan to minimize its carbon footprint.

Goal

Join communities throughout the world in addressing global climate change by identifying and implementing programs to minimize the County's carbon footprint.

	TARGETS	SUCCESS INDICATORS AND BASELINES
1	**Facility Operations** By June 30, FY 2018/2019, the carbon intensity of County facility operations will not exceed the carbon intensity of County facility operations in FY 2013/2014.	**Indicator:** Carbon intensity of County facility operations measured in metric tons of CO2e/square foot of building space **Baseline:** Carbon intensity of County facility operations in FY 2013/2014
2	**Wastewater Treatment Operations** By June 30, FY 2018/2019, the carbon intensity of County regional wastewater collection and treatment operations will not exceed the carbon intensity of County wastewater collection and treatment operations in FY 2013/2014.	**Indicator:** Carbon intensity of County regional wastewater collection and treatment operations measured in metric tons of CO2e /1,000 gallons of water treated **Baseline:** Carbon intensity of County wastewater collection and treatment operations in FY 2013/2014
3	**Fleet Operations** By June 30, FY 2018/2019, the carbon intensity of County fleet operations will not exceed the carbon intensity of County fleet operations in FY 2013/2014.	**Indicator:** Carbon intensity of County fleet operations measured in metric tons of CO2e /vehicle miles traveled **Baseline:** Carbon intensity of County fleet operations in FY 2013/2014

Success Highlights

During the first five years (FY 2009-2013) of implementation, Pima County:

- Took a proactive role in quantifying and managing its greenhouse gas emissions and in preparing for future impacts of climate change.
- Completed two greenhouse gas emissions inventories and is in the process of compiling data for publishing its third report.
- Established measurable targets for reducing emissions and implemented a number of strategies to meet these targets, which include:
  - Sourcing 15% of electricity used by all County facilities from renewable resources by 2025.
- Using alternative fuels in at least 25% of fleet vehicles and "right-sizing" its fleet.
- Systematically upgrading facilities with energy-conserving equipment.
- Implementing design standards to improve energy efficiency in all new County occupied buildings and new additions greater than 5,000 square feet.
- Rehabilitating, repurposing and adaptively using existing and historic buildings to conserve the embedded resources and energy from their construction.
- Minimizing the quantity of waste produced and deposited in landfills.
- Implementing green purchasing specifications.
- Collaborating with Pima Association of Governments, University of Arizona and other climate change experts to develop climate change adaptation and mitigation strategies.

Continuing Actions

The County will continue to:

- Inventory and monitor greenhouse gas emissions to measure the County's progress toward sustainability.
- Adopt and implement innovative programs and technologies to minimize the County's carbon footprint and build resiliency.
- Stay abreast of new developments regarding climate change and ways to mitigate its effects on Pima County operations, residents, ecosystems and the quality of the built and natural environments.

Five-Year Implementation Timeline

	ACTION ITEM	COMPLETION YEAR	LEAD PARTY	SUPPORTING PARTY	TARGET ADDRESSED	GOAL ADDRESSED	BENEFITS
1	Update the greenhouse gas (GHG) emissions inventory on a biennial basis and amend or modify the Plan, as needed, to achieve the targets and goals contained in this chapter.	1, 3, 5	Carbon Footprint S-Team Office of Sustainability and Conservation	All Departments	1, 2, 3	1	
2	Identify funding sources for programs and initiatives outlined in the Plan.	1-5	Office of Sustainability and Conservation	All Departments	1, 2, 3	1	
3	Cooperate with regional climate change efforts.	1-5	Carbon Footprint S-Team Office of Sustainability and Conservation Regional Wastewater Reclamation Department Facilities Management	All Departments	1, 2, 3	1	
4	Provide County employees with education opportunities and resources relevant to sustainability, including: a. Renewable energy and energy conservation best practices. b. Green building best practices. c. Alternative fuels and vehicle efficiency best practices. d. Product purchasing impacts and best practices. e. Land conservation and management best practices. f. Waste impacts and minimization best practices. g. Water conservation best practices. h. Health and wellness issues. i. Climate change mitigation and adaptation best practices.	1-5	All S-Teams Eco-Champions Communications Office Regional Wastewater Reclamation Department Facilities Management	S-Team Leads All Departments	1, 2, 3	1	
5	Enhance the County employee recognition program and provide incentives to employees for actively working to improve their environmental impact. $	1-5	Office of Sustainability and Conservation Carbon Footprint S-Team	All Departments	1, 2, 3	1	

BENEFITS KEY: Reduces Greenhouse Gas Emissions; Conserves Energy; Conserves Water; Reduces Waste; Conserves Land; Saves Financial Resources; Improves Employee Health

$ = Requires substantial new funding or resources to implement

CHAPTER 2

Renewable Energy & Energy Efficiency

The solar field at the Agua Nueva Water Reclamation Facility provides 1MW of clean renewable energy.

Introduction

The consumption of traditional energy sources results in significant negative consequences for both the environment and human health. In addition, relying on these sources of energy is growing increasingly expensive. Making a smooth transition to renewable energy sources while increasing efficiency will reduce long-term operating costs and increase energy security while protecting the environment and health of Pima County residents. This chapter describes the County's five-year plan to reduce the impact of its energy consumption by improving efficiency and increasing its renewable energy portfolio.

Goals

1. Maximize energy efficiency and conservation in County operations.
2. Increase the proportion of renewable energy consumed by County operations.

	TARGETS	SUCCESS INDICATORS AND BASELINES
1	**Renewable Energy** By 2025, at least 15% of the electricity consumed by County facilities will be generated or offset by renewable sources. • **Sub-target 1:** Biogas Beneficially use 80% per year by June 30, FY 2018/2019. • **Sub-target 2:** Solar Increase the use of solar energy by 4 million kWh by June 30, FY 2018/2019.	**Indicator:** Percentage of electricity consumed by County facilities generated by renewable sources • **Sub-target 1 Indicator:** Percentage of biogas used for energy production • **Sub-target 2 Indicator:** kWh of solar consumed **Baseline:** Sum of Biogas and Solar used in FY 2013/2014 • **Sub-target 1 Baseline:** Biogas used in FY 2013/2014 • **Sub-target 2 Baseline:** kWh of solar used in FY 2013/2014
2	**Energy Efficiency** Increase the overall energy efficiency of County facilities 10% by June 30, FY 2018/2019.	**Indicator 1:** Energy use intensity of County facilities [Combined total BTUs (electricity + natural gas) consumed by all County facilities]/Combined square footage of all County facilities **Baseline 1:** Combined total BTUs (electricity + natural gas) consumed by all County facilities in FY 2013/2014/Combined total square footage of all county facilities

Success Highlights

During the first five years (FY 2009-2013) of implementation, Pima County:

- Brought seven megawatts of renewable energy into production, more than tripling its renewable energy capacity. The County now receives approximately 14% of its electricity from renewable sources, nearly reaching its 2025 target. Developed a system-wide master plan for the beneficial utilization of biosolids and biogas produced from County wastewater treatment processes and for the improvement of the sustainability and overall efficiency of the County wastewater system.
- Improved the energy efficiency of its facilities by implementing a range of energy efficiency and conservation measures.
- Achieved a net savings of $7,136,000 in energy costs to Pima County through its efficiency, conservation and renewable energy efforts.

Continuing Actions

The County will continue to:

- Support and actively promote the development of renewable energy resources and the reduction of greenhouse gas emissions.
- Seek out innovative ways to procure renewable energy for County facilities, including the use of power purchase agreements.
- Work with public and private partners to identify suitable sites for renewable energy facilities.
- Conduct a cost-benefit analysis of various renewable energy resources to determine the most beneficial and cost-effective energy source for a particular site given its location, features, land use and infrastructure requirements.
- Explore opportunities for the mining of methane as part of landfill closure procedures.
- Systematically upgrade facilities with energy conserving equipment and features to reduce overall energy consumption.
- Explore opportunities to coordinate and cooperate with other large power users to maximize the use of renewable energy and expand the market for renewable energy alternatives in the region.
- Identify grant opportunities and special funding sources to offset the cost of providing renewable energy to County facilities.
- Track energy consumption for each County facility on a regular and ongoing basis, and use the data to evaluate and make improvements to the energy efficiency of each facility.
- Employ benchmarking principles to establish best management practices based on lessons learned from other entities to economize energy use.
- Educate employees about ways to increase energy efficiency in the workplace.
- Recognize employees who identify new energy conserving programs that are both practical and cost-effective.
- Enact energy conservation guidelines for employees.
- Emphasize energy conservation measures to conserve water.
- Incorporate passive energy measures into design remodel projects.
- Prioritize energy efficiency credits in LEED Silver projects.
- Employ remote access software for computer use after regular hours to reduce heating and cooling costs.
- Emphasize on-site renewable energy credits in LEED buildings.
- Solicit proposals for Renewable Energy Power Purchase Agreements.
- Assess emerging technologies to determine if they could meet the renewable and efficiency energy targets.

Five-Year Implementation Timeline

	ACTION ITEM	COMPLETION YEAR	LEAD PARTY	SUPPORTING PARTY	TARGET ADDRESSED	GOAL ADDRESSED	BENEFITS
1	Increase the use of renewable energy: a. Solicit proposals for Renewable Energy Power Purchase Agreements. b. Explore developing cooperative RFPs with large energy users to take advantage of economies of scale in the purchase of renewable energy. c. Explore alternative funding sources for renewable energy projects. $	1-5 1-5 1-5 1-5	Facilities Management Regional Wastewater Reclamation Department	All Departments Renewable Energy S-Team	1	2	
2	Use biogas for beneficial purposes and explore additional ways to enhance biogas production. $	1-5	Regional Wastewater Reclamation Department	Procurement Finance Fleet Services County Attorney's Office	1	2	
3	Update energy conservation guidelines and develop water use guidelines for County facilities.	1-5	Facilities Management	All Departments	2	1	
4	Continue to conduct countywide energy audits: a. Create an action plan based on audit recommendations. b. Implement audit recommendation measures with the greatest cost-benefit and return on investment. $	1-5 2-5 2-5	Facilities Management Regional Wastewater Reclamation Department	All Departments	2	1	
5	Continue to implement energy conservation and efficiency measures in County facilities.	1-5	Facilities Management	All Departments	2	1	

BENEFITS KEY: Reduces Greenhouse Gas Emissions; Conserves Energy; Conserves Water; Reduces Waste; Conserves Land; Saves Financial Resources; Improves Employee Health

$ = Requires substantial new funding or resources to implement

CHAPTER 3

Green Building

The new LEED Silver Certified Agua Nueva Water Reclamation Facility will allow Pima County to meet new strict environmental standards for effluent discharges into the Santa Cruz River.

Introduction

The construction, operation and maintenance of buildings are significant sources of resource and energy consumption and the largest source of County energy consumption. Green buildings and infrastructure are more energy-efficient, consume fewer natural resources and are generally less expensive to operate and maintain than non-green buildings. Additionally, green buildings improve occupant health, reduce absenteeism and increase productivity. This chapter describes the County's five-year plan to reduce energy consumption of County buildings by employing green building principles in the construction, operation and maintenance of its facilities.

Goals

1. Minimize the quantity of resources consumed and waste produced in the construction and renovation of County facilities.
2. Minimize the quantity of energy, water and materials consumed in the operation and maintenance of County facilities.
3. Construct, operate and maintain facilities that provide a high degree of utility plus a healthy work environment for building occupants.

	TARGETS	SUCCESS INDICATORS AND BASELINES
1	**Energy Efficiency of Facilities** By June 30, FY 2018/2019, at least 10% of County facilities will achieve Energy Star certification.	**Indicator:** Percentage of County facilities that have achieved Energy Star certification **Baseline:** 0% of County facilities
2	**Facility Construction** 100% of all new County-funded buildings designed after June 30, 2008, and 100% of all building additions greater than 5,000 square feet to implement LEED elements sufficient to obtain 50 or more LEED points.	**Indicator:** Percentage of ongoing and completed construction projects since FY 2014/2015 that implement LEED elements sufficient to obtain 50 or more points **Baseline:** Percentage of ongoing and completed construction projects in FY 2013/2014 that implement LEED elements sufficient to obtain 50 or more points

Success Highlights

During the first five years (FY 2009-2013) of implementation, Pima County:

- Built all new, occupied County facilities and additions greater than 5,000 square feet to LEED (Leadership in Energy and Environmental Design) Silver standards.
- U.S. Green Building Council awarded the County "LEED for Homes" provider status – making Pima County the first public agency to receive this award.

Continuing Actions

The County will continue to:

- Design, construct and operate buildings to:
  - Minimize natural resource consumption through the use of renewable resources.
  - Achieve maximum efficiencies in energy use and energy performance.
  - Minimize emissions and negative indoor and outdoor air quality impacts.
  - Reduce the amount of water used by occupants and mechanical systems, and maximize on-site water harvesting, reuse, and recharge.
  - Reduce or eliminate construction waste, solid waste and liquid effluent.
  - Maximize the reuse and recycling of materials.
  - Avoid or minimize negative impacts on site ecosystems, the Conservation Lands System, designated riparian habitat and cultural resources.
  - Actively protect, enhance and restore wildlife habitat and landscape connectivity.
  - Maximize the quality of the indoor environment for the comfort, health, safety and productivity of occupants and visitors.
  - Preserve natural dark sky conditions, to the maximum extent possible, through the selection of outdoor lighting fixtures that reduce skyglow impacts.
  - Maximize use of existing buildings, thereby conserving resources and the embodied energy from prior construction.
- Support and encourage education in sustainable design and LEED principles for employees and residents.
- Use a procurement selection process that actively seeks firms with experience in designing LEED-certified structures, the integrated design process, and building commissioning.
- Encourage innovation in building technologies, materials and methods to meet LEED principles and respond to the Sonoran Desert environment.
- When warranted by the scope and complexity of the project, employ third-party project managers to monitor construction to ensure LEED principles are followed.
- Explore all utility credits, grants and other incentives for financing green building construction and maintenance.
- Explore public/private financing options.
- Consider long-term costs and benefits of material purchases by employing life-cycle cost analysis.
- Involve stakeholders in the sustainable design and decision-making process through public information sessions; outreach to affected parties, neighborhood groups and other jurisdictions; and community educational forums.
- Utilize building commissioning and occupant evaluations to guide building maintenance expenditures.
- Maintain all LEED-certified buildings as closely as possible to the original specifications unless advances in technology dictate revisions.
- Assemble multi-disciplinary design teams on a project-by-project basis that are comprised of: (1) design and engineering professionals trained in sustainable design; (2) natural and cultural resource specialists; (3) a commissioning agent; and (4) a "green champion" who ensures LEED and environmental standards are met.

Five-Year Implementation Timeline

	ACTION ITEM	COMPLETION YEAR	LEAD PARTY	SUPPORTING PARTY	TARGET ADDRESSED	GOAL ADDRESSED	BENEFITS
1	Conduct energy and water efficiency audits in four facilities and develop a plan based on these audits to achieve Energy Star certification targets. a. Retrofit existing buildings in accordance to the plan developed above. $ incorporating the data into the greenhouse gas emissions inventory.	1 2-5	Facilities Management	Office of Sustainability and Conservation Regional Wastewater Reclamation Department	1	1	
2	Update the Energy Conservation Guidelines for County offices, with the goal of minimizing energy consumption and greenhouse gas emissions.	1	Facilities Management	Office of Sustainability and Conservation	1	1	
3	Renovate at least two buildings to LEED Silver standards.	2-5	Facilities Management	Office of Sustainability and Conservation	1, 2	1, 2, 3	
4	Employ enhanced and ongoing building commissioning and post-occupancy evaluations on an annual basis for all facilities (as required under LEED for existing buildings).	1-5	Facilities Management	Office of Sustainability and Conservation	1	1, 3	
5	Design and construct at least one County building with a net-zero energy consumption. $	1-5	Facilities Management	Office of Sustainability and Conservation	1, 2	1, 3	

BENEFITS KEY: Reduces Greenhouse Gas Emissions; Conserves Energy; Conserves Water; Reduces Waste; Conserves Land; Saves Financial Resources; Improves Employee Health

$ = Requires substantial new funding or resources to implement

This Toyota Prius is one of the hybrids in the County's fleet of more than 200 alternative fuel vehicles.

CHAPTER 4

Alternative Fuel Vehicles

Introduction

Motor vehicle emissions are the largest source of air pollution in Pima County. Pima County government owns and operates a large fleet of vehicles and equipment that performs a range of vital services. The County has implemented a diverse range of strategies to minimize the impact of its fleet activities. This chapter describes the County's five-year plan for minimizing the impact of its fleet.

Goal

Improve energy efficiency and reduce fossil fuel emissions resulting from County transportation activities.

	TARGETS	SUCCESS INDICATORS AND BASELINES
1	**Greenhouse Gas Emissions** Reduce the ratio of carbon emissions produced by County transportation activities per service population (CO2e/ Service Population) by June 30, FY 2018/2019, excluding Sheriff's vehicles, off-road vehicles, and heavy equipment (water trucks, dump trucks, etc.).	**Indicator:** Ratio of carbon emissions produced by County operations annually per service population (Quotient of a/b) a. Annual quantity and carbon intensity of fuel consumed b. Number of residents served by County operations **Baseline:** FY 2013/2014 CO2e/ Service Population

Success Highlights

During the first five years (FY 2009-2013) of implementation, Pima County:

- Increased the number of vehicles in its fleet that use alternative fuels. Forty-four percent of the County fleet vehicles are now alternative fuel vehicles. The Sheriff's fleet is now comprised of 60% alternative fuel vehicles.
- Increased the percentage of commuter trips using alternative modes of transportation by 41% since 2010. The 2012 Employee Survey indicated that 27% of trips are made using alternative modes of transportation.
- Developed a bike-sharing program for localized work trips to encourage bike use as a form of alternative transportation that increases physical activity.
- Installed 16 electric vehicle charging stations at eight key locations within the community for the public and its fleet, helping to pave the way for a community-wide transition to cleaner fuels.

Continuing Actions

The County will continue to:

- Purchase and use greener vehicles.
- Use greener, cleaner-burning fuels.
- Increase the efficiency of the fleet regardless of the fuel used.
- Minimize vehicle miles traveled (VMT) by the fleet.
- Allow employees to travel to and from different work sites and home to minimize trips to downtown or other office locations.
- Educate County employees about green fleets and the impact of vehicle use on the environment and the community.
- Expand incentives to encourage employees to use alternative modes of transportation to travel to and from work.
- Encourage alternatives to driving for short work trips.
- Clearly mark County vehicles so they are easily identified by the public. This reduces the potential for unofficial use, which results in more vehicle miles traveled.
- Identify County vehicles that use alternative fuels.
- Track County fleet VMTs.
- Right-size the County fleet (number and size of vehicles; purchase vehicles no larger than necessary to optimize gas mileage).
- Purchase hybrids when replacing vehicles.

Five-Year Implementation Timeline

	ACTION ITEM	COMPLETION YEAR	LEAD PARTY	SUPPORTING PARTY	TARGET ADDRESSED	GOAL ADDRESSED	BENEFITS
1	Enforce the County's anti-idling policy.	1-5	Risk Management	All Departments	1	1	
2	Where possible, improve vehicle maintenance to maximize fleet MPG.	1-5	Fleet Services	All Departments	1	1	
3	Use telematics to optimize service routes.	1-5	Fleet Services	All Departments	1	1	
4	Develop guidelines for driver vehicle operation speeds and use telematics to enforce speed restrictions.	1-5	Fleet Services	All Departments	1	1	
5	Develop vehicle selection guidelines to ensure vehicles requested by employees align with the work functions and to ensure that vehicles are no larger than necessary to complete a specific task. a. Update biennially	1 3 & 5	Fleet Services	All Departments	1	1	
6	Investigate and implement retrofitting fleet vehicles with efficient parts to increase fuel efficiency.	1-5	Fleet Services	All Departments	1	1	
7	Enhance the driver education program to improve driver efficiency.	1-5	Fleet Services	All Departments	1	1	
8	Evaluate the impact of various alternative fuels on the County fleet, including biogas.	1-5	Fleet Services	All Departments	1	1	
9	Expand the Trip Reduction Program, including exploring all of the following: a. Expanding flexible work options. b. Installing bicycle racks at all County facilities. c. Allowing modification of work locations based on employees' resident location. d. Providing web conferencing opportunities to reduce employee miles traveled.	1-5	Department of Environmental Quality Human Resources Department Alternative Fuel Vehicles S-Team Health and Wellness S-Team Facilities Management Information Technology	All Departments	NA	NA	

BENEFITS KEY: Reduces Greenhouse Gas Emissions; Conserves Energy; Conserves Water; Reduces Waste; Conserves Land; Saves Financial Resources; Improves Employee Health

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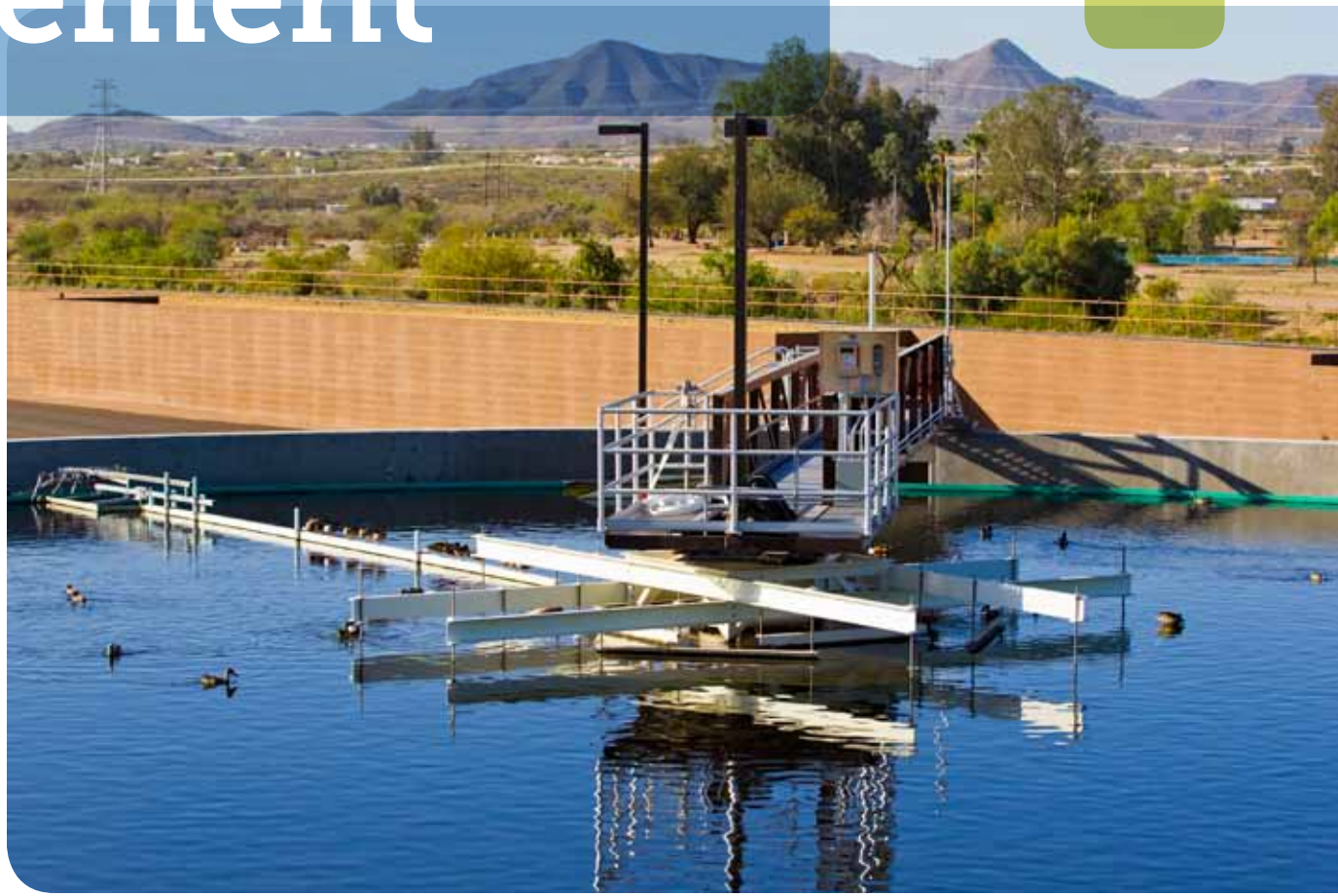
CHAPTER 5

Water Conservation & Management



At the Agua Nueva Water Reclamation Facility, the efficient treatment and reuse of effluent is an essential component of conserving and managing water resources.

Introduction

Water is one of our most vital resources. It is essential to nearly every facet of life from food cultivation, to the generation of electricity, to our very survival. Yet in the Sonoran Desert it is one of our most limited resources. Ensuring an adequate, safe water supply for ecosystems and current and future generations is essential to ensuring the sustainability of Pima County. This chapter describes the County's five-year plan to minimize the impact of County water use.

Goals

1. Ensure that public projects are multi-benefit, including restoration, storm water management, recharge and public amenity.
2. Maximize County water resource assets, including groundwater rights, surface water rights and the production and use of reclaimed water to sustain and protect the natural environment.
3. Optimize water use efficiency in County operations.

	TARGETS	SUCCESS INDICATORS AND BASELINES
1	**Water Consumption in facilities** Reduce building water consumption intensity (gallons/ ft^2) by at least 10% by June 30, FY 2018/2019.	**Indicator:** Quantity of water consumed by County buildings per square-foot **Baseline:** Water consumed by existing County buildings per square-foot in FY 2013/2014
2	**Reclaimed Water at County Parks** Increase the number of County parks and miles of trail served by reclaimed water by 10% by June 30, FY 2018/2019.	**Indicator:** Number of County parks and number of miles of County trails served by reclaimed water **Baseline:** Number of parks and miles of County trails served by reclaimed water as of June 30, FY 2013/2014
3	**Establishing and Maintaining Natural Habitat** Expand the number of acres of natural habitat established or maintained by County renewable water sources by 5% by June 30, FY 2018/2019.	**Indicator:** Acres of natural habitat established or maintained by County renewable water **Baseline:** Acres of natural habitat established or maintained by County renewable water as of June 30, FY 2013/2014

Success Highlights

During the first five years (FY 2009-2013) of implementation, Pima County:

- Implemented utility management software to monitor and evaluate the cost and consumption for water, electricity and natural gas; helping the County optimize resource consumption and identify areas where additional improvements in efficiency can be achieved.
- Increased the number of County parks served by reclaimed water by 120% from 10 to 22 parks, reducing the strain on the region's groundwater supply while providing recreation areas for the community.

Continuing Actions

The County will continue to:

- Emphasize water conservation in the design of all new County facilities and use state-of-the-art fixtures to maximize LEED Silver water conservation credits.
- Employ a cost-benefit analysis to determine the type of water fixtures and systems to install in existing County buildings.
- Replace outdated or damaged water fixtures with state-of-the-art, water-conserving fixtures.
- Construct wastewater facilities to anticipate and accommodate emerging water conservation trends and technologies, whenever practicable.
- Reduce the amount of potable, non-potable and reclaimed water used for landscape irrigation at County facilities and along public roadways.
- Explore additional opportunities to extend reclaimed water lines to new parks by identifying creative funding mechanisms that would augment the use of any voter-approved public bond monies.
- Require that ornamental landscaping use appropriate, native and drought-tolerant plants where feasible and meet or exceed the requirements of the County's Native Plant Preservation Ordinance.
- Require that turf only be used for functional landscapes, such as play areas and ball fields, when it is determined to be the most suitable material after considering the type and amount of use it will receive, its maintenance needs, life-cycle costs, and water and energy consumption. Turf shall not be used for purely aesthetic purposes.
- Encourage a "maintenance and management" culture through training opportunities and recognition programs for employees and contractors.
- Recognize both the apparent benefits and "hidden savings" that occur when preparing cost-benefit analyses and tracking and monitoring water conservation programs, including lower utility costs, reduced maintenance needs, reduced water runoff and, in some cases, reduced road damage.
- Require contractors to perform water audits on landscape and irrigation systems, indicating installations are per specifications and operate as specified.
- Use pervious surface materials on roads and parking lots, when practical, to increase groundwater recharge opportunities.
- Maintain the ability of the Santa Cruz River to support riparian and aquatic life by improving water quality, especially through nutrient reduction, and by working with partners to maintain base flows.
- Integrate wastewater reclamation and water rights with multi-purpose goals such as recharge, riparian restoration, habitat protection, wildlife viewing, use of interpretive trails and environmental education and research.
- Encourage flood control projects that serve multiple purposes, including maintaining and creating wildlife habitat and habitat connectivity.
- Prioritize and conduct building water audits based on factors such as (a) projected water savings and (b) cost of the improvement, based on a life-cycle cost analysis. The repair of water leaks will remain a top priority.

Five-Year Implementation Timeline

	ACTION ITEM	COMPLETION YEAR	LEAD PARTY	SUPPORTING PARTY	TARGET ADDRESSED	GOAL ADDRESSED	BENEFITS
1	Update, strengthen and implement guidelines for low water use landscape and vegetation mitigation at County parks, buildings and flood control facilities.	1	Natural Resources, Parks and Recreation Facilities Management Regional Flood Control District		1	3	
2	Develop and implement construction standards or guidelines requiring: a. New facilities to include the installation of separate meters, or sub-meters to allow accurate tracking of indoor and outdoor water use. b. New facilities to include design elements to reduce the concentration of pollutants contained in runoff (Example: installing storm water bioswales). c. New County construction be reclaimed-ready where reclaimed is likely to be available. $	2 & 3	Facilities Management	Office of Sustainability and Conservation	1	3	
3	Continue to retrofit facilities with more efficient water fixtures in accordance with past Facilities Management audits. $	1-5	Facilities Management Natural Resources, Parks and Recreation Regional Flood Control District	Real Property	1	3	
4	Identify opportunities for water reuse for landscaping irrigation purposes at new and existing facilities. a. Retrofit the identified facilities. $	1-2	Natural Resources, Parks and Recreation Facilities Management	Water S-Team	1	3	
5	Identify locations to retrofit landscaping with native plants in existing facilities. a. Retrofit the identified facilities.	1-2 3-5	Natural Resources, Parks and Recreation Facilities Management Department of Transportation	Water S-Team	1	3	
6	Continue self-guided public demonstration projects such as a native plant garden, composting facility, or rainwater harvesting system for major new County landscaping projects that are readily accessible and viewable by the public.	1-5	Natural Resources, Parks and Recreation Regional Flood Control District		NA	1	
7	Identify additional County parks and trails to extend reclaimed water availability. $	5	Natural Resources, Parks and Recreation		2	2	
8	Identify additional natural habitat areas to be established or maintained through County renewable water sources.	1-5	Natural Resources, Parks and Recreation Regional Flood Control District		3	1	

BENEFITS KEY: Reduces Greenhouse Gas Emissions; Conserves Energy; Conserves Water; Reduces Waste; Conserves Land; Saves Financial Resources; Improves Employee Health

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CHAPTER 6

Land Conservation & Management

Conserving open space such as the A7 Ranch supports healthy ecosystems and provides habitat for native plant and animal species.

Introduction

The protection of ecosystems is essential to ensuring long-term economic and ecological sustainability. Natural ecosystems play a crucial role in maintaining water quality, reducing greenhouse gas emissions, and are a significant economic driver within the region. These areas attract residents and visitors seeking a quality natural environment, thereby enhancing the local economy through increased tourism. This chapter presents the County's five-year plan to sustainably manage and protect ecologically important lands within Pima County.

Goal

Conserve and enhance the natural and cultural landscape of Pima County to sustain a vibrant and healthy community.

	TARGETS	SUCCESS INDICATORS AND BASELINES
1	**Cultural Resources** Conserve cultural resources and historic properties.	**Indicator 1:** Number and types of sites conserved **Indicator 2:** Information yielded from sites
2	**Ecological and Biological Resources** Conserve ecological and biological resources.	**Indicator 1:** Number of acres conserved (Sum of a, b, c, d, and e) a. Number of acres within the Conservation Lands System (CLS) acquired under fee title b. Number of acres within the CLS placed under perpetual conservation easement c. Number of conservation easement acres within the CLS acquired d. Number of acres of private deed restrictions within the CLS e. Number of acres of designated riparian habitat conserved **Indicator 2:** Mitigation actions taken to reduce the impacts of County operations on ecological and biological resources
3	**Enhancement Projects** Complete enhancement projects on County properties.	**Indicator:** Number of properties enhanced

Success Highlights

During the first five years (FY 2009-2013) of implementation, Pima County:

- Acquired 27,354 acres of additional land for open space conservation.
- Developed a mechanism to monitor the impacts of County building projects on cultural resources sites, designated riparian habitat, and the Conservation Lands System.

Continuing Actions

The County will continue to:

- Acquire land and facilities that are best suited for the intended use and will most effectively achieve the goals of the Sonoran Desert Conservation Plan.
- Acquire or set aside County lands for conservation to offset unavoidable County operational impacts to the Conservation Lands System, designated riparian habitat, and cultural resources.
- Evaluate and track the siting of new facilities and infrastructure to avoid or minimize impacts to the Conservation Lands System, designated riparian habitat, floodplains and cultural resources.
- Monitor and manage its land, facilities and infrastructure to achieve the goals of the Sonoran Desert Conservation Plan.
- Manage lands purchased for the conservation of biological and cultural resources to ensure the integrity, diversity and long-term viability of the resources.
- Monitor and control invasive species to minimize impacts on natural ecological systems, protect public safety, and maintain economic viability.
- Assess the impacts on natural and cultural resources prior to the decision to modify or dispose of any County land, facilities, or infrastructure.
- Implement informational and educational programs to improve cultural resources and environmental literacy in the County.
- Encourage smart growth decisions to promote the most efficient use of infrastructure.
- Apply the invasive species provisions of the Weed Ordinance.
- Develop alternative funding strategies for monitoring and managing land, facilities and infrastructure containing or impacting natural and cultural resources.

Five-Year Implementation Timeline

	ACTION ITEM	COMPLETION YEAR	LEAD PARTY	SUPPORTING PARTY	TARGET ADDRESSED	GOAL ADDRESSED	BENEFITS
1	Maintain the environmental review process for the Capital Improvement Program (CIP) and other activities that have the potential to impact natural and cultural resources, floodplains and riparian areas.	1-5	Natural Resources, Parks and Recreation Office of Sustainability and Conservation Regional Flood Control District	Public Works Departments Community Services Facilities Management	1	2	
2	Add environmental and County Conservation Lands indicators to the Land and Permit Management System (LPM) that is currently in development.	1-5	Information Technology Natural Resources, Parks and Recreation Office of Sustainability and Conservation Regional Flood Control District County Administration	All Departments	1	1, 2	
3	Continue to improve and implement the process for tracking impacts to natural and cultural resources and County Conservation Lands using GIS and on-the-ground monitoring.	1-5	Community and Economic Development Facilities Management Office of Sustainability and Conservation Natural Resources, Parks and Recreation Regional Flood Control District	Information Technology Real Property	1	NA	
4	Facilitate the assessment, prioritization and public involvement work of the Invasive Species Working Group, including, but not limited to, the mapping of impacted areas and control efforts.	1-5	Natural Resources, Parks and Recreation	Public Works Departments	1	1, 2, 3	
5	Develop administrative guidelines to site future County facilities in conjunction with mixed-use or commercial development in areas adjacent to public transit whenever possible. a. Implement the guidelines. b. Update guidelines every 5 years.	1 & 2 2-5	Community and Economic Development Planning and Zoning Real Property	Office of Sustainability and Conservation Facilities Management Regional Flood Control District Administration	1	1	

BENEFITS KEY: Reduces Greenhouse Gas Emissions; Conserves Energy; Conserves Water; Reduces Waste; Conserves Land; Saves Financial Resources; Improves Employee Health

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CHAPTER 7

Waste Reduction

Recycling is one of the many waste diversion methods that Pima County utilizes to manage solid waste.

Introduction

Reducing waste and consumption is an important, yet often overlooked, component of sustainability. Reducing consumption and landfill waste generated by County operations can help to minimize its ecological footprint while conserving resources and reducing operating costs. This chapter outlines the County's five-year plan to minimize the quantity of waste generated by its operations.

Goal

Minimize the impact and quantity of solid waste produced by County operations.

	TARGETS	SUCCESS INDICATORS AND BASELINES
1	**Solid Waste Diversion** Increase the quantity of recyclable materials diverted from landfills by 10% by June 30, FY 2018/2019.	**Indicator:** Quantity of recyclable material diverted from landfills **Baseline:** Quantity of recyclable materials diverted from landfills in FY 2013/2014

Success Highlights

During the first five years (FY 2009-2013) of implementation, Pima County:

- Reduced the quantity of waste sent to landfills by 46% when compared with the 2008 baseline.
- Expanded the recycling program from 10 to over 65 facilities and increased materials accepted for recycling.
- Initiated actions to reduce waste and increase recycling and composting at events held at County facilities or in partnership with the County.

Continuing Actions

The County will continue to:

- Recycle commodities from Pima County facilities.
- Manage surplus property program in cooperation with various County Departments and nonprofit organizations.
- Encourage employees to reduce waste and recycle and provide them with related education and resources.
- Find new homes for used library books and resources through the Friends of the Pima County Public Library, a nonprofit organization that raises funds for special programs not covered in the library's annual budget.
- Encourage employees and the public to participate in waste reduction, freecycle and recycling events.
- Recycle special materials such as scrap metal, ammunition and oil.
- Employ the Integrated Waste Management (IWM) hierarchy as its waste reduction ethic.
- Regard and treat waste as a valuable commodity, rather than garbage, and seek innovative, groundbreaking waste reduction programs that become a model for other communities.
- Include dedicated and secure space for recycling bins in all new County facilities, as well as encourage other forms of waste reduction, such as the use of reused or recycled materials in building construction. When opportunities for waste reduction and recycling exist that are not in the LEED design standards for a project, they shall be reviewed and implemented whenever feasible.
- Direct operations at County landfills to facilitate waste reduction by maximizing on-site recycling and reuse/exchange opportunities.

Five-Year Implementation Timeline

	ACTION ITEM	COMPLETION YEAR	LEAD PARTY	SUPPORTING PARTY	TARGET ADDRESSED	GOAL ADDRESSED	BENEFITS
1	Prepare and distribute administrative guidelines for all employees detailing the waste reduction and recycling program. a. Update annually.	1-5	Facilities Management Communications Office	Office of Sustainability and Conservation	1	1	
2	Promote and enhance the Pima County "Recycle While You Work" program and other waste reduction efforts. $	1-5	Facilities Management Office of Sustainability and Conservation Communications Office Waste Reduction S-Team	All Departments	1	1	
3	Develop an Integrated Solid Waste Management Plan (ISWMP) for County Operations and review and update it as needed.	1-5	Facilities Management Office of Sustainability and Conservation	Waste Reduction S-Team All Departments	1	1	
4	Explore paperless workflow systems. a. Implement the systems where feasible. b. Track the progress. $	1-2 2-5 2-5	Information Technology Human Resources	All Departments	1	1	
5	Encourage zero-waste worksites and events. a. Develop an education program to encourage zero-waste meetings, trainings, worksites and events. b. Track the progress of the program.	1-5 2 2-5	Waste Reduction S-Team Communications Office Facilities Management	All Departments	1	1	
6	Update "Integrated Solid Waste Management Plan" templates for use by event organizers, vendors and lessees.	1-5	Waste Reduction S-Team	All Departments	1	1	
7	Designate an area for central recycling stations in each building. $	1-5	Facilities Management	All Departments	1	1	
8	Implement design standards for outdoor recycling container enclosures that serve County facilities. $	1-5	Facilities Management	All Departments	NA	NA	
9	Place easily accessible, highly visible recycling bins at County facilities daily for public use, including libraries and park and recreation sites. $	1-5	Facilities Management	Finance	1	1	
10	Require waste/recycling vendors to provide monthly waste audits and reports for each County location, including information about the final disposition of waste materials.	1-5	Facilities Management	Waste Reduction S-Team	1	1	
11	Track the percentage of material recycled at County construction sites. Explore incorporating the data into the greenhouse gas emissions inventory.	1-5	Facilities Management	Waste Reduction S-Team	1	1	

BENEFITS KEY: Reduces Greenhouse Gas Emissions; Conserves Energy; Conserves Water; Reduces Waste; Conserves Land; Saves Financial Resources; Improves Employee Health

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Using 100% recycled content paper and choosing other products carefully ensure that the County reduces costs and preserves resources for future generations.

CHAPTER 8

Green Purchasing

Introduction

The manufacturing, use and disposal of consumer goods have a significant impact on the environment and our natural resources; purchasing decisions have a direct impact on the world around us and the world we leave for future generations. Like other local governments, Pima County purchases a large number of goods and services in order to provide services to its residents. Choosing environmentally friendly products and services can significantly reduce the impact of these purchases, while reducing operating costs and preserving resources for future generations. This chapter describes the County's five-year plan for minimizing the impact of its purchases.

Goal

Apply a green purchasing emphasis to all County operations.

	TARGETS	SUCCESS INDICATORS AND BASELINES
1	**Product Contracts** 100% of new contracts to include green specifications whenever applicable by June 30, FY 2018/2019.	**Indicator:** Percentage of new contracts that include green specifications **Baseline:** Percentage of new contracts that include green specifications in FY 2013/2014
2	**Janitorial Contracts** 100% of janitorial service contracts to be updated with nontoxic and eco-friendly product specifications by June 30, FY 2018/2019.	**Indicator:** Percentage of janitorial service contracts with nontoxic and eco-friendly product specifications **Baseline:** Percentage of janitorial service contracts with nontoxic and eco-friendly product specifications in FY 2013/2014
3	**Equipment Purchased** 100% of appliances and equipment purchased to be Energy Star qualified by June 30, FY 2018/2019.	**Indicator:** Percentage of appliances and equipment purchased that are Energy Star qualified **Baseline:** Percentage of appliances and equipment purchased in FY 2013/2014 that are Energy Star qualified
4	**Employee Training** Provide at least one training session per year for employees with purchasing responsibilities.	**Indicator:** Availability of green purchasing training opportunities for employees **Baseline:** Number of green purchasing training sessions provided for employees with purchasing responsibilities in FY 2013/2014
5	**Printer Paper** By June 30, FY 2018/2019, at least 20% of printer, copier, and multi-purpose paper purchases will be for 100% recycled content paper and 90% of all other printer, copier, and multi-purpose paper purchases will be for 30% recycled content paper.	**Indicator:** Percentage of printer, copier, and multi-purpose paper purchased that contains 100% recycled and or Forest Stewardship Council paper **Baseline:** Percentage of printer, copier and multi-purpose paper purchased in FY 2013/2014 that contains 100% recycled and or Forest Stewardship Council paper

Success Highlights

During the first five years (FY 2009-2013) of implementation, Pima County:

- Increased the proportion of office supply dollars spent on eco-friendly products by 318% since 2008.
- Developed guidelines that require all new appliances purchased as part of construction/ upgrade projects overseen by Facilities Management be Energy Star qualified.
- Updated its janitorial service contracts to include nontoxic and eco-friendly products.
- Established a standard requiring all departments to purchase 30% post-consumer recycled printer, copier and multi-purpose paper.

Continuing Actions

The County will continue to:

- Encourage purchases that provide a positive impact on the environment, economy and community.
- Seek out the best, overall product values by using cost-benefit and life-cycle cost analyses.
- Support the identification, evaluation, use and measurement of innovative, eco-friendly products, services and practices.
- Develop specifications for products and services that beneficially impact the environment through such things as increased energy and water efficiency, reduced waste generation, reduced consumption of non-renewable natural resources, improved public health, and increased durability and economy.
- Purchase equipment and products that meet or exceed Energy Star efficiency standards.
- Consider purchasing products that optimize the use of recycled materials.
- Consider the energy required to produce, manufacture and transport the product to market and, if all other product attributes are equal, give preference to those products with the lowest overall energy use (i.e., "low-embodied energy products").
- Eliminate or minimize the use of toxic or potentially toxic or hazardous materials.
- Consider the ultimate disposition of purchased materials and acquire products that can be recycled or reused.
- Encourage employees to use surplus equipment or adaptively reuse existing equipment when the equipment can safely and efficiently satisfy the objectives of the department.
- Encourage suppliers to use appropriate eco-friendly supplies and products.
- Raise employee awareness regarding opportunities to make eco-friendly purchasing decisions.
- Require all departments to purchase printer, copier and multi-purpose paper made from a minimum of 30% post-consumer recycled content.

Five-Year Implementation Timeline

	ACTION ITEM	COMPLETION YEAR	LEAD PARTY	SUPPORTING PARTY	TARGET ADDRESSED	GOAL ADDRESSED	BENEFITS
1	Review and update contract specifications in accordance with the revised BOS Procurement Policy D29.2, the Sustainable Action Plan for County Operations, the Guiding Principles, and applicable administrative guidelines.	1	All Departments Green Purchasing S-Team	Procurement	1, 2, 3, 4	1	
2	Work with departments to coordinate purchasing orders between departments to reduce the number of shipments made.	1-4	Green Purchasing Representatives Green Purchasing S-Team	All Departments	NA	1	
3	Create a web page devoted to informing employees about the availability of eco-friendly products and supplies. a. Once completed, inform department managers and employees of the page and encourage its use. b. Update the page as needed.	1 2 2-5	Green Purchasing S-Team	Information Technology	NA	1	
4	Enhance the prepared and distributed quarterly reports comparing how much each department spends on eco-friendly versus non-eco-friendly office supplies to increase understanding and accountability.	1	Green Purchasing S-Team	All Departments	NA	1	
5	Update specifications for products and services that beneficially impact the environment through increased energy and water efficiency, reduced waste generation, reduced consumption of non-renewable natural resources, improved public health, increased durability and economy or other beneficial impacts.	1	Green Purchasing S-Team Facilities Management	All Departments	1, 2, 3, 4, 5	1	

BENEFITS KEY: Reduces Greenhouse Gas Emissions; Conserves Energy; Conserves Water; Reduces Waste; Conserves Land; Saves Financial Resources; Improves Employee Health

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CHAPTER 9

Health & Wellness

Public health nurses at Pima County Public Library branches support the health and wellness of the public and of County employees, improving worker productivity while reducing long-term costs.

Introduction

Employee health and wellness is an important component of the long-term sustainability of County operations. Promoting a culture of health and wellness improves the overall health and productivity of employees: reducing absenteeism, promoting employee retention and resulting in long-term cost savings for Pima County. The County has taken on a range of programs and activities aimed at strengthening existing programs and developing new opportunities to encourage employees to adopt healthy behaviors. This chapter outlines the County's five-year plan to further promote employee health and wellness.

Goals

1. To improve the health status of Pima County employees in order to reduce health-care costs and increase employee productivity.
2. To maximize the health and wellness of Pima County employees.
3. To position Pima County as a leader in innovative employee wellness practices that will help attract and retain high-quality employees.

	TARGETS	SUCCESS INDICATORS AND BASELINES
1	**Healthy Lifestyle Premium Discounts** By June 30, FY 2018/2019, increase the percentage of Pima County employees who are in eligibility compliance with the Healthy Lifestyle Premium Discounts.	**Indicator:** Percentage of eligible employees who participate in Healthy Lifestyle Medical Premium Discount program. **Baseline:** FY 2013/2014 participation rates.
2	**Policies and Procedures** By June 30, FY 2016-17, Administrative Procedures and Policies will be established or revised to support Wellness initiatives within the County.	**Indicator:** Number of Administrative Procedures and Policies relating to Wellness initiatives. **Baseline:** 2007 Administrative Procedure 23-30.
3	**Tobacco-free workforce** By January 2019, Pima County will decrease the number of self-reported tobacco users from 33% to less than 15%.	**Indicator:** Employee responses regarding awareness of and participation in tobacco cessation health initiatives. **Baseline:** FY 2013/14 Health Assessment results.

Success Highlights

During the first year (FY 20012-2013) of implementation, Pima County:

- Developed the employee Health and Wellness Chapter for inclusion into the Plan to enhance employee wellness and prevent or reduce the spread of obesity and related chronic disease. These efforts were made possible by a Communities Putting Prevention to Work grant, funded by the American Recovery and Reinvestment Act of 2009. The chapter was unanimously adopted by the Board of Supervisors in April 2012.
- Increased participation in preventive lifestyle and chronic disease management programs by 64% compared to the baseline. Human Resources expanded the range of programs to promote and improve employee health and wellness.
- Refined the methodology used to assess the health status of employees to improve health outcomes through targeted interventions, programs and education.

Continuing Actions

The County will continue to:

- Increase awareness of chronic disease management and mental health issues and educate employees about available resources to help them cope with and manage related health issues.
- Provide a safe work environment for all County employees that is in compliance with OSHA and general health and safety standards.
- Support healthy activities by removing barriers, providing opportunities and encouraging participation inside and outside of the workplace.
- Encourage healthy food choices by offering nutrition education programs as well as providing space for food storage and preparation.
- Provide opportunities to be active during the workday and encourage the use of active transportation modes in order to travel to and from work as well as for work-related trips.
- Offer incentives to engage in healthy behaviors such as preventive screenings and participation in employee wellness activities.
- Provide and actively promote free and low-cost opportunities to learn about and engage in healthy and active lifestyles.
- Provide affordable medical insurance to employees and their families.
- Provide resources and space for employee wellness activities.
- Provide the capacity to evaluate and track the impact of all the County's sustainability initiatives.
- Offer confidential health screenings at County worksites.
- Provide a healthy vending machine program to increase the availability of healthy options in vending machines located in County-occupied facilities with the plan to adopt a formalized County policy for healthy vending, when feasible.
- Negotiate with local gyms and recreation providers to offer wellness activities that fit employee schedules and needs.
- Heighten the role and support of the Wellness Action Committee and other groups and committees that advise the County Administrator and others on health benefits and wellness issues.
- Identify and address the communication gaps within various departments relating to Health and Wellness initiatives.
- Work with the County Building Design Guidelines for new and existing construction to include facilities known to support employee health.

Five-Year Implementation Timeline

	ACTION ITEM	COMPLETION YEAR	LEAD PARTY	SUPPORTING PARTY	TARGET ADDRESSED	GOAL ADDRESSED	BENEFITS
1	Audit eligibility compliance of employees who participate in one or more Healthy Lifestyle Premium Discounts.	1-5	Human Resources Department		1, 3	1, 2, 3	
2	Review, develop and enforce Administrative Procedures and Policies relating to employee tobacco use that would encourage a tobacco-free environment.	1-5	Human Resources Department Health Department	All Departments	2, 3	1, 2, 3	
3	Assess the status of tobacco use among employees.	1	Human Resources Department Health Department	Community Resources*	3	1, 2, 3	
4	Develop a comprehensive action plan to reduce tobacco use among employees.	1	Human Resources Department Health Department	Community Resources	3	1, 2, 3	
5	Implement and promote tobacco-cessation programs including education, environmental changes, incentives and support services.	2-5	Human Resources Department Health Department	Community Resources	3	1, 2, 3	
6	Develop and implement an evaluation process to track the success of implemented programs and policies relating to tobacco use among employees.	2-5	Human Resources Department Health Department	Community Resources	3	1, 2, 3	

BENEFITS KEY: Reduces Greenhouse Gas Emissions; Conserves Energy; Conserves Water; Reduces Waste; Conserves Land; Saves Financial Resources; Improves Employee Health

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*Community Resources refers to vendors and other non-County resources and partners.

Glossary

Active Transportation: Using human-powered transportation to move around. The most popular modes of active transportation include walking and cycling. Riding the bus is often considered active transportation because of the need to walk or bike to and from bus stations.

Alternative Modes of Transportation: Refers to transportation modes other than driving a single-occupant vehicle, such as carpooling, mass transit, biking and walking. Choosing alternative modes of transportation provides many benefits such as cost and time saving, improved air quality, reduced congestion and less dependency on fossil fuels.

Alternative Fuel Vehicles: Vehicles that operate on fuels other than gasoline or diesel. Alternative fuel vehicles include those that operate using compressed natural gas (CNG), liquid natural gas (LNG), propane, electricity, hybrid of gasoline and electricity, and hydrogen.

Beneficial Use of Biogas: Methane recovery and purification for use as a fuel source in power production or in vehicles as an alternative to natural gas.

Conservation Lands System (CLS): The Conservation Lands Systems Regional Plan Policy was adopted as part of the Environmental Element of the Pima County Comprehensive Plan Update in December 2001 and was updated June 21, 2005. The CLS categorizes and identifies locations of priority biological resources within Pima County and provides policy guidelines for the conservation of these resources. These guidelines are applied to certain types of land use changes requested of the Board of Supervisors.

Carbon Dioxide Equivalent (CO2e): A metric used to compare the emissions from various greenhouse gases based upon their global warming potential. Carbon dioxide equivalents are commonly expressed as "metric tons of carbon dioxide equivalents" (MT CO2e).

Eco-Friendly Products: Products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance or disposal of the product or service.

Energy Star Certified: An energy performance rating system for buildings, administered by the U.S. government. The rating system provides buildings a score, on a scale of 1-100, relative to similar buildings throughout the nation. Buildings with a rating of 75 or higher may qualify for the Energy Star label.

Energy Star Qualified: An energy performance rating system administered by the U.S. government for consumer products. Devices carrying the Energy Star service mark generally use 20-30% less energy than required by federal standards.

Enhancement: The modification or manipulation of a site of ecological, historical or cultural significance to improve, sustain or restore its integrity and desired conditions.

Geographic Information System (GIS): A computer application that integrates hardware, software, and data for capturing, managing, analyzing and displaying all forms of geographically referenced information.

Greenhouse Gas (GHG): Any gas that absorbs infrared radiation in the atmosphere. Greenhouse gases include carbon dioxide, methane, nitrous oxide, ozone, chlorofluorocarbons, hydrochlorofluorocarbons, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride.

Goals: A broad overarching aim or desired result outlined within a chapter.

Guiding Principles: Fundamental tenets that provide a basis for decisions and define priorities.

Kilowatt-hour (kWh): A unit of measure for energy typically applied to electricity usage and equal to the amount of energy used at a rate of 1,000 watts over the course of one hour. One kWh is equivalent to 3,412 Btu, or 3,600 kJ.

LEED: A third-party certification program developed by the U.S. Green Building Council. It is the nationally accepted benchmark for the design, construction and operation of high performance green buildings. Certification provides independent, third-party verification that

a building, home or community was designed and built using strategies aimed at achieving high performance in key areas of human and environmental health.

Life-Cycle Cost Analysis: A technique to assess the environmental aspects and potential impacts associated with a product, process or service throughout its lifespan.

Net-Zero Energy Building: A building with zero net energy consumption, meaning it produces as much or more energy than it uses over the course of a year.

Potable Water: Water that is safe enough to be consumed by humans with low risk of immediate or long-term harm.

Reclaimed Water: Water that has been treated or processed by a wastewater treatment plant or an on-site wastewater treatment facility.

Renewable Energy: Any energy source that is replenished at least as fast as it is used.

Renewable Resources: Natural resources that have an inexhaustible supply (such as solar radiation) or that can be renewed indefinitely if ecosystem health is maintained (e.g. fisheries or forests).

Renewable Water: Renewable water sources are defined as effluent, reclaimed water, non-potable groundwater, storm water or harvested rainwater. Pumped groundwater or potable water shall NOT be considered a renewable water source.

Riparian Habitat: The community of plant and wildlife found along the banks of a river, stream, lake or other body of water. Riparian habitats are ecologically diverse and may be home to a wide range of plants and animals.

Smart Growth: A collection of land use and development principles that aim to enhance our quality of life, preserve the natural environment and save money over time. Smart growth principles ensure that growth is fiscally, environmentally and socially responsible and recognizes the connections between development and quality of life. Smart growth enhances and completes communities by placing priority on infill, redevelopment and densification strategies.

Sonoran Desert Conservation Plan (SDCP): Pima County's plan for balancing the conservation and protection of our cultural and natural resource heritage with our efforts to maintain an economically vigorous and fiscally responsible community. Broadly defined, the SDCP considered the following elements: critical habitats and biological corridors, riparian areas, mountain parks, historical and cultural preservation, and ranch conservation. All five elements, along with fiscal analysis, were critical in forming a viable land management plan for Pima County.

Storm water Bioswales: A bioswale is a type of storm water filtration system. Bioswales are shallow depressions created to accept and convey storm water runoff. A bioswale uses natural means, including vegetation and soil, to treat storm water by filtering out contaminants being conveyed in the water.

Success Indicator: Quantitative or qualitative measures used to assess performance relative to a Target.

Telematic Software: Telematics is a method of monitoring a vehicle by combining a GPS system with on-board diagnostics. Telematics make it possible to record and map a vehicle's location and monitor a driver's behavior.

Vehicle Miles Traveled (VMT): One vehicle traveling one mile constitutes a vehicle mile. VMT is primarily an indicator of automobile use. Increasing VMT typically corresponds with increases in traffic and vehicle-related pollution.

Zero Waste: Recycling or reuse of all natural and man-made materials back into nature or the marketplace rather than sending those materials to landfills or similar disposal options.

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