# Sustainable Action Plan
## for County Operations

### Report Card: FY 2014/2015

PCSP
PIMA COUNTY SUSTAINABILITY PROGRAM

PIMA COUNTY

2423-021816 HT

# Contents

# Sustainable Action Plan for County Operations Report Card: FY 2014/2015

On May 17, 2014 the Pima County Board of Supervisors adopted the 2014 Sustainable Action Plan for County Operations, which seeks to achieve a "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." Measuring progress is crucial to the success of Pima County's sustainability efforts. The purpose of this report card is to inform County decision makers and the broader community about Pima County's progress toward meeting the goals and targets contained in the Sustainable Action Plan. It is meant to highlight areas where the County is meeting its targets and to help identify areas needing additional attention. This Report Card charts the Action Plan's progress for fiscal year 2014/2015.

## Progress summary

Over the course of the year, Pima County departments implemented a diverse range of action items, resulting in significant accomplishments. Performance improved in 13 of the County's targets, declined in 3 and remained the same in 4 others. County staff is working to address performance gaps and improve performance in areas where performance declined or showed no improvement. Significant improvements and declines in performance over the past year include:

### Improvements

- Reduced overall carbon intensity of County facility operations: 10%
- Reduced carbon intensity of Fleet Operations per resident served: 25%
- Increased solar energy consumption: 8%
- Reduced water-use intensity in County buildings: 20%
- Increased acres of natural habitat established or maintained by County renewable water: 25%
- Percentage of employees who are self-reported tobacco users fell: 9%

### Declines

- Carbon intensity of County wastewater treatment operations increased: 13%
- Energy use intensity of County facilities increased: 6%
- Percentage of ongoing and completed County buildings built to LEED Silver standards (50 or more points) fell: from 75% to 50%
- Percentage of eligible employees who participate in the Healthy Lifestyle Medical Premium Discount program fell: 5%

While it is not specifically addressed in the report card below, during the fiscal year, staff worked to incorporate sustainability policies into Pima Prospers, the County's comprehensive plan that the Board of Supervisors adopted in May 2015. The Sustainable Action Plan is specifically linked to Pima Prospers in the Public Buildings and Facilities Element; however, sustainable actions toward creating a healthier community are reflected throughout the comprehensive plan.

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Visit webcms.pima.gov to view the 2014 Sustainable Action Plan for County Operations. Visit www.pimaprospers.com to view the Comprehensive Plan in its entirety.

# Noteworthy accomplishments

**During FY 2014/2015, Pima County:**

- Reduced the number of miles traveled by the County fleet by 21%.
- Reduced the carbon intensity of County facilities, avoiding approximately 7,443 $MtCO_2e$.
- Installed more than 1.5 megawatts (MW) of solar covered parking.
- Increased the percentage of biogas used for energy production by nearly 156%.
- Completed construction of the new highly efficient Fleet Services Building and submitted for LEED Gold Certification.
- Established sustainability as a central tenet in the design of the new Pima Animal Care Center.
- Replaced 45 conventional fuel vehicles with more efficient alternative fuel vehicles.
- Developed a new automated system that alerts transportation coordinators when preventive maintenance is due for a vehicle, helping to improve vehicle fuel economy.
- Replaced non-native landscape with native plants at multiple County facilities including 10 libraries.
- Completed Phase I of the Paseo de las Iglesias Ecosystem Restoration Project.
- Collaborated with the Sonoran Institute to release the second annual Living River report, which shows improved aquatic habitat, improved water clarity and increased infiltration on the Lower Santa Cruz River.
- Reviewed and updated the Recycled Paper Purchasing Policy.
- Expanded the use of 100% recycled content printer paper.
- Developed the Tobacco-Free Healthy Workforce Initiative for Pima County employees.
- Audited eligibility compliance of employees who participate in one or more Healthy Lifestyle Premium Discounts.

## How to use this report

The nine chapters in this Report Card represent the nine focus areas of the Sustainable Action Plan. Data is collected annually to report on the progress of meeting the plan's goals and objectives. The following measures are discussed in each chapter:

**TARGET/S:** A measurable milestone in pursuing the chapter Goal(s), meant to be achieved within the five-year timeframe of the Plan.

**INDICATOR/S:** Quantitative or qualitative measures used to assess performance relative to a Target.

**BASELINE/S:** A starting point or benchmark used to assess progress toward reaching a Target.

CHAPTER 1

# Minimizing the Carbon Footprint of County Operations

Fuel efficient vehicles, energy efficient buildings and renewable energy are three ways Pima County is working to minimize its carbon footprint.

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 the greenhouse gases 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.

During FY 2014/2015, the carbon intensity of County facility and fleet operations improved 10% and 6% respectively, while wastewater treatment operations declined 13%. Improvement in the carbon intensity of facility operations resulted from improvements in building energy efficiency. The improvement in the carbon intensity of County fleet operations resulted from a greater proportion of miles traveled by passenger vehicles than by trucks and SUVs as a result of County right-sizing efforts. The emissions intensity of County wastewater treatment operations rose due to an increase in the proportion of energy supplied by electricity rather than natural gas. Per unit of energy, electricity purchased from the grid produces twice as much carbon as natural gas. Progress toward meeting the County's carbon emissions targets is detailed below.

## Noteworthy accomplishments

**During FY 2014/2015, Pima County:**

- Reduced the number of miles traveled by the County fleet by 21%.
- Reductions in the carbon intensity of County facilities and avoided approximately 7,443 $MtCO_2e$.

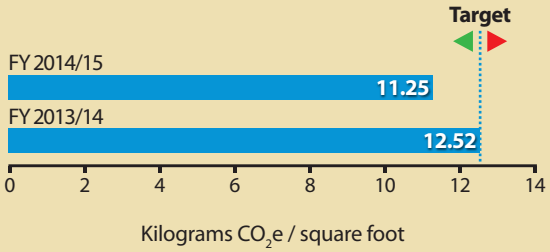
# Green works

Reductions in the carbon intensity of County facilities avoided 7,443 $MtCO_2e$, equivalent to taking 1,567 passenger vehicles off the road for 1 year (Environmental Protection Agency, 2015).

## TARGET 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 kilograms of $CO_2e$/square foot of building space.
**BASELINE:** 12.52 kilograms $CO_2e$/square foot.



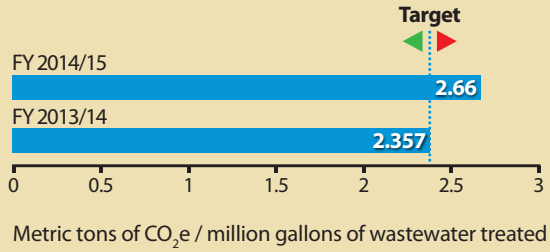

### Performance

**11.25*** kilograms of $CO_2e$/square foot of building space.
**Improved:** 10.16% relative to the baseline.

## TARGET 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 $CO_2e$ /million gallons of water treated.
**BASELINE:** 2.357 metric tons of $CO_2e$ /million gallons of water treated.



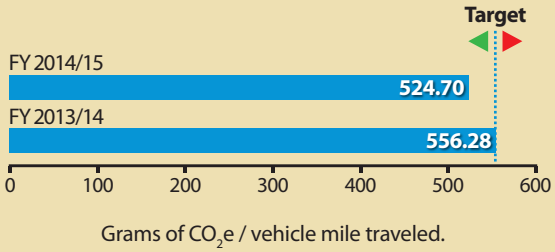

### Performance

**2.66** metric tons of $CO_2e$/ million gallons of wastewater treated.
**Declined:** 12.86% relative to the baseline.

## TARGET 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 grams of $CO_2e$ /vehicle mile traveled
**BASELINE:** 556.28 **grams of $CO_2e$ /vehicle mile traveled.**




### Performance

**524.70** grams of $CO_2e$ /vehicle mile traveled.
**Improved:** 5.68% relative to the baseline.

* This excludes emissions from Pima County wastewater treatment operations.

CHAPTER 2

# Renewable Energy & Energy Efficiency

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.

During FY 2014/2015, Pima County brought several new solar projects online, which generated more than 1,000,000 kWh. However, due to an 8% increase in electricity consumption overall, the percentage of electricity generated by renewable sources remained flat. The 8% increase in overall electricity consumption is attributed to an increase in electricity by County wastewater operations (87%) and an increase in building square footage (13%). The increase in electricity consumption by County wastewater treatment operations resulted from reducing the proportion of energy supplied by natural gas at County wastewater treatment facilities. The energy efficiency of County facilities declined 6% as a result of increased energy consumption by County wastewater operations. Staff has initiated efforts to develop an energy and water master plan to help curb cost and consumption. Progress toward meeting the County's renewable energy and energy efficiency targets is detailed below.

The Pima County Board of Supervisors unanimously approved a 20-year contract to have solar-covered parking structures installed at 11 County Facilities.

## Noteworthy accomplishments

**During FY 2014/2015, Pima County:**

- Installed more than 1.5 MW of solar covered parking.
- Increased the percentage of biogas used for energy production from 8% to nearly 13%.

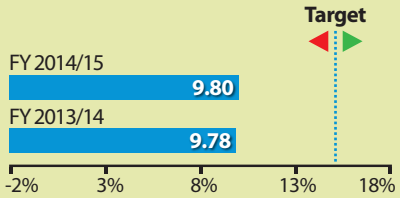
# Green works

Electricity generated from renewable sources produced enough energy to power 1,271 average Tucson homes for 1 year (Westmoreland Associates, 2011).

## TARGET 1

**Renewable Energy:** By 2025, at least 15% of the electricity consumed by County facilities will be generated or offset by renewable sources.

**INDICATOR:** Percentage of electricity consumed by County facilities generated by renewable sources.
**BASELINE:** 9.78% **was generated by renewable sources.***




Percentage of electricity generated by renewable sources

### Performance

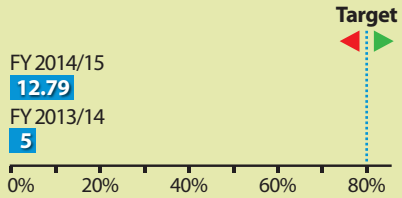
**9.80%** was generated by renewable sources.

**Improved:** 0.2% relative to the baseline.

## SUB-TARGET 1

**Biogas :** Beneficially use 80% per year by June 30, FY 2018/2019.

**INDICATOR:** Percentage of biogas used for energy production.
**BASELINE:** 5%




Percentage of biogas used for energy production

### Performance

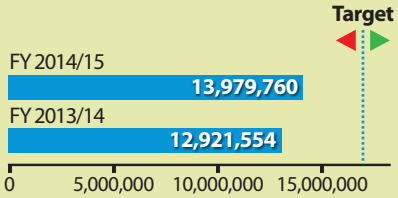
**12.79%** was beneficially used.

**Improved** relative to the baseline.

## SUB-TARGET 2

**Solar :** Increase the use of solar energy by 4 million kWh by June 30, FY 2018/2019.

**INDICATOR:** kWh of solar consumed.
**BASELINE:** 12,921,554 kWh.




kWh of solar consumed

### Performance

13,979,760 kWh of solar consumed.

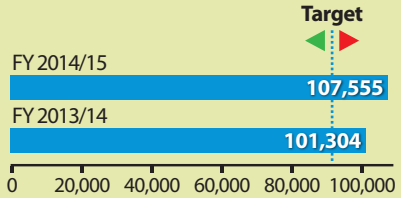
**1,058,206** kWh increase in solar energy.

**Improved:** 8.19% relative to the baseline and more than 26% of the target.

## TARGET 2

**Energy Efficiency:** Increase the overall energy efficiency of County facilities 10% by June 30, FY 2018/2019.

**INDICATOR:** Energy use intensity of County facilities [Combined total Btu (electricity +natural gas) consumed by all County facilities]/ Combined square footage of all County facilities.
**BASELINE:** 101,304 Btu/ $ft^2$




Btu / $ft^2$

### Performance

**107,555** Btu on energy / $ft^2$

**Declined:** 6.17% relative to the baseline.

* Revised based on updated data

CHAPTER 3

# Green Building

The new state-of-the-art Fleet Services Center achieved LEED Gold certification, the second highest level possible.

The construction, operation and maintenance of buildings are significant sources of resource and energy consumption and constitute 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 (Singh et al. 2010).

During FY 2014/2015, Pima County completed construction of the Water Energy and Sustainable Technology (WEST) Center laboratory addition and the new Fleet Services Center. The new Fleet Services Center achieved LEED Gold certification, the second highest level possible. The Agua Nueva WRF laboratory addition fell short of meeting the LEED Silver target. Many of the design elements required to achieve LEED Silver were omitted for budgetary reasons and as a result the project only obtained enough points to achieve "LEED Certified" designation. Progress was made on beginning to certify County facilities through Energy Star (target 1). Facilities Management began collecting the data required by Energy Star and expects to begin certifying buildings in FY 2015/2016. Progress toward the County's green building targets is detailed below.

## Noteworthy accomplishments

**During FY 2014/2015, Pima County:**

- Completed construction of the new highly efficient Fleet Services Building and submitted for LEED Gold Certification.
- Established sustainability as a central tenet in the design of the new Pima Animal Care Center.

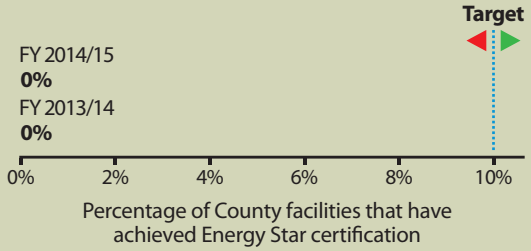
# Green works

On average, LEED Gold buildings use 20% less energy than conventional buildings (Scofield, 2013).

## TARGET 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.




### Performance

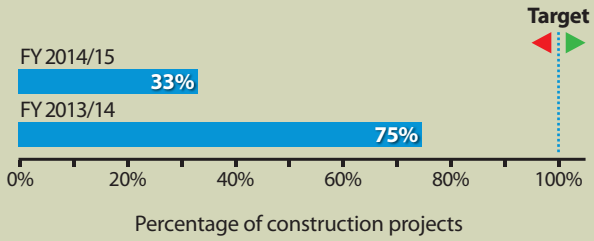
**0%** of County facilities achieved Energy Star certification.
**No change** in performance relative to the baseline.

## TARGET 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 July 1, 2014, that implement LEED elements sufficient to obtain 50 or more points.
**BASELINE:**
Total number of projects: 4
Projects that meet the target: 3

**75%** implement LEED elements sufficient to obtain 50 or more points.




### Performance

**50%** implement LEED elements sufficient to obtain 50 or more points.
**Declined:** 33% relative to the baseline

The new Pima County Public Services Center is certified LEED Silver.

CHAPTER 4

# Alternative Fuel Vehicles

Motor vehicle emissions are the largest source of air pollution in Pima County. County government owns and operates a large fleet of vehicles and equipment that performs a range of vital services. The County has implemented a number of strategies to minimize the impact of its fleet activities.

During FY 2014/2015, performance improved 25% relative to the baseline. This improvement resulted from a 21% reduction in vehicle miles traveled (VMT) compared to 2014, and a 4% overall improvement in the quantity of fuel consumed per VMT. Fleet-wide fuel economy improved from 16.17 MPG to 16.88 MPG. Progress toward meeting the County's alternative-fuel vehicle target is detailed below.

Incorporating more hybrid vehicles into the County's fleet has helped to improve fuel efficiency and reduce the carbon intensity of fleet operations.

## Noteworthy accomplishments

**During FY 2014/2015, Pima County:**

- Replaced 45 conventional fuel vehicles with more efficient, alternative fuel vehicles.
- Developed a new automated system that alerts transportation coordinators when preventive maintenance is due for a vehicle, helping to improve vehicle fuel efficiency.

# Green works

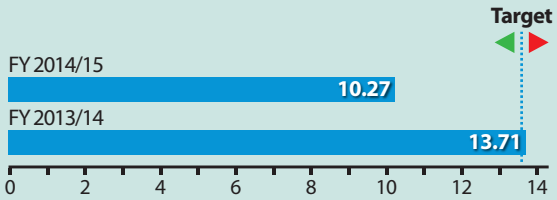
Improvements in the carbon intensity of County vehicles avoided 1,191,204 kg$CO_2e$ emissions, equivalent to more than 2,800,000 miles driven by an average passenger vehicle (Environmental Protection Agency, 2015).

## TARGET 1

**Greenhouse Gas Emissions:** Reduce the ratio of carbon emissions produced by County transportation activities per service population ($CO_2e$/ 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:** 13.71 kg$CO_2e$/ resident served



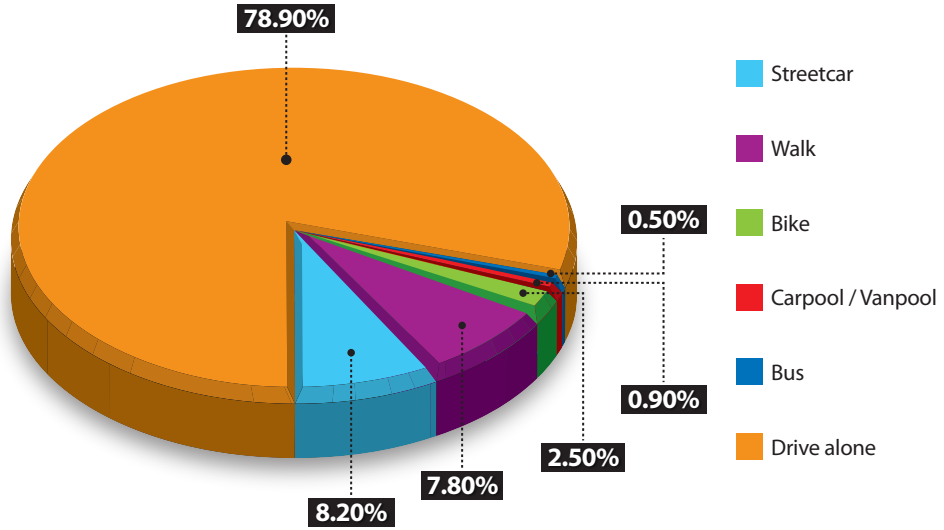

### Performance

**10.27** kg$CO_2e$/ resident served*
**Improved:** 25.09% relative to the baseline.

* Based on July 1, 2014 Arizona Department of Administration Population Estimate for Unincorporated Pima County.

# Employee Travel Reduction

The results of the 2014/15 Employee Travel Reduction Survey showed a 4% increase in the percentage of work commute trips made using alternative modes of transportation (from 20.3% in 2014 to 21.1% in 2015).



CHAPTER 5

# Water Conservation & Management

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; water is critical to our very survival. Yet in the Sonoran Desert, water is one of our most limited resources. Ensuring an adequate, safe water supply for ecosystems and for current and future generations is essential to ensuring the sustainability of Pima County.

During FY 2014/2015, Pima County saw improvements in all three of its water conservation and management targets. Water consumption in County buildings fell 5% despite a 4.5% increase in square footage. Combined, the reduction in water use and increase in square footage helped to reduce the number of gallons consumed per square foot (water use intensity) by more than 20%. The number of parks and miles of trail served by reclaimed water increased by 4.55% and 21.5% respectively. The number of acres of natural habitat established or maintained by County renewable water increased by more than 25%, surpassing the FY 2018/2019 target. Progress toward meeting the County's water conservation and management targets is detailed below.

The County continues to expand its habitat restoration effort using reclaimed water.

## Noteworthy accomplishments

**During FY 2014/2015, Pima County:**

- Replaced non-native landscape with native plants at multiple County facilities, including 10 libraries.
- Completed Phase I of the Paseo de las Iglesias Ecosystem Restoration Project.

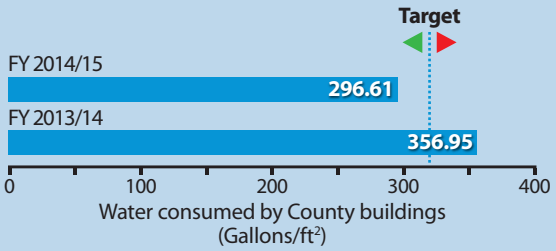
# Green works

Improvements in water use intensity conserved 353 million gallons of water, enough to meet the needs of 10,700 residents for a year (City of Tucson, 2015).

## TARGET 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:** 356.95 gallons/$ft^2$



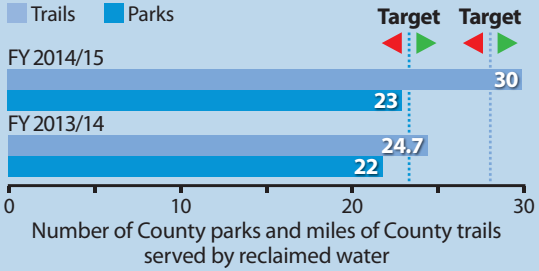

### Performance

**296.61** gallons/ $ft^2$ consumed by County buildings.
**Improved:** 20.34% relative to the baseline, surpassing the FY 2018/2019 target.

## TARGET 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:**
- 22 parks served by reclaimed water.*
- 24.7 miles of trail served by reclaimed water.




### Performance

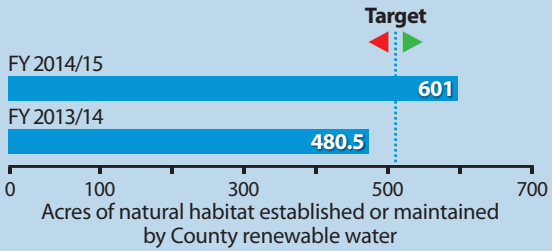
**23** parks served by reclaimed water.
**Improved:** 4.55% in performance relative to the baseline.

**30** miles of trail served by reclaimed water.
**Improved:** 21.46% relative to the baseline, surpassing the FY 2018/2019 target.

## TARGET 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 as of June 30, FY 2013/2014.
**BASELINE:** 480.5 acres.




### Performance

**601** acres of natural habitat established or maintained by County renewable water.
**Improved:** 25.08% relative to the baseline, surpassing the FY 2018/2019 target.

* This baseline was adjusted from 6 parks to 22 to reflect changes in the calculation method. The various sections along the river park are now counted as separate parks rather than one.

CHAPTER 6

# Land Conservation & Management

Volunteer removing buffelgrass in the Tucson Mountains.

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 experience, the latter thereby enhancing the local economy through increased tourism.

During FY 2014/2015, the County continued to conserve its ecological, biological and cultural resources. Among many others, these efforts included completing ecosystem or species restoration efforts on 30 properties, invasive species control efforts on 21 properties, and conducting 223 person day visits to cultural resource sites. In addition, the County owned and maintained over 96,000 acres of open space in the Conservation Lands System (CLS) for conservation purposes. At the time the FY 2013/2014 Interim Report Card was published, an agreed upon methodology had not been developed for tracking progress related to the goals and targets contained in this chapter. Earlier this year, the methodology for tracking progress related to the goals and targets pertaining to this chapter were finalized. Progress toward meeting the County's land conservation and management targets is detailed below.

## Noteworthy accomplishments

**During FY 2014/2015, Pima County:**

- Completed removal of 47 tons of buffelgrass from more than 175 acres of open-space conservation land. This work was made possible with the help of the volunteer group Sonoran Desert Weedwackers.
- Completed restoration of the Fort Lowell Officers' Quarters and received the Governor's Heritage Preservation Award. This award recognizes people, organizations and projects that represent outstanding achievements in preserving Arizona's prehistoric and historical resources.

# Green works

Open space habitat restoration within the CLS benefits the local economy, increasing property values within Pima County by more than $125 million and generates an estimated $1.23 to $2.46 million dollars per year in incremental property tax revenues (Bark-Hodgins, 2006).

## TARGET 1

**Cultural Resources:** Conserve cultural resources and historic properties.

**INDICATOR 1:** Number and types of sites conserved.
**BASELINE:** Annual summary.

**INDICATOR 2:** Information yielded from sites.
**BASELINE:** Annual summary.

### Performance

**1. Cultural Resources Conserved**

- **27** SDCP Priority Cultural Resources conserved.
- **9490** acres of County-owned conservation land with archaeological survey coverage.
- **389** known and recorded archeological sites conserved.
- **13** NRHP* properties conserved.
- **20** significant sites conserved via cultural resources compliance actions:
  - **15** significant prehistoric archaeological sites conserved.
  - **3** significant historic archaeological sites conserved.
  - **2** significant multicomponent archaeological sites conserved.

**2. Information Yielded From Sites**

- **68** sites yielded information.
- **6** documented historic buildings.

* The National Register of Historic Places (NRHP) is the official list of the Nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources.

## TARGET 2

**Ecological and Biological Resources:** Conserve ecological and biological resources.

**INDICATOR 1:** Number of acres conserved.
**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.
**BASELINE:** Annual summary.

**INDICATOR 2:** Mitigation actions taken to reduce the impacts of County operations on ecological and biological resources.
**BASELINE:** Annual summary.

### Performance

**1. Number of acres conserved**

a. **96,445** acres within the CLS acquired (held) under fee title.
b. **1489** acres within the CLS placed under perpetual conservation easement.
c. **517** acres conservation easement acres within the CLS acquired
d. **0** acres of private deed restrictions within the CLS.
e. **32,703** acres of designated (regulated) riparian habitat conserved.

**2. Mitigation actions taken to reduce the impacts of County operations on ecological and biological resources**

**0** mitigation actions completed for County Capital Improvement projects (CIP) that required Section-10 mitigation.
**0** mitigation actions completed for County CIP projects that require In-Lieu Fee (ILF) mitigation.

## TARGET 3

**Enhancement Projects:** Complete enhancement projects on County properties.

**INDICATOR:** Number of properties enhanced.
**BASELINE:** Annual summary.

### Performance

**Open space enhancements**

Number of properties enhanced:

- Infrastructure improvements: **33**
- Invasive species control: **21**
- Trash removal: **21**
- Ecosystem or species restoration: **30**

**Cultural resource enhancements**

**223** person-day visits by the site stewards.
**52** sites visited by the site stewards.
**23** buildings or structures rehabilitated.

Recycling totes used in County Facilities.

CHAPTER 7

# Waste Reduction

Reducing waste and consumption is an important, yet often overlooked, component of sustainability. Reducing consumption and landfill waste generated by County operations helps to minimize the County's ecological footprint while conserving resources and reducing operating costs.

As a result of efforts by the Waste Reduction S-team, data collection methods were improved to provide a more accurate estimate of the quantity of material recycled by the County. The FY 2013/14 baseline was adjusted using the improved methodology. FY 2014/15 performance showed a slight improvement relative to the adjusted baseline. Progress toward meeting the County's waste reduction targets is detailed below.

## Noteworthy accomplishments

**During FY 2014/2015, Pima County:**

- Improved the accuracy of data collection for recycling estimates.
- Recycled more than 78% of the waste generated in the construction of the new Public Services Center.

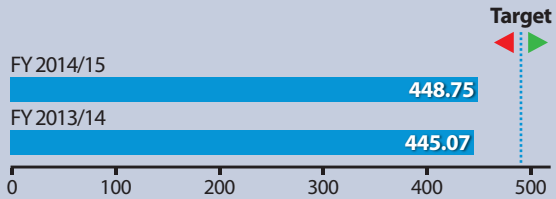
# Green works

Recycling efforts saved 3,590 cubic yards of landfill space, enough to cover a football field 1.5 feet deep in waste (Tucson Unified School District, 2007).

## TARGET 1

**Solid Waste Diversion:** Increase the quantity of recyclable materials diverted from landfills by 10% to 489.58 tons by June 30, FY 2018/2019.

**INDICATOR:** Quantity of recyclable material diverted from landfills.
**BASELINE):** 445.07 tons diverted.*

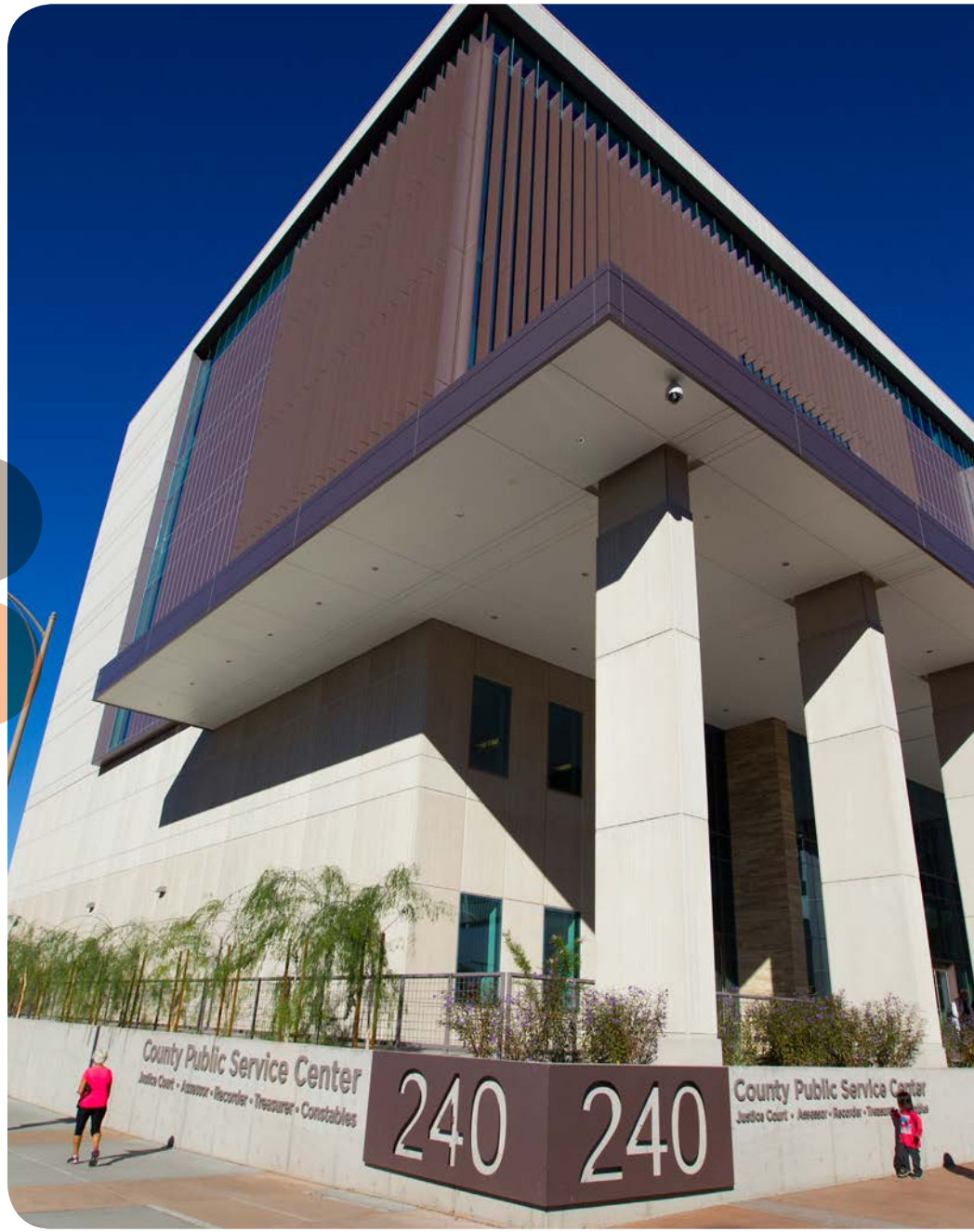



Tons of recyclable material diverted from landfills

### Performance

**448.75** tons diverted from landfills.
**Improved:** 0.83% relative to the baseline

* This baseline was adjusted in accordance with improvements in data collection and calculation methods.




More than 78% of the waste generated in the construction of the Pima County Public Services Center was recycled.

CHAPTER 8

# Green Purchasing

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 needed in the delivery of 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.

Performance related to new contracts and janitorial service contracts held steady at 100%. Overall, performance related to recycled paper purchasing improved. 91% of all printer copier and multi-purpose paper was at least 30% recycled content paper. The percentage of paper that was 100% recycled content paper improved 21% while the percentage of all other paper that was 30% recycled content paper improved 2%. Progress toward meeting the County's green purchasing targets is detailed below.


Recycled paper containing 30 percent post-consumer waste.

## Noteworthy accomplishments

**During FY 2014/2015, Pima County:**

- Reviewed and updated the Recycled Paper Purchasing Policy.
- Expanded the use of 100% recycled content printer paper.

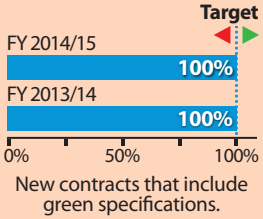
# Green works

Using paper made from recycled content saved approximately 721,663 trees, 3,730,430 gallons of water, 3,585 million BTUs of energy, avoided 1,241 tons of solid waste and the emission of 687,815 pounds CO2e (Environmental Paper Network, 2015).

## TARGET 1

**Product Contracts:** 100% of new contracts to include green specifications whenever applicable by June 30, 2019.

**INDICATOR:** Percentage of new contracts that include green specifications.
**BASELINE:** 100%



New contracts that include green specifications.

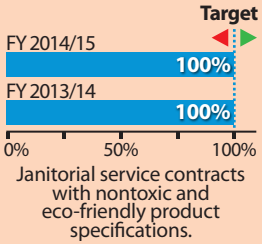
### Performance

**100%** of new contracts that include green specifications.
**No change** in performance relative to the baseline.

## TARGET 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:** 100%



Janitorial service contracts with nontoxic and eco-friendly product specifications.

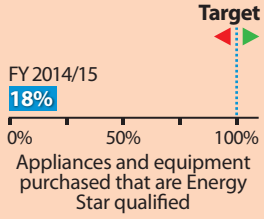
### Performance

**100%** of janitorial service contracts include nontoxic and eco-friendly product specifications.
**No change** in performance relative to the baseline.

## TARGET 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:** 18%*



Appliances and equipment purchased that are Energy Star qualified

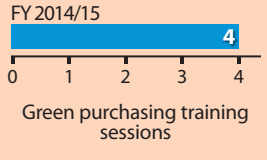
### Performance

**18%** of appliances and equipment purchased are Energy Star qualified.

## TARGET 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:** 4*



Green purchasing training sessions

### Performance

**4** training sessions

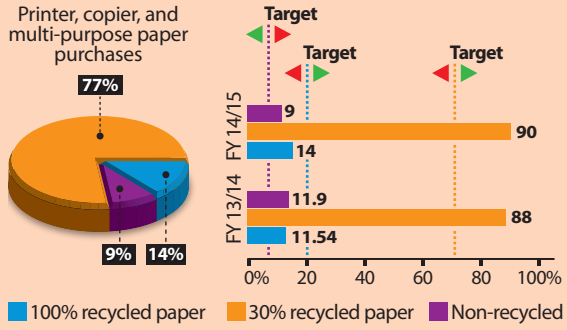
## TARGET 5

**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 1:** Percentage of printer, copier, and multi-purpose paper purchased that is 100% recycled content paper.
**BASELINE:** 11.54%

**INDICATOR 2:** Percentage of printer, copier, and multi-purpose paper purchased that is 30% recycled content paper.
**BASELINE:** 88%

**INDICATOR 3:** Percentage of printer, copier, and multi-purpose paper purchased that is neither 30% nor 100% recycled content paper.
**BASELINE:** 11.9%




### Performance

1. **14%** of printer, copier, and multi-purpose paper purchased was 100% recycled content paper.
**Improved:** 21.32% relative to the baseline.

2. **90%** of all other printer, copier, and multi-purpose paper purchased was 30% recycled content paper.
**Improved:** 2.3% relative to the baseline, meeting the target.

3. **9%** of printer, copier, and multi-purpose paper purchased was neither 30% nor 100% recycled content paper.
**Improved:** 24.37% relative to the baseline.

* This baseline was adjusted in accordance with improvements in data collection and calculation methods.

CHAPTER 9

# Health & Wellness


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 and promoting employee retention. The result is long-term cost savings for Pima County. The County has taken on a wide range of programs and activities aimed at strengthening existing programs and developing new opportunities to encourage employees to adopt healthy behaviors. Progress toward meeting the County's health and wellness targets is detailed below.

The percentage of eligible employees who participate in the Healthy Lifestyle Medical Premium Discount program fell slightly from 71.5% to 68%. However, this decline in performance was likely the result of improvements in data collection and verification. No additional Administrative Procedures and Policies relating to Wellness initiatives were added during the past year. The percentage of employees who are self-reported tobacco users fell from 32% to 29%.

## Noteworthy accomplishments

**During FY 2014/2015, Pima County:**

- Developed the Tobacco-Free Healthy Workforce Initiative based on previous health assessment tobacco-use risk for Pima County employees.
- Audited eligibility compliance of employees who participate in one or more Healthy Lifestyle Premium Discounts.

Employee health fairs provide employees access to free health-related information and health screenings.

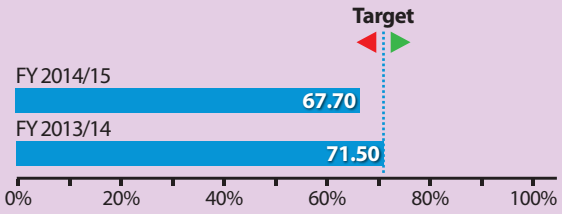
# Green works

For each employee who successfully quits tobacco, Pima County saves an estimated $3,500* annually. The FY 2014/2015 improvement translates to $686,000 per year in avoided costs (Centers for Disease Control, 2002; American Cancer Society, 2007).

## TARGET 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 the Healthy Lifestyle Medical Premium Discount program.
**BASELINE:** 71.5%




Eligible employees who participate in the Healthy Lifestyle Medical Premium Discount program.

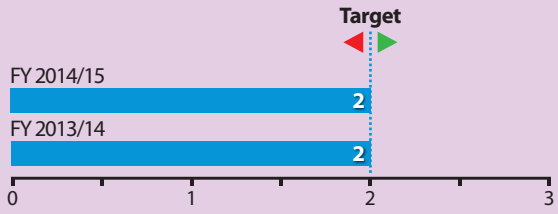
### Performance

**67.7%** of eligible employees participate in the Healthy Lifestyle Medical Premium Discount program.
**Declined:** 5.31% relative to the baseline.

## TARGET 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:** 2




Number of Administrative Procedures and Policies relating to Wellness initiatives.

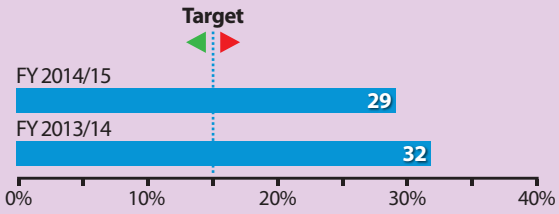
### Performance

**2** procedures relate to Wellness initiatives
**No change** in performance relative to the baseline.

## TARGET 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:** The percentage of employees who are self-reported tobacco users.
**BASELINE:** 32%




Percentage of employees who are self-reported tobacco users.

### Performance

**29%** of employees are self-reported tobacco users.
**Improved:** 9.38% relative to the baseline.

* Based on a nationwide estimate provided by the CDC converted to 2007 dollars

# Glossary

**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 traffic 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.

**Biogas:** A mixture of methane and carbon dioxide produced by the bacterial decomposition of organic wastes and used as a fuel.

**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.

**British Thermal Unit (Btu):** The amount of heat required to raise the temperature of one pound of water 1°F at sea level.

**Carbon Dioxide Equivalent ($CO_2e$):** 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 $CO_2e$).

**Carbon Footprint:** The amount of carbon dioxide and other carbon compounds emitted due to the consumption of fossil fuels by a particular person, group, etc.

**Carbon Intensity:** The quantity of greenhouse gas emitted per square foot ($CO_2e$/sqft).

**Conservation Easement:** A conservation easement is a voluntary, legally binding agreement that limits certain types of uses or prevents development from taking place on a piece of property, while protecting the property's ecological or open-space values.

**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.

**Designated Riparian Habitat:** A regulated riparian habitat is defined by the riparian classification maps adopted by the Board of Supervisors. These habitats are generally characterized by vegetation that is different in plant species composition or an increase in the size and/or density of vegetation as compared to upland areas and occur in association with regulatory floodplains through which waters flow at least periodically, as well as any spring, cienega, lake, watercourse, river, stream, creek, wash, arroyo, or other body of water. These ecological communities represent a continuum of plant species' response to available moisture, and can be subdivided into hydroriparian, mesoriparian, and xeroriparian classifications as well as identification as important riparian areas providing ecological connectivity and biological corridors.

**Energy Efficiency:** Using less energy while doing to same amount of work.

**Environmentally-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.

**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.

**In-Lieu-Fee (ILF):** A fee collected as compensation for the disturbance of habitat requiring mitigation. Funds collected through ILF payments are used to implement off-site restoration or conservation projects that offset the disturbance.

**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.

**Leadership in Energy & Environmental Design (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.

**$MtCO_2e$:** See "Carbon Dioxide Equivalent."

**Private Deed Restriction:** A clause written into the deed of a property which places restrictions on how the property can be used by the owner.

**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 Water:** Renewable water sources are defined as effluent, reclaimed water, non-potable groundwater, storm water or harvested rainwater. Pumped groundwater or potable water are not considered renewable water sources.

**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.

**Section 10 Mitigation:** Conservation measures implemented to avoid, minimize, and compensate (mitigate) for the incidental take of species protected under the Endangered Species Act.

**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 considers 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.

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

# References


**American Cancer Society. (2007)**. *Workplace solutions*. Retrieved from http://www.cancer.org/downloads/gahc/hp_strategies_for_promoting_and_implementing_smokefree_workplace.pdf

**Bark-Hodgins, R., & Colby, B. G. (2006)**. *Economic assessment of the Sonoran Desert Conservation Plan*, an. Nat.Resources J., 46, 709.

**Centers for Disease Control. (2002)**. *Annual smoking-attributable mortality, years of potential life lost, and economic costs*. Department of Health and Human Services.

**City of Tucson. (2015)**. *The homeowner's guide to using water wisely*. Retrieved from https://www.tucsonaz.gov/water/homeowner

**Environmental Paper Network. (2015)**. *Paper calculator 3.2.1*. Retrieved from http://c.environmentalpaper.org/gtarget1

**Environmental Protection Agency. (2015)**. *Greenhouse gas equivalencies calculator*. Retrieved from http://www2.epa.gov/energy/greenhouse-gas-equivalencies-calculator

**Scofield, J. H. (2013)**. *Efficacy of LEED-certification in reducing energy consumption and greenhouse gas emission for large New York City office buildings*. Energy and Buildings, 67, 517-524. http://dx.doi.org/10.1016/j.enbuild.2013.08.032

**Singh, A., Syal, M., Grady, S. C., & Korkmaz, S. (2010)**. *Effects of Green Buildings on Employee Health and Productivity*. American Journal of Public Health, 100(9), 1665–1668. http://doi.org/10.2105/AJPH.2009.180687

**Tucson Unified School District. (2014)**. *Resource efficiency awareness program- reducing solid waste*. Retrieved from http://www.tusd1.org/contents/depart/reap/waste.html

**Westmoreland Associates. (2011)**. *City of Tucson ARRA climate change planning consultant services: Measure G6b – residential smart meter; residential direct load control program*. Tucson, Arizona: City of Tucson.

## Sustainability topic by chapter and the Sustainability (S) team leads

| Chapter | S-Team Lead | Department |
|---|---|---|
| Minimizing the Carbon Footprint of County Government | Sandi Garrick | Public Works Administration |
| Renewable Energy & Energy Efficiency | Betty Stamper | Development Services |
| Green Building | Edward Vergara | Facilities Management |
| Alternative Fuel Vehicles | Frank Samaniego | Fleet Services |
| Water Conservation & Management | Kathy Chavez | Regional Wastewater Reclamation Department |
| Land Conservation & Management | Greg Saxe | Regional Flood Control District |
| Waste Reduction | Catherine Strickland | Economic Development & Tourism |
| Green Purchasing | Mandy Armenta | Finance |
| Health & Wellness | Jennifer Billa | Human Resources |

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Terry Finefrock
Sandi Garrick
Michael Kirk
Jing Luo
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Linda Mayro
Ursula Nelson
Alex Oden
Karyn Prechtel
Julie Robinson
Frank Samaniego
Greg Saxe
Betty Stamper
Catherine Strickland
Edward Vergara

PIMA COUNTY
SUSTAINABILITY & CONSERVATION

## We want to hear from you

Do you have any thoughts or questions about this report? Please let us know by contacting the Pima County Office of Sustainability and Conservation at SustainabilityPrograms@pima.gov.

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For more information about what Pima County is doing to make its operations more sustainable and what you can do to reduce the impact of your actions, please visit the Pima County Sustainability Programs Division webpage at www.pima.gov

**Sustainability Success Story:**

This publication is printed on paper made from 100% post-consumer recycled fiber content, far exceeding Pima County Administrative Procedure 3-29: Recycled Paper Purchasing Policy requirements.

PIMA COUNTY



This beautiful domed building in downtown Tucson once served as the Pima County Court House. It is listed on the National Register of Historic Places.