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# MEMORANDUM

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Date: December 20, 2016

To: The Honorable Chair and Members  
Pima County Board of Supervisors

From: C.H. Huckelberry  
County Administrator

A handwritten signature in black ink, appearing to read "CH Huckelberry", is written over the printed name and title.

Re: **Sustainable Action Plan for County Operations: Report Card for Fiscal Year 2015/16**

I am pleased to present the Board of Supervisors with the Sustainability Report Card for Fiscal Year (FY) 2015/16, which was prepared by the Office of Sustainability and Conservation, the Sustainability Steering Committee and their respective teams working in nine focus areas across participating County departments. Their combined efforts resulted in more than \$300,000 in avoided costs to Pima County.

In FY 2015/16, the County achieved the following:

- Generated 16,906,793 kilowatt hours (kWh) of renewable energy, avoiding nearly 15,374 MtCO<sub>2e</sub> of greenhouse gas emissions, equivalent to burning 10.4 million pounds of coal.
- Installed solar covered parking structures at six County facilities, providing shade and shelter for more than 600 parking spaces and generating more than 2,000,000 kWh of electricity per year.
- Saved more than 2,500 barrels of oil through fuel efficiency.
- Completed Paseo de las Iglesias for flood control, ecosystem restoration, and river park/ Anza Trail along the Santa Cruz River from East Silverlake Road to West Ajo Way.
- Facilities Management completed energy and water efficiency retrofits in two County buildings.
- Developed standards for building finishes (paint, flooring, furniture) to help meet LEED criteria.
- Assessed vehicle idling behavior and strategies to improve the effectiveness of the anti-idling policy.
- Eliminated the use of Styrofoam in the Regional Wastewater Reclamation Department.

The Honorable Chair and Members, Pima County Board of Supervisors  
Re: **Sustainable Action Plan for County Operations: Report Card for Fiscal Year 2015/16**  
December 20, 2016  
Page 2

- Provided support for the construction of two wildlife crossing structures on Highway 77 to reduce the risk of vehicle-wildlife collisions and maintain habitat connectivity.
- Achieved a 50-percent improvement in achieving a tobacco-free workforce.

With the release of the FY 2015/16 Report Card, I would like to reaffirm the County's ongoing commitment to making measurable progress in sustainability across County operations. The Sustainability Division will continue to work with County departments to meet the Plan's targets and to implement the Action Items outlined in the 2014 Plan.

CHH/lab

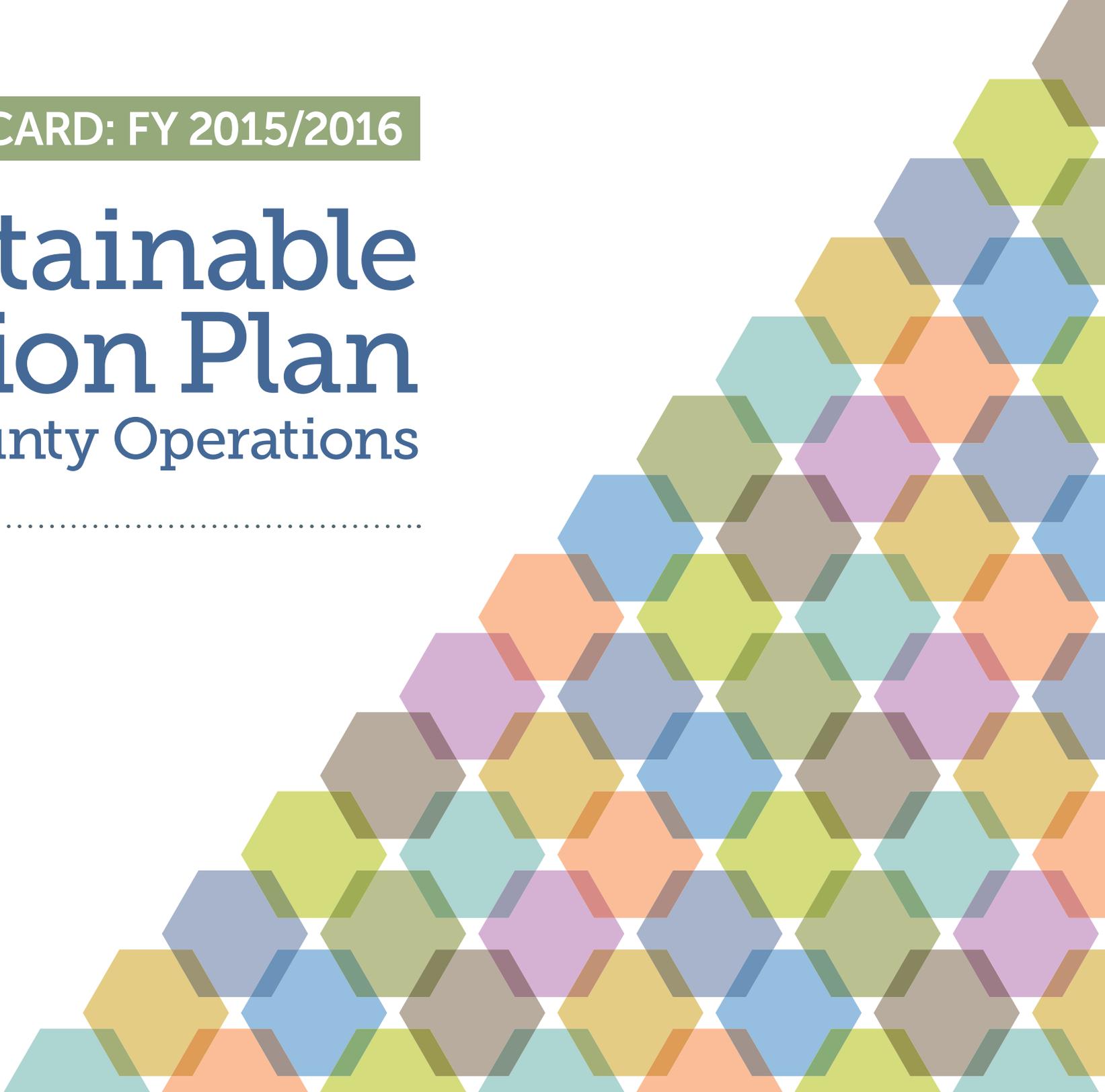
Attachment

c: Carmine DeBonis, Jr., Interim Deputy County Administrator for Public Works  
Nanette Slusser, Assistant County Administrator for Public Works, Policy  
Linda Mayro, Director, Sustainability and Conservation  
Members of the Sustainability Steering Committee

REPORT CARD: FY 2015/2016

# Sustainable Action Plan for County Operations

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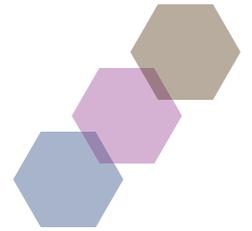


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# Sustainable Action Plan for County Operations

On May 17, 2014, the Pima County Board of Supervisors adopted the 2014 Sustainable Action Plan for County Operations. This plan 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 outlined 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 2015/2016.



Construction workers restore and preserve the historic Pima County Courthouse.

Visit [pima.gov](http://pima.gov) to view the 2014 Sustainable Action Plan for County Operations

## 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.

# Sustainable Action Plan for County Operations

The following summarizes the progress made during FY 2015/16 toward achieving the targets outlined in the Sustainable Action Plan.

**Greenhouse Gas Emissions Avoided:** 15,374 MtCO<sub>2e</sub>, equivalent to burning 10.4 million pounds of coal.

**Renewable Energy Generated:** 16,906,793 kWh, enough to power 1,760 average Tucson homes for one year.

**Fuel Efficiency Improvements:** Saved more than 2,500 barrels of oil.

**Paseo de Las Iglesias Completed:** A \$14 million flood control, ecosystem restoration and park project.

**Dollars Saved:** Renewable energy and vehicle efficiency improvements are estimated to have saved more than \$300,000\* in avoided costs.

\* While employee smoking cessation efforts resulted in significant cost savings, exact data was not available and therefore not included in this figure.



## Performance improved for 9 targets

Target	Percent improvement (relative to baseline)
<b>Minimizing the Carbon Footprint of County Government</b>	
<b>Target 1:</b> Facility Operations	13%
<b>Target 3:</b> Fleet Operations	14%
<b>Renewable Energy &amp; Energy Efficiency</b>	
<b>Target 1:</b> Renewable Energy	15%
<b>Sub-Target 2:</b> Solar	31%
<b>Alternative-Fuel Vehicles</b>	
<b>Target 1:</b> Greenhouse Gas Emissions	42%
<b>Water Conservation &amp; Management</b>	
<b>Target 2-1:</b> Parks served by reclaimed water	5%
<b>Target 2-2:</b> Miles of trail served by reclaimed water	21%
<b>Target 3:</b> Establishing and Maintaining Natural Habitat	47%
<b>Health &amp; Wellness</b>	
<b>Target 3:</b> Tobacco-free workforce	50%



## Performance declined for 8 targets

Target	Percent decline (relative to baseline)
<b>Renewable Energy and Energy Efficiency</b>	
<b>Target 2:</b> Energy Efficiency	2%
<b>Green Building</b>	
<b>Target 2:</b> Facility Construction	33%
<b>Water Conservation &amp; Management</b>	
<b>Target 1:</b> Water Consumption in Facilities	13%
<b>Waste Reduction</b>	
<b>Target 1:</b> Solid Waste Diversion	5%
<b>Green Purchasing</b>	
<b>Target 3:</b> Equipment Purchased	16%
<b>Target 5-1:</b> Printer Paper-100% recycled content paper	3%
<b>Target 5-2:</b> Printer Paper-30% recycled content paper	6%
<b>Target 5-3:</b> Printer Paper-Less than 30% recycled content paper	11%

## CHAPTER 1

# Minimizing the Carbon Footprint of County Operations



Bicycling helps to curb carbon emissions while providing exercise and other benefits to riders and society.

Climate change is one of the greatest challenges facing society. It poses threats to infrastructure, food production, human health and the economy. Human activities that cause the release of greenhouse gases are driving this process at an unprecedented rate. 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 targets to reduce these emissions.

During FY 2015/2016, the carbon intensity of County facility operations and fleet operations improved relative to the baseline. The carbon intensity of wastewater treatment operations was 10% higher than the baseline but showed a 3% improvement relative to the previous year. Improvement in the carbon intensity of facility operations is attributed to renewable energy supplying a higher percentage of County energy needs while improvements in County fleet operations resulted from improved vehicle efficiency. Improvements in the carbon intensity of County wastewater treatment operations resulted from improved energy efficiency. Progress toward meeting the County's carbon emissions targets is detailed below.

## Noteworthy accomplishments

### During FY 2015/2016, Pima County:

- Reviewed potential funding sources for programs and initiatives outlined in the Plan.
- Generated 16,906,793 kWh of renewable energy, avoiding nearly 15,374 MtCO<sub>2e</sub>.



# Green works

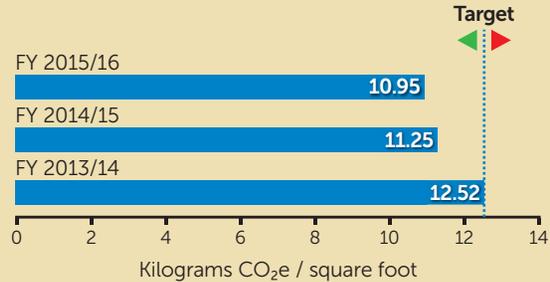
Reductions in the carbon intensity of the County fleet avoided emitting 470 MtCO<sub>2e</sub>, equivalent to taking 100 passenger vehicles off the road for one year (Environmental Protection Agency, 2016).

## 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<sub>2e</sub>/square foot of building space.

**BASELINE:** 12.52 kilograms CO<sub>2e</sub>/square foot.



### Performance

**10.95\*** kilograms of CO<sub>2e</sub>/square foot of building space

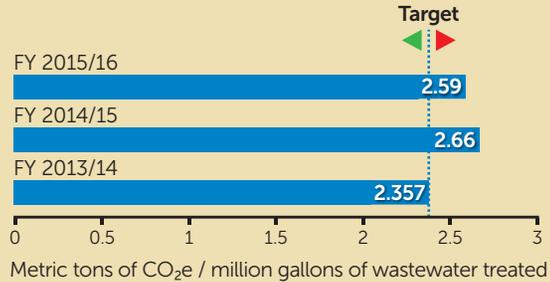
**Improved:** 13% relative to the baseline.

## 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<sub>2e</sub> /million gallons of water treated.

**BASELINE:** 2.357 metric tons of CO<sub>2e</sub> /million gallons of water treated.



### Performance

**2.59** metric tons of CO<sub>2e</sub>/ million gallons of wastewater treated.

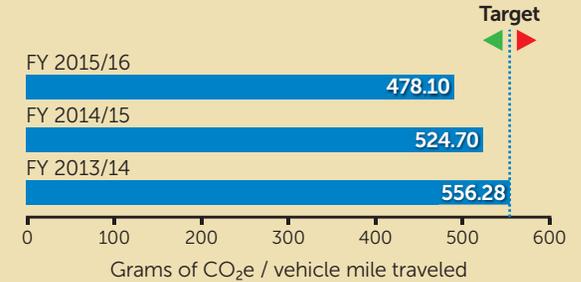
**Declined:** 10% relative to the baseline.

## 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<sub>2e</sub> /vehicle mile traveled

**BASELINE:** 556.28 grams of CO<sub>2e</sub> /vehicle mile traveled.



### Performance

**478.10** grams of CO<sub>2e</sub> /vehicle mile traveled.

**Improved:** 14% relative to the baseline.

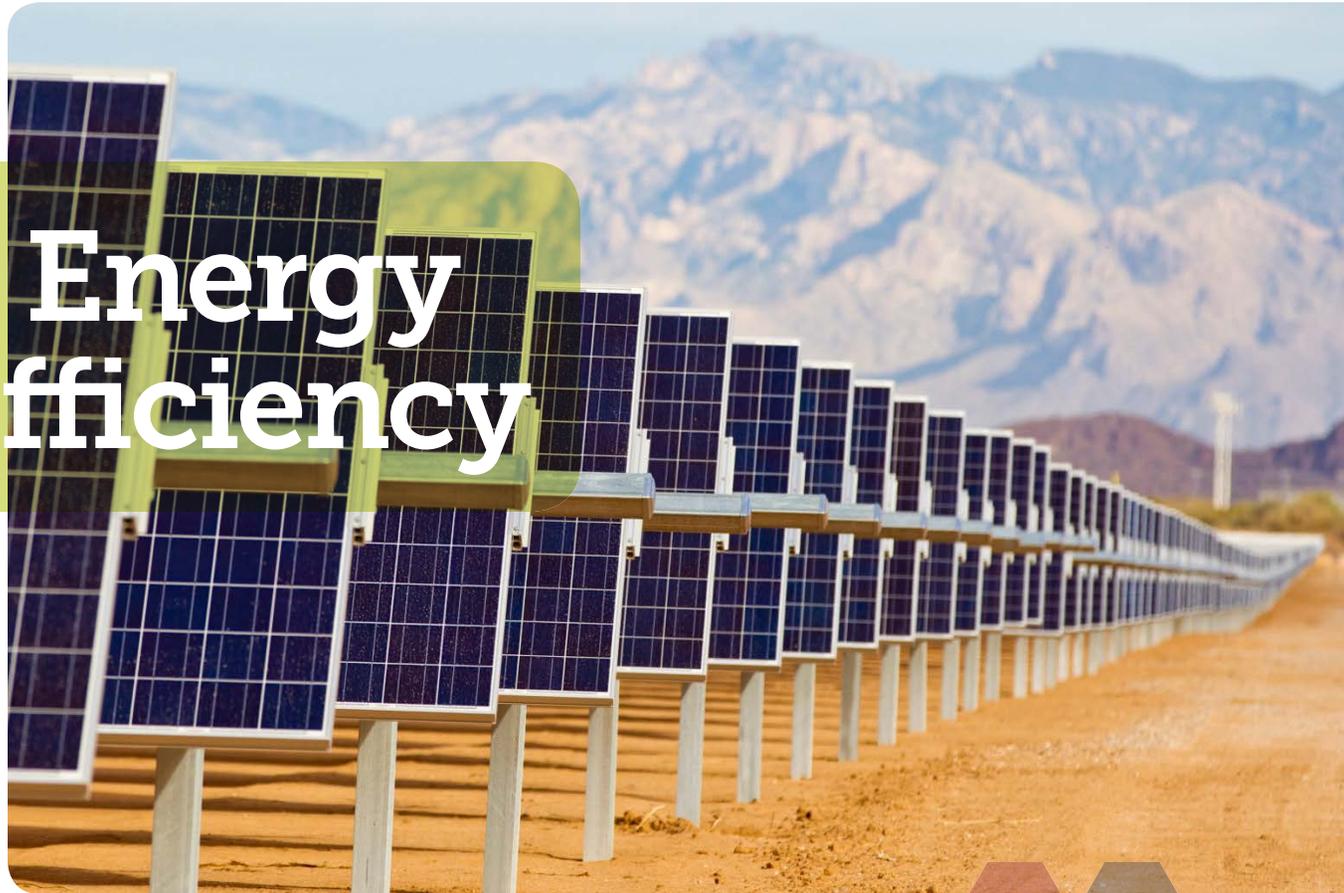
\* This excludes emissions from Pima County wastewater treatment operations.

## CHAPTER 2

# Renewable Energy & Energy Efficiency

The consumption of traditional energy sources results in significant negative consequences for both environmental 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 2015/2016, Pima County installed solar-covered parking structures at six facilities. The installations helped to increase the percentage of electricity generated by renewables to 11.25% despite a 5% increase in overall electricity consumption relative to the previous year. The added capacity put the County **within 1%** of meeting Sub-Target 2. The energy efficiency of County facilities improved slightly compared to the previous year but still remained 2% below the baseline. Progress toward meeting the County's renewable energy and energy efficiency targets is detailed below.



Solar array installed at Picture Rocks generates pollution free renewable energy.

## Noteworthy accomplishments

### During FY 2015/2016, Pima County:

- Installed solar covered parking structures at six County facilities, providing shade for more than 600 parking spaces and generating more than 2,000,000 kWh of electricity per year.
- Held a workshop to inform and engage County decision makers on key energy and water challenges and potential solutions for County operations.



# Green works

Electricity generated from renewable sources produced enough energy to power 1,761 average Tucson homes for one year (Westmoreland Associates, 2011).

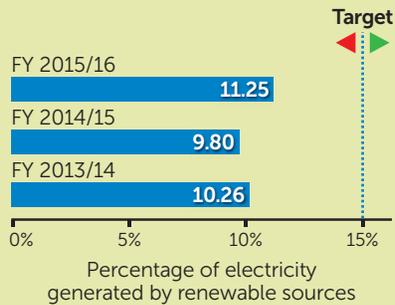


## TARGET 1

**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.



### Performance

**11.25%** was generated by renewable sources



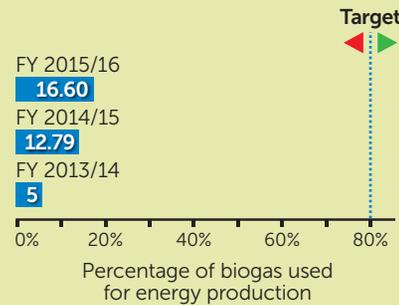
**Improved:** 15.02% relative to the baseline.

## 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%



### Performance

**16.6%** was beneficially used.



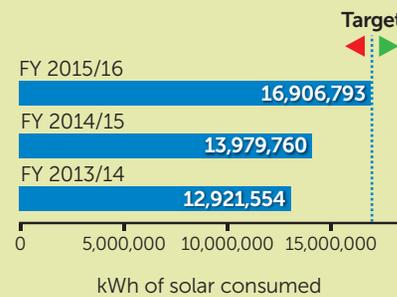
**Improved:** relative to the baseline.

## 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



### Performance

**16,906,793** kWh of solar consumed.



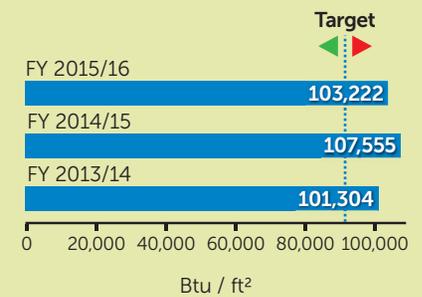
**Improved:** 30.84% relative to the baseline, achieving 99% of the target.

## 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<sup>2</sup>



### Performance

**103,222** Btu of energy/ ft<sup>2</sup>



**Declined:** 2% relative to the baseline.



## CHAPTER 3

# Green Building



**T**he construction, operation and maintenance of buildings are significant sources of resource and energy consumption and thus 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 2015/2016, performance relative to meeting the County's green building targets remained steady. While there were no significant

changes in performance related to the targets, the County accomplished other objectives, including developing standards for building finishes to help meet LEED credit criteria and completing energy and water retrofits in two facilities. Progress toward meeting the County's green building targets is detailed below.



Completed in 2015, the new Pima County Public Service Center includes a number of sustainable building features that helped it achieve LEED Silver Certification.

## Noteworthy accomplishments

**During FY 2015/2016, Pima County:**

- Developed standards for preferred building finishes, e.g. paint, flooring, furniture, in new construction projects to help meet LEED credit criteria.
- Completed energy and water retrofits in the Legal Services Building and 97 E. Congress.





# Green works

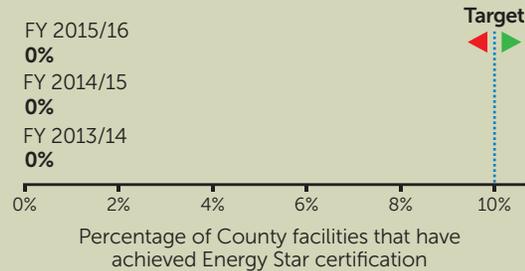
An upfront investment of 2% in green building design, on average, results in life cycle savings of 20% of the total construction costs – more than ten times the initial investment (Kats, 2003).

## 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. Complete performance data not yet available.

No change in performance relative to the baseline.

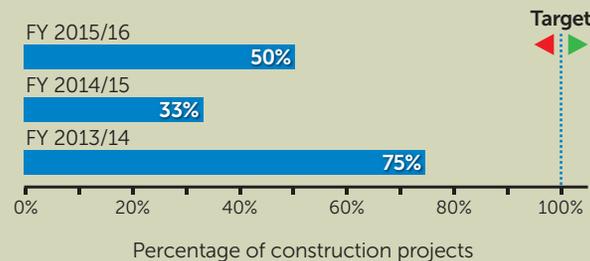
## TARGET 2

**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

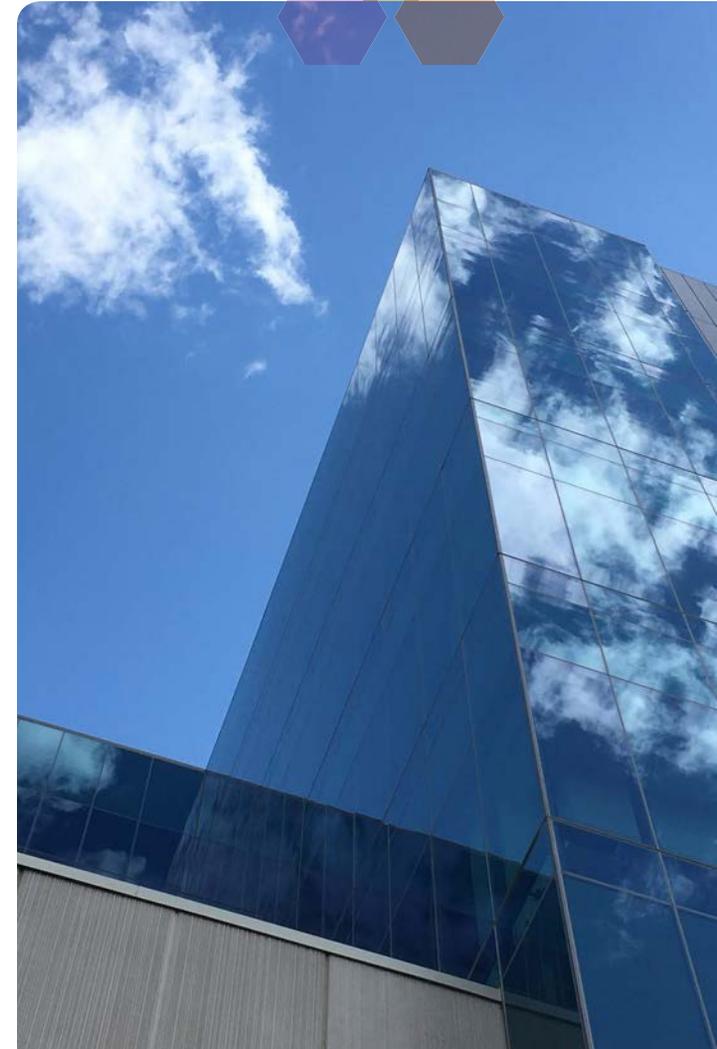
75% implement LEED elements sufficient to obtain 50 or more points.



### Performance

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

Declined: 33% relative to the baseline.



The Public Service Center at 240 N. Stone Avenue in downtown Tucson.

## CHAPTER 4

# Alternative-Fuel Vehicles

**M**otor 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 2015/2016, performance continued to improve relative to the baseline. Improvement resulted from a continued reduction in vehicle miles traveled (VMT) compared to the baseline and improved fuel efficiency. Over the last two years, fleet-wide fuel economy has improved 15%. Progress toward meeting the County's alternative-fuel vehicle target is detailed below.

## Noteworthy accomplishments

### During FY 2015/2016, Pima County:

- Replaced two aging, inefficient vehicles with Prius Hybrids.
- Assessed Pima County's idling behavior and explored strategies to improve the effectiveness of its anti-idling policy.



Pima County Fleet Services has two Chevy Volts available for employees to use for County business.



# Green works

Improvements in the fuel efficiency of County vehicles conserved 48,000 gallons of fuel (Environmental Protection Agency, 2016).

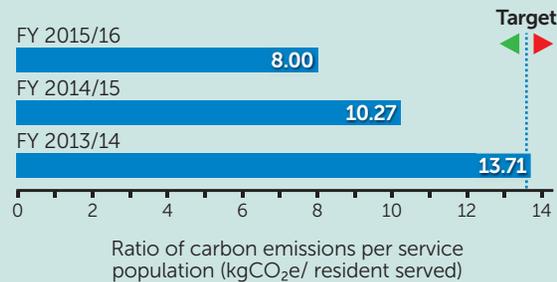
## TARGET 1

**Greenhouse Gas Emissions:** Reduce the ratio of carbon emissions produced by County transportation activities per service population (CO<sub>2</sub>e/ 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 kgCO<sub>2</sub>e/ resident served

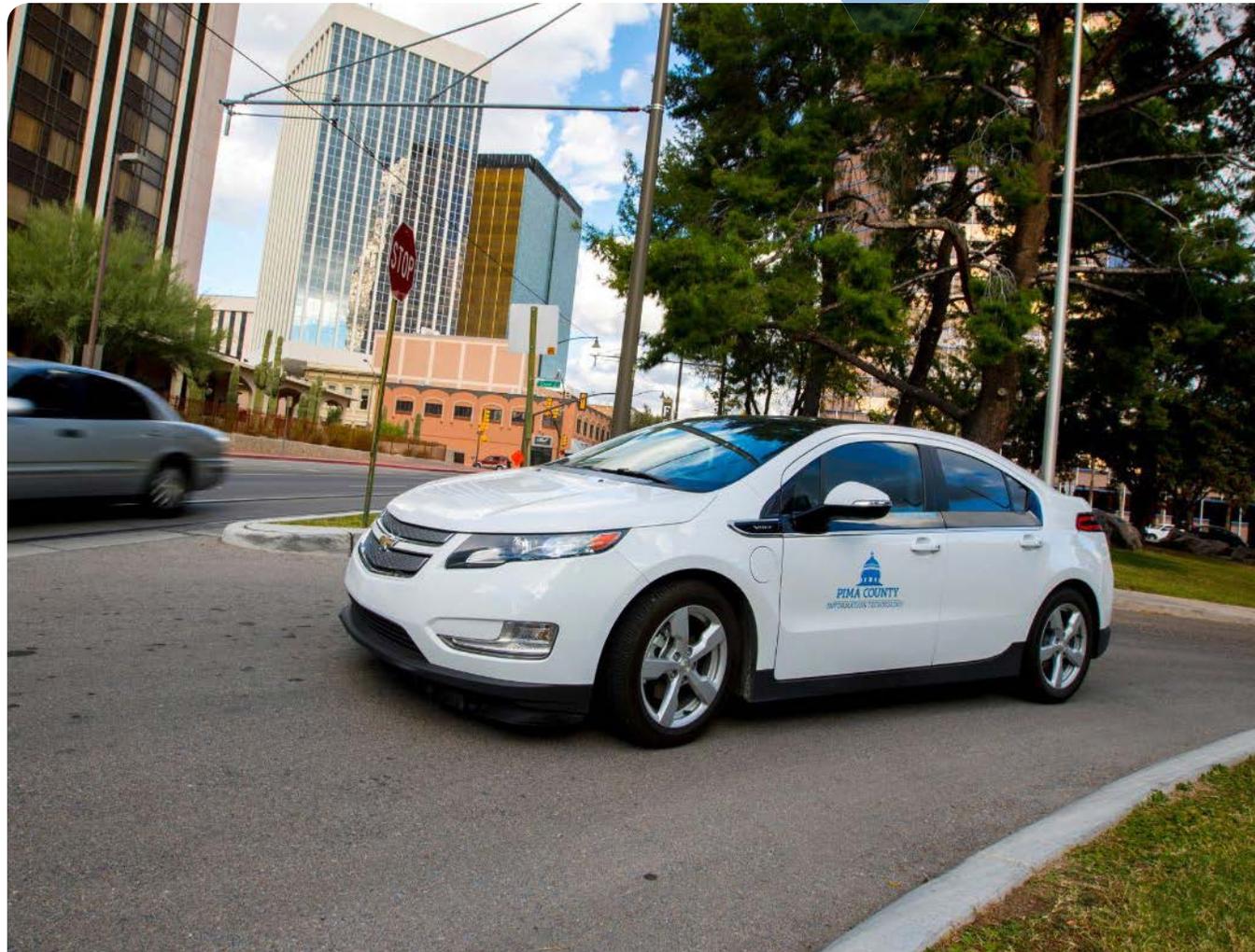


## Performance

8 kgCO<sub>2</sub>e/ resident served by County operations\*



**Improved:** 42% relative to the baseline.



\*Based on July 1, 2015 Arizona Department of Administration Population Estimate for Unincorporated Pima County.

Pima County has many options for conservation and sustainability. One of those options is the use of eco-friendly vehicles like the Chevy Volt.

## CHAPTER 5

# Water Conservation & Management

**W**ater 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 2015/2016, Pima County saw improvements in three out of four of its water conservation and management targets, relative to the baseline. The number of parks and miles of trail served by reclaimed water remained steady compared to last year while the acres of habitat established continued to increase. The County increased the number of acres of habitat established or maintained by renewable water by more than 100 acres, a 17% improvement compared to the previous year and a 47% improvement over the baseline, far exceeding the FY 2018/2019 target. Water use intensity for County facilities increased during FY 2015/2016, marking a 13% decline in performance relative to the baseline. Progress toward meeting the County's water conservation and management targets is detailed below.



New water efficiency retrofits in County facilities included hands-free faucets to reduce water waste.

## Noteworthy accomplishments

### During FY 2015/2016, Pima County:

- Completed water efficiency retrofits in 2 County facilities.
- Met or surpassed 2 out of 4 of its FY 2018/2019 targets.



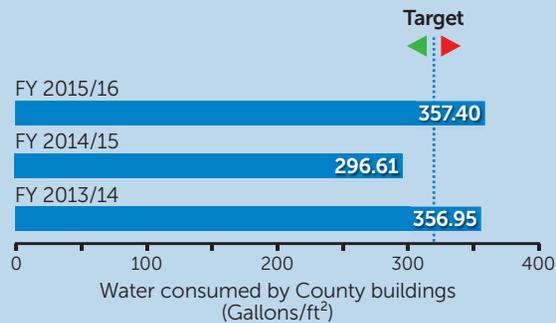
# Green works

Utilizing renewable water sources for irrigation purposes and habitat restoration conserved more than 3,000,000 gallons of potable water, enough to meet the water needs of 27 Tucson families for one year (Pima County, 2015).

## TARGET 1

**Water Consumption in Facilities:** Reduce building water consumption intensity (gallons/ ft<sup>2</sup>) 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<sup>2</sup>



### Performance

357.40 gallons/ ft<sup>2</sup> consumed by County buildings.

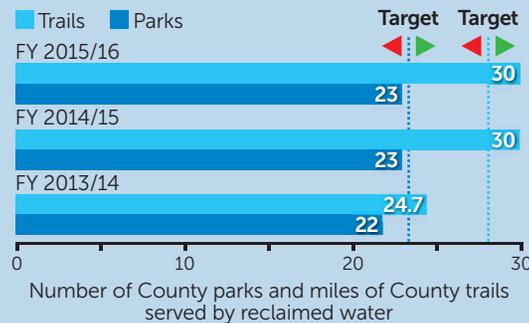
**Declined:** 13% relative to the baseline.

## 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% relative to the baseline.

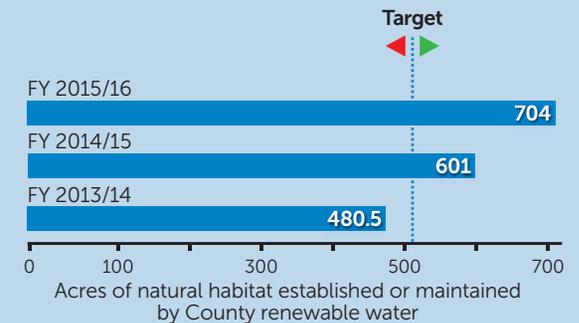
30 miles of trail served by reclaimed water.

**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

704 acres of natural habitat established or maintained by County renewable water.

**Improved:** 47% relative to the baseline, surpassing the FY 2018/2019 target.

## CHAPTER 6

# Land Conservation & Management

The protection of ecosystems is essential to ensuring long-term economic and ecological sustainability. Natural ecosystems play a crucial role in maintaining water quality and 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 2015/2016, the County continued to conserve its ecological, biological and cultural resources. Among many others, these efforts included completing ecosystem or species restoration efforts on 49 properties, invasive species control efforts on 23 properties and conducting 202 person-day visits to 160 cultural resource sites. In addition, the County owned and maintained over 96,000 acres of open space in the Conservation Land System (CLS) for conservation purposes. Progress toward meeting the County's land conservation and management targets is detailed below.



The Sweetwater Preserve is comprised of 880 acres of land that was acquired during the 2004 Open Space Bond measure. It now serves as a popular attraction for cyclists, hikers, and ecotourists.

## Noteworthy accomplishments

### During FY 2015/2016, Pima County:

- Completed the construction of the Paseo de las Iglesias — a \$14 million flood control, ecosystem restoration and park project that was funded through the voter-approved 2004 bonds. The project runs along both sides of the Santa Cruz River from Silverlake Road to Ajo Way. It is a community effort to provide cultural and habitat awareness and improve health and fitness in the region.
- Provided technical support to the Regional Transportation Authority and Arizona Department of Transportation, in completing construction of two wildlife crossing structures on Highway 77 — one overpass and one underpass. These crossing structures allow wildlife to safely cross a major transportation corridor, reduce the risk of wildlife-vehicle collisions and maintain habitat connectivity between the Tortolita and Santa Catalina Mountains.



# 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 generating 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 (cumulative)**
  - 27 SDCP Priority Cultural Resources conserved.
  - 11,026 acres of County-owned conservation land with archaeological survey coverage.
  - 422 known and recorded archeological sites conserved.
  - 15 NRHP\* properties conserved.
  - 25 significant sites conserved via cultural resources compliance actions:
    - » 18 significant prehistoric archaeological sites conserved.
    - » 4 significant historic archaeological sites conserved.
    - » 3 significant multicomponent archaeological sites conserved.
- 2. Information Yielded From Sites**
  - 33 sites yielded information
  - 8 documented historic buildings

\* The National Register of Historic Places (NRHP) is the official list of the Nation's historic places worthy of preservation.

## 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 (cumulative)**
  - a. 96,651 acres within the CLS acquired (held) under fee title.
  - b. 2100 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. 32,996 acres of designated (regulated) riparian habitat conserved.
- 2. Mitigation actions taken to reduce the impacts of County operations on ecological and biological resources (annual)**
  - 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 (annual)**  
Number of properties enhanced:
- Infrastructure Improvements: 30
  - Invasive Species Control: 23
  - Trash Removal: 16
  - Ecosystem or Species Restoration: 49
- Cultural Resource Enhancements**  
202 person-day visits by the site stewards. (annual)  
160 sites visited by the site stewards. (annual)  
31 buildings or structures rehabilitated. (cumulative)

## CHAPTER 7



# Waste Reduction

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

Performance related to the County's waste diversion target declined slightly during FY 2015/2016. The overall volume of waste and recyclable materials dropped, but the percentage of recyclable material diverted remained steady. Progress toward meeting the County's waste reduction targets is detailed below.

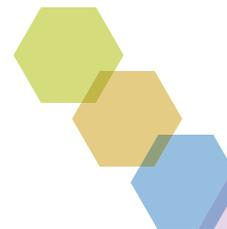
## Noteworthy accomplishments

### During FY 2015/2016, Pima County:

- Completed a needs assessment to reduce waste generated at County facilities and increase recycling.
- Established Special Events Waste Reduction guidelines.



Existing materials are salvaged whenever possible for reuse in the restoration of the historic County Courthouse.





# Green works

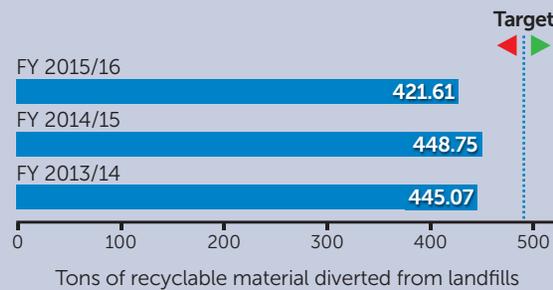
Each ton of office paper recycled conserves 9 barrels of oil, 4,100 kWh of electricity, 7,000 gallons of water, 3.3 cubic yards of landfill space, and avoids creating 60 pounds of air pollution (Stanford, 2016).

## 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.



## Performance

421.61 tons diverted from landfills.



**Declined:** 5% relative to the baseline.



Recyclable materials are separated for recycling during the restoration of the historic County Courthouse.

## 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 to conduct its daily operations.

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 product contracts, janitorial service contracts and employee training held steady at 100%. Performance related to recycled paper purchasing declined in all three target areas. The percentage of appliances and equipment that are Energy Star qualified fell from 18% to 15%. Staff is exploring strategies to improve performance related to paper and equipment purchases. Progress toward meeting the County's green purchasing targets is detailed below.



All Sustainability Action Plan and Report Card booklets are printed on 100% recycled paper.

## Noteworthy accomplishments

### During FY 2015/2016, Pima County:

- Eliminated the use of Styrofoam in the Regional Wastewater Reclamation Department.



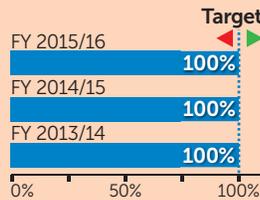
# Green works

Using paper made from 100% recycled content saved approximately 270 trees, 110,600 gallons of water, 65,000 kwh of energy, 950 pounds of air pollution, and 40 cubic yards of landfill space. (RecycleWorks for San Mateo County, 2016).

## 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

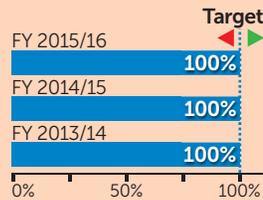
100% of new contracts that include green specifications.

**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

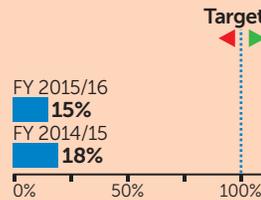
100% of janitorial service contracts include nontoxic and eco-friendly product specifications

**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

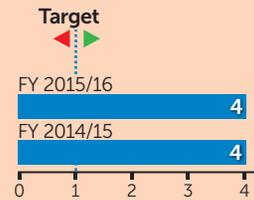
15% of appliances and equipment purchased are Energy Star qualified.

**Declined:** 16% relative to the baseline.

## 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. **No change** in performance relative to the baseline.

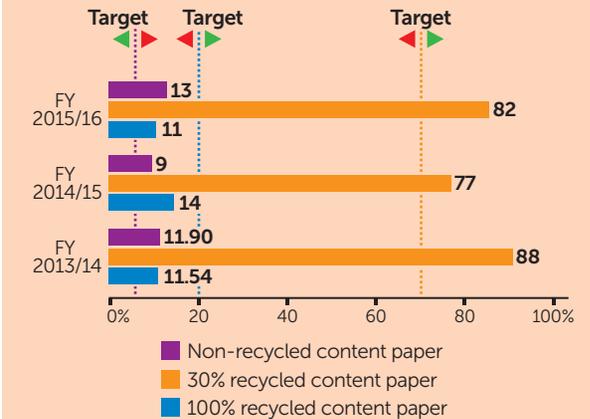
## TARGET 5

**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. **11%** of printer, copier, and multi-purpose paper purchased was 100% recycled content paper.

**Declined:** 3% relative to the baseline.

2. **82%** of all other printer, copier, and multi-purpose paper purchased was 30% recycled content paper.

**Declined:** 6% relative to the baseline.

3. **13%** of printer, copier, and multi-purpose paper purchased was neither 30% nor 100% recycled content paper.

**Declined:** 11% relative to the baseline.

## 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.

In FY 2015/2016, Pima County significantly improved performance for two out of the three Health and Wellness targets. The percentage of eligible employees who participate in the Healthy Lifestyle Medical Premium Discount program rose to 90%. 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 to 16%. Progress toward meeting the County's health and wellness targets is detailed below.



Many County employees take advantage of the wide array of fitness classes offered through our Employee Wellness Program.

## Noteworthy accomplishments

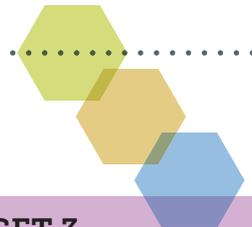
### During FY 2015/2016, Pima County:

- Increased Pima County's tobacco-free medical premium discount to \$520 per year, effective July 1, 2016.
- Expanded the availability to earn the tobacco-free discount. Employees who have been tobacco-free for three months receive a markdown on medical premiums. Previously employees had to wait until the beginning of the following fiscal year and were required to be tobacco free for six months.



# Green works

For each employee who successfully quits tobacco, Pima County saves an estimated \$5,800 annually (Singh et al., 2010).



## 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%



### Performance

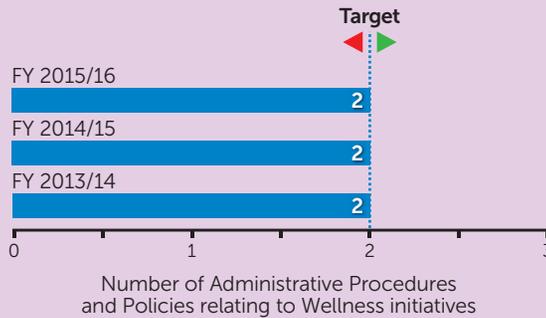
**90%** of eligible employees participate in the Healthy Lifestyle Medical Premium Discount program.

**Improved:** 26% 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



### 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%



### Performance

**16%** of employees are self-reported tobacco users.

**Improved:** 50% relative to the baseline.

# 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<sub>2</sub>e):** 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<sub>2</sub>e).

**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<sub>2</sub>e/sq ft).

**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 hydriparian, mesoriparian, and xeriparian 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<sub>2e</sub>:** 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.

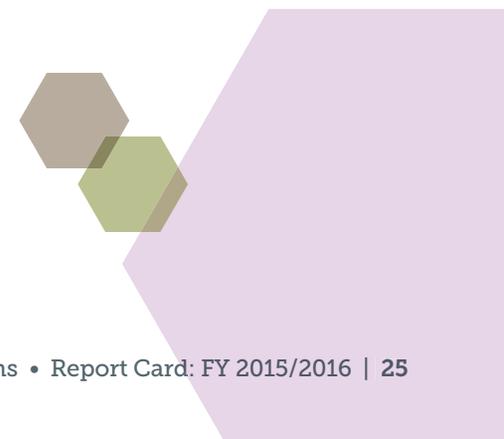
**Renewable Water:** Renewable water sources are defined as effluent, reclaimed water, non-potable groundwater, storm water or harvested rainwater. Pumped groundwater or potable water are not considered renewable water sources.

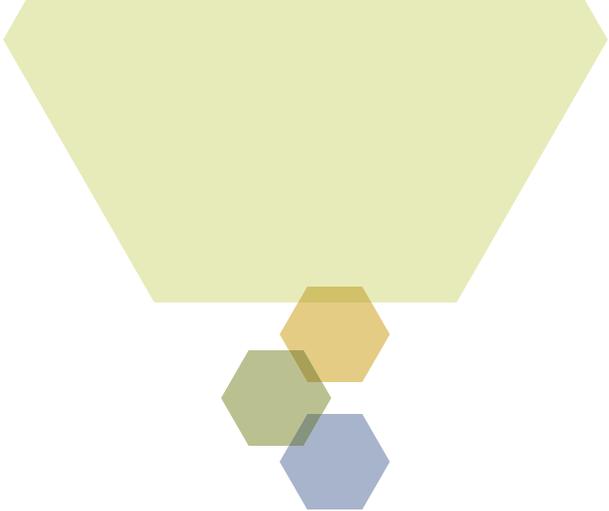
**Riparian Habitat:** The community of plant and wildlife found along the banks of a river, stream, lake or other body of water. Riparian habitats are ecologically diverse and may be home to a wide range of plants and animals.

**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.

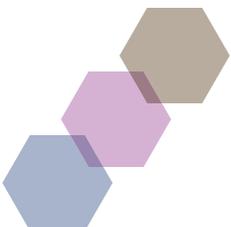
**Vehicle Miles Traveled (VMT):** One vehicle traveling one mile constitutes a vehicle mile traveled. VMT is primarily an indicator of automobile use. Increasing VMT typically corresponds with increases in traffic and vehicle-related pollution.





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

## Chapter

Minimizing the Carbon Footprint of County Government  
 Renewable Energy & Energy Efficiency  
 Green Building  
 Alternative Fuel Vehicles  
 Water Conservation & Management  
 Land Conservation & Management  
 Waste Reduction  
 Green Purchasing  
 Health & Wellness

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 Mandy Armenta  
 Jennifer Billa

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 Development Services  
 Facilities Management  
 Fleet Services  
 Regional Wastewater Reclamation Department  
 Regional Flood Control District  
 Economic Development & Tourism  
 Finance  
 Human Resources

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Jennifer Billa	Linda Mayro
Kathy Chavez	Ursula Nelson
Arlan Colton	Alex Oden
Sheila Cook	Karyn Prechtel
Andrew D'Entremont	Julie Robinson
Sharla Darby	Frank Samaniego
Terry Finefrock	Greg Saxe
Sandi Garrick	Betty Stamper
Michael Kirk	Catherine Strickland
Jing Luo	Edward Vergara

\* Membership lists last updated July 1, 2015.



## 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](mailto:SustainabilityPrograms@pima.gov).





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](http://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.

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- Ally Miller, District 1
- Ramón Valadez, District 2
- Raymond J. Carroll, District 4
- Richard Elías, District 5

**Pima County Administrator**

Chuck Huckelberry

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.

