



PIMA COUNTY

# PIMA COUNTY BASELINE SUSTAINABILITY REPORT

in accordance with the

2018–2025 SUSTAINABLE ACTION PLAN FOR COUNTY OPERATIONS

**FY 2018/2019**

**PREPARED BY:**

The Office of Sustainability  
and Conservation



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# Introduction

*The Board of Supervisor's commitment to sustainability reached new heights June and July of 2017 when it passed two landmark climate resolutions (2017-39 and 2017-51). These policies directed the County to uphold the United States' greenhouse gas emissions pledge to the Paris Agreement and authorized staff to align its Sustainable Action Plan for County Operations (SAPCO) with the Agreement's objectives. The resulting updated plan, adopted in 2018, provides a simplified yet comprehensive framework of new sustainability goals to meet the Paris Agreement while strengthening the County's ability to address regional current and future climate risks.*

*The **FY 2018/2019 Baseline<sup>1</sup> Sustainability Report** provides Pima County's sustainability performance and success highlights pertaining to the new SAPCO but prior to the Plan's implementation. The information outlined in this report will be used to monitor, measure and evaluate the County's performance over the duration of the 2018-2025 SAPCO.*

*While rigorous and transparent reporting has always been a cornerstone of the SAPCO's implementation, this report and the Annual Sustainability Reports that will follow are built on improved analytics and aim to provide a more simplified, accessible and visual delivery without jeopardizing the inherent complexity of sustainability performance indicators.*

*Pima County's baseline performance toward its new SAPCO targets is organized by the following focus areas:*



## Using this report

Throughout this report, you will see various icons attached to each SAPCO target. These icons represent the types of targets in SAPCO and how we will achieve each one.

-  **Hard target.** These targets have specific, quantifiable goals.
-  **Monitoring target.** Fulfillment of these targets require year-to-year monitoring and reporting.
-  **Maintain or expand target.** These targets are achieved when we maintain or improve our baseline-year performance.

### Who is the Green Geek?



The Green Geek is Pima County's sustainability expert, here to answer your questions. Look for her throughout this report for clarifying or background information. She even has her own monthly Q&A column, published in the Pima County FYI External Newsletter!

<sup>1</sup> In general terms, baseline reports provide a reference point or benchmark from which future measurements are measured against to monitor and evaluate change.

# Behind the Sustainable Action Plan



As District 2 Supervisor since 2003, and now as Chairman, I continue to endorse the County's sustainability efforts since the Board first formalized its policies in 2007 and established the County's Sustainable Action Plan for County Operations

(SAPCO). What began as a framework and vision more than a decade ago has become a County-wide program, backed by science and cross-departmental support. Each iteration of the SAPCO has become more rigorous and comprehensive than the last, making Pima County a leader in sustainability planning. In fact, Arizona Forward recently selected Pima County's SAPCO as the 2019 recipient of its Environmental Excellence Award for Best Sustainability Plan or Policy. As a proponent of environmental protection, economic equity and community well-being, I am proud of our progress and our efforts toward meeting our sustainability goals and creating a resilient community. I look forward to continuing our leadership in sustainable operations.

## Ramón Valadez

Chairman, Board of Supervisors, District 2



With the adoption of the 2018 Sustainable Action Plan in 2018 that emphasizes reduction of carbon emissions together with chapters on water, landscapes, materials, and workforce, this Baseline Sustainability Report for FY 2018/2019 sets the stage

for our sustainability efforts and performance over the next five years. With the participation of many County departments that are responsible for County operations, our new targets are ambitious but the County has already demonstrated its ability to achieve high-reaching goals. For example, the County's performance improved, met or surpassed 19 of the 25 target areas outlined in the 2014-2018 SAPCO. Our continued success is a product of collaborative work, honest and reliable performance reporting, open communication, workforce education, and large scale engagement. I want to thank all participating SAPCO departments and staff for leading this effort, and I encourage them to continue making the County's vision of sustainability a reality.

## Chuck Huckelberry

Pima County Administrator

### SAPCO's Lead and Supporting Departments

Attractions and Tourism

Communications Office

Community Development and  
Neighborhood Conservation

County Administration

Emergency Management

Environmental Quality

Facilities Management

Finance and Risk Management

Fleet Services

Health Department

Human Resources

Natural Resources, Parks and Recreation

Procurement

Regional Flood Control District

Regional Wastewater Reclamation

Office of Sustainability and Conservation

Department of Transportation

# FY 2018/2019 SAPCO Highlights

The County adopted a new Sustainable Action Plan in 2018.  
Here's what we've been up to since:

## SAPCO Open House

The Office of Sustainability and Conservation (OSC) hosted an Open House to celebrate the adoption of the updated SAPCO and honor the work of County leadership and staff, who dedicated their time and energy to developing the plan. The Open House had raffle prizes, food, booths from County departments and sustainability partners, and a new County Chevrolet Bolt EV to test-drive! The event was open to all County employees and external partners.



## SAPCO Implementation & Engagement

Since 2018, the Office of Sustainability and Conservation has been working to understand the unique needs of County departments and ensure smooth and successful transition toward sustainable operations. As a result, OSC is currently developing the following documents to support and strengthen the SAPCO:

- ▶ **The SAPCO Implementation Plan**, which outlines the structure, process, roles, responsibilities and tools for achieving the plan's goals and targets. This will be Pima County's first comprehensive sustainability implementation guide.
- ▶ **The SAPCO Engagement Guide**, which outlines the program to develop an internal Green Stewards initiative and deepen employees' engagement in sustainability.

## Las Milpitas Community Farm Analysis

In an effort to deepen our knowledge of local food systems – a new focus area for SAPCO – Pima County and the Regional Flood Control District collaborated with the Community Food Bank, Autocase and the University of Arizona to build a case study on a community garden/farm that has produced food on Flood Controls property since 2011. With Las Milpitas as the case study subject, a triple-bottom-line analysis was conducted using Autocase™ modeling software to determine the farm's economic, environmental and social impacts under multiple climate scenarios. The resulting report will be used to help guide the County's future food systems work.



# 2025 Overarching SAPCO Goal

## Paris Agreement Commitment



Reduce current greenhouse gas emissions from county operations to 26%-28% below 2005 level by 2025.

What does this mean?

**By 2025, Pima County emissions should be 78,832 Metric Tons of CO<sub>2</sub>e or below**

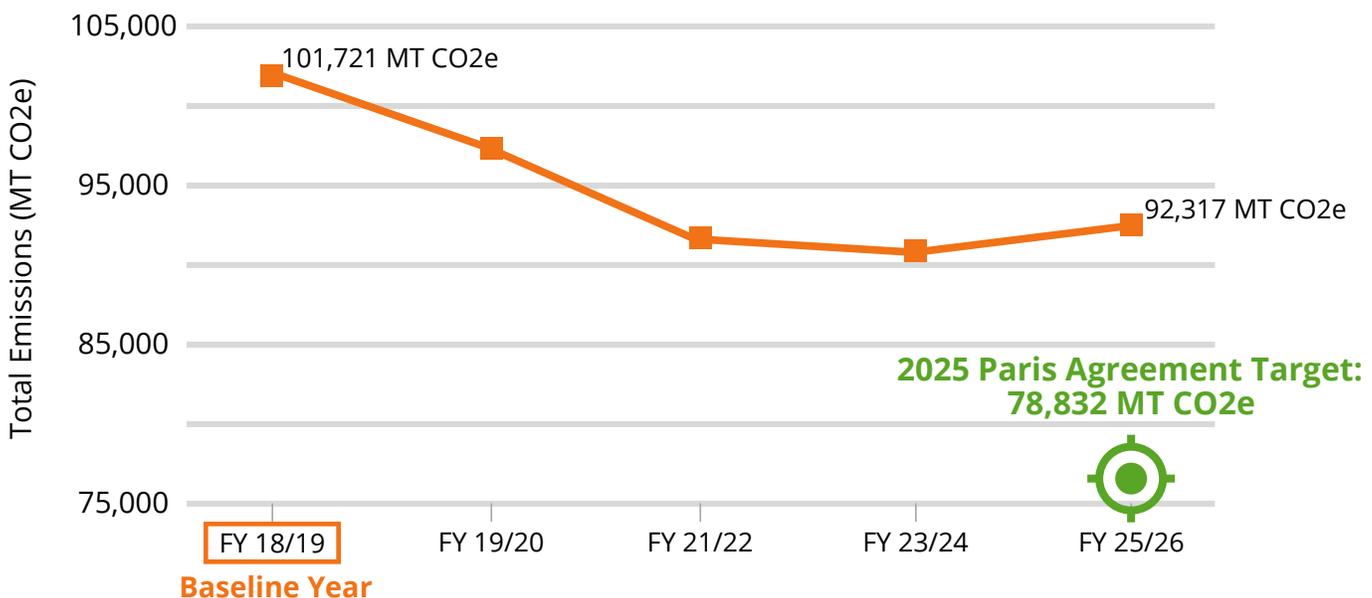


### What is The Paris Agreement?

The Paris Agreement, signed in 2016, is a landmark international accord that addressed climate change by aiming to mitigate climate-altering emissions, adopt climate adaptation strategies and assist vulnerable developing countries.

The United States signed the Agreement in 2015, committing to emission reductions of 26% - 28% below its 2005 levels (106,530 MT CO<sub>2</sub>e). However, the U.S. rescinded this commitment in 2017. As a result, Pima County joined hundreds of local municipalities who came out in support of maintaining our nation's pledge to the Agreement.

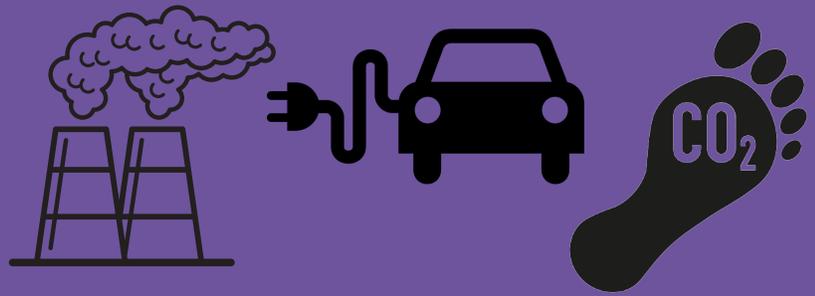
### Pima County Emissions Projections<sup>1</sup>



<sup>1</sup> This graph illustrates total emissions from carbon sources (see page 9). Projections are based on 2% annual emissions increase, in accordance with historical trends. Estimated emissions are based on 'business as usual' conditions (i.e. does not account for renewable energy, electrifying fleet, waste reduction, idle reduction).

Estimated emissions do account for the use of prospective renewable energy from the utility.

# Carbon



**2025 SAPCO Goal:** Implement policies and programs that reduce carbon emissions from County operations in accordance with the Paris Climate Agreement.

## Core Areas

Buildings, facilities and wastewater treatment

County vehicle fleet

Solid waste

## Success Story: Pima County gears up for fleet electrification

In response to Climate Resolution 2017-51, Pima County Fleet Services has created a plan to electrify its compact vehicle and ½ ton light duty truck classes by 2025. The two-phase approach includes a steady roll-out of electric vehicles while managing the challenge of providing the right amount of charging stations at the right locations. Facilities Management is working closely with Fleet Services on solutions to EV charging infrastructure. Fleet has primarily chosen the Chevrolet Bolt to replace compact vehicles, due to its reliability and mile range, and is looking to replace light duty trucks with Ford's electric F-150 once it is released.

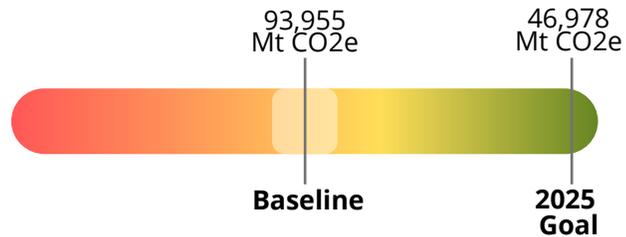


## Buildings, facilities, and wastewater treatment

### TARGET

Reduce carbon emissions from county facilities and wastewater treatment by 50%

**Baseline:** 93,955 Metric Ton CO<sub>2</sub>e

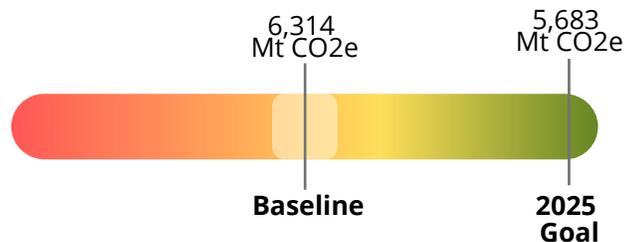


## County vehicle fleet

### TARGET

Reduce carbon emissions from county fleet by 10% in non-electric vehicles

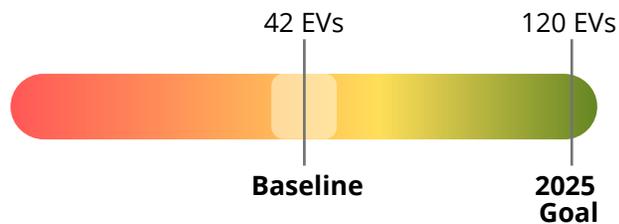
**Baseline:** 6,314 Metric Tons CO<sub>2</sub>e



### TARGET

Replace up to 120 gas sedan vehicles with fully electric vehicles

**Baseline:** 42 electric vehicles (EVs)

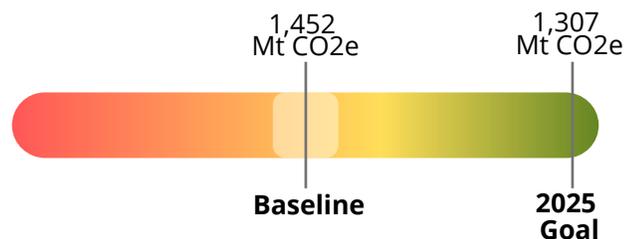


## Solid waste

### TARGET

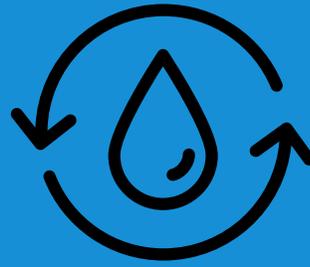
Reduce carbon emissions from solid waste generation by 10%

**Baseline:** 1,452 Metric Tons CO<sub>2</sub>e



<sup>1</sup> The SAPCO 2025 Target establishes an emissions goal that is lower than that required by the Paris Agreement (i.e. 78,832 MT CO<sub>2</sub>). Pima County strives to exceed what is required in order to set a precedent response that demonstrates the urgency to reduce greenhouse gas emissions.

# Water



**2025 SAPCO Goal:** Implement policies and programs that reduce the intensity of potable water use in County operations and continue allocating reclaimed water for groundwater recharge.

## Core Areas

Facility water use

Groundwater replenishment

## Success Story: Pima County co-hosts Tucson Citizen Water Academy pilot program

In honor of World Water Day – March 22nd, 2019 – Pima County Regional Wastewater Reclamation Department, the City of Tucson and the University of Arizona hosted the Tucson Citizen Water Academy pilot program at the Agua Nueva Treatment Facility. Twenty Flowing Wells High School Honors students attended the program to learn about important water issues and their impacts on public health and the environment. The Academy provided an inside look at wastewater reclamation processes, advised on how residents can mitigate new and evolving threats to water quality, and described the potential future of water recycling.



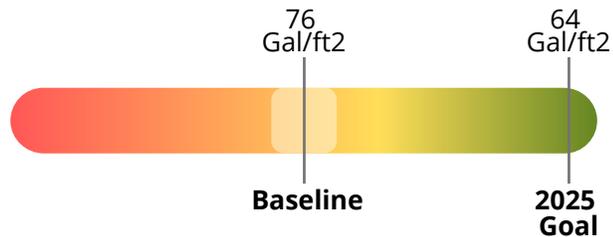
# WATER BASELINE REPORT

## Water use in facilities

### TARGET

Reduce potable water use across all county facilities by 15%

**Baseline:** 76 Gallons of water/ft<sup>2</sup>



## Groundwater replenishment

### TARGET

Monitor the use of reclaimed water for groundwater recharge

*Based on calendar year*

**2,563** Acre-feet of the County's allocation of reclaimed water used for groundwater recharge

### What's an acre-foot?

An acre-foot is a unit of volume that equals about 326,000 gallons – or enough water to cover one acre of surface area one-foot deep.

### Talk like an expert! Here are the most commonly used water classifications:

**Rainwater:** Fresh water that has fallen as precipitation from clouds

**Stormwater:** Also known as runoff, is water generated from rain and snowmelt that flows over land and does not soak into the ground

**Groundwater:** Water that is found beneath the water table under Earth's surface that supplies aquifers, springs, and wells.

**Potable Water:** Water is suitable for domestic use and human consumption

**Greywater:** Wastewater generated from non-sewage domestic sources (i.e. showers, laundry, sinks). Greywater *with* sewage is called blackwater.

**Reclaimed water:** Treated municipal wastewater intended for beneficial reuse (i.e. irrigation, industrial cooling)



# Landscapes



**2025 SAPCO Goal:** Utilize the County’s on-going protection and restoration of extensive healthy landscapes as a strategy for climate mitigation and front-line adaptation by protecting native species and natural and cultural resources, installing green infrastructure and restoring riparian areas, along with expanding support for local food systems.

## Core Areas

- Natural areas
- Cultural resources
- Urban areas
- Food systems

## Success Story: Pima County adopts Green Infrastructure (G.I.) Action Plan

Through a working group of internal and external experts led by the Pima County Department of Environmental Quality, the G.I. Action Plan was developed in 2018 to bolster our resilience against various climate-related risks and help fulfill the County’s adaptation mandates. This plan identifies a list of high-yielding sites for G.I. expansion and tree planting; includes a report documenting the the full range of costs and benefits for two pilot green infrastructure projects using Autocase<sup>1</sup>; and demonstrates the County’s climate readiness to credit rating agencies.



<sup>1</sup> Autocase™ is modeling software that assesses the social, economic and environmental costs and benefits of a given project.

# LANDSCAPES BASELINE REPORT

## Natural Areas

### TARGET

Conserve native wildlife, plants, natural areas, and watershed function

**Baselines:** 34.69 miles of perennial and intermittent streamflow on Regional Flood Control District (RFCD) and County fee lands

106,106.11 acres of natural habitat conserved to date  
4,758 acres conserved in FY 18/19

461 acres protected within AGFD linkages

16,011.89 acres of Important Riperian Areas (IRA) on Regional Flood Control District (RFCD) and County fee lands

### Groundwater depths:

66.3 feet - Santa Cruz River  
(Upstream of Canoa Range Headquarters)

19.3 feet - Cienega Creek  
(Midpoint of the Cienega Creek Natural Preserve)

72.7 feet - Canada Del Oro  
(Near Golder Ranch Drive)

39.2 feet - Tanque Verde Creek  
(At Houghton Road)

100.2 feet - Lower Santa Cruz River  
(Downstream of Sunset Road bridge)

25.6 feet - San Pedro River  
(At Bingham Cienega Natural Preserve)

### TARGET

Manage natural areas for resilient ecosystems

**Baselines:** 5,051.49 acres treated for invasive/exotic plants

*Data not available for the number of restoration projects.  
Will be reported in FY 19/20*



## Cultural resources

### TARGET

Protect and conserve historical sites, historic buildings, archaeological sites, traditional cultural places, and cultural landscapes

**Baselines:** 1,910 acres surveyed on County conservation fee lands

19 cultural resources identified on County conservation fee lands

200 AZ state parks Site Steward monitoring days

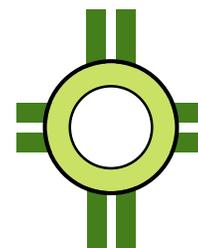
80 cultural resources monitored

11 cultural resources protected by active management plans

### TARGET

Promote public outreach and education

**Baselines:** 12 tours and presentations on county conservation lands



# LANDSCAPES BASELINE REPORT

## Urban Areas

### TARGET

Plant at least 10,000 more trees

**Baseline:** 799 trees planted



### TARGET

Install at least 40 more acres of green infrastructure<sup>1</sup>

**Baseline:** 0 acres of green infrastructure (GI) installed at one or more locations on Regional Flood Control District (RFCD) and County fee lands



### TARGET

Maintain or increase acreage of restored habitat, vegetation and turf supported by renewable water<sup>1</sup>

**Baseline:** 0 acres served by non-potable water



## Restoring and protecting since 1978

Both the "Green Infrastructure" and "Restoration with Renewable Water" targets in this section build on decades of foundational work and numerous projects advanced by the Pima County Regional Flood Control District (RFCD). The District plays a vital role in protecting Pima County residents from flooding and erosion hazards as well as protecting riparian habitat and providing trails. Projects include bank stabilization, restoration, floodplain mapping, detention and retention basins, bridges, drainage improvements, and river parks among others. Since the District's inception in 1978, over 250 major flood control improvements throughout the community have been constructed with restoration projects that total over 1000 acres.

<sup>1</sup> For the purpose of reporting on these new target areas in SAPCO, we have established a baseline of zero for each area, in order to count new cross-departmental efforts going forward that are linked to the Green Infrastructure Action Plan.

# LANDSCAPES BASELINE REPORT

## Food Systems

Note: Data is reported in terms of cumulative-to-date, not annual fiscal year

### TARGET

Maintain or expand number of County properties with Farmer's Markets

**Baseline: 1** site



### TARGET

Maintain or expand number of County sites with community or heritage gardens

**Baseline: 3** sites



### TARGET

Maintain or expand County-managed food and nutrition programs and associated technical training

**Baseline: 8** programs



### TARGET

Maintain or expand number of County acres under food crop production on County and Flood Control District lands

**Baseline: 409** acres



### TARGET

Maintain or expand number of acres under grazing management on County managed ranches

**Baseline: 156,259** acres



### TARGET

Maintain or expand number of County acres with natural open space areas that produce edible native plant foods

**Baseline:** *Data not available  
Will be reported in FY 19/20*



### TARGET

Maintain or expand food heritage sites

**Baseline: 7** sites



### TARGET

Maintain or expand number of County sites with composting and soil carbon amendment practices

**Baseline: 3** sites



# Materials



**2025 SAPCO Goals:** Adopt mindful purchasing practices that are preferential toward environmentally-friendly (or “green”) office products and equipment; Adopt mindful disposal practices in which the landfill is the destination of last resort.

## Core Areas

Solid waste

Green purchasing (office)

## Success Story: Pima County co-produces new and improved recycling poster

If recycling is one of the most popular ways to ‘go green,’ why is it so confusing? One reason is that accepted recyclables are highly vendor-specific; there is little-to-no standardization. Moreover, a vendor’s recycling information may not be easily accessible. These issues often result in widespread contamination at a recycling facility. To combat this and help educate employees and the public, Pima County Facilities Management Department, with assistance from PDEQ and the Communications Office, teamed up with Republic Services, Inc. to produce an updated and user-friendly poster to show what the vendor can and can’t recycle. The poster has been placed by recycling bins throughout County buildings and distributed at community events.



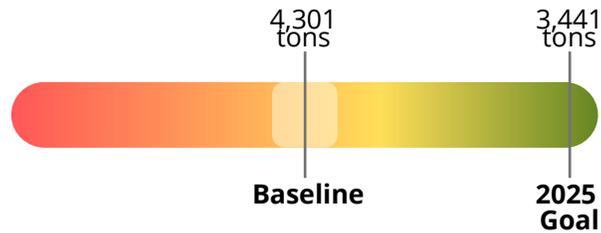
# MATERIALS BASELINE REPORT

## Solid waste

### TARGET

Reduce volume/weight of landfill waste by 20%

**Baseline: 4,301 tons**



### TARGET

Recycle industrial waste by 100%

*The EPA's Resource Conservation and Recovery Act (RCRA) mandates the safe and responsible disposal of hazardous waste.*

2,156 tires

701 car batteries

5,400 gallons of waste oil

67,001 pounds of waste metal

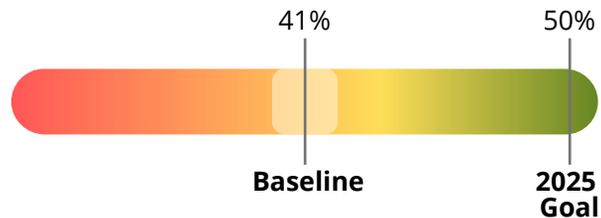
0 gallons of coolant

## Green purchasing

### TARGET

Increase percentage of Preferred Products purchased by the County by 20%

**Baseline: 41.3%** of office purchases are listed on the Pima County's Preferred Product List



# Workforce



**2025 SAPCO Goals:** Foster a safe work environment by preparing Pima County employees for climate change risks they may encounter at their work sites; and provide the resources necessary to adequately prepare Pima County employees for climate change risks that may affect their home environment.

## Core Areas

Workplace preparedness

Personal preparedness

## Success Story: County brings in local experts to discuss sustainability topics

In an effort to keep County employees engaged, excited and informed on sustainability topics, the Office of Sustainability and Conservation holds 'Sustainability Brown Bags' periodically throughout the year. These informal events, which are also open to the public, provide a space for local experts to present on a range of sustainability-related topics. In FY 2018/19, Pima County hosted a Rainwater Harvesting Panel with representatives from the Community Food Bank, SERI, Watershed Management Group and Tucson Water. Panelists discussed rainwater harvesting benefits and the resources available to get started. We also held a Brown Bag in which the CEO of Mrs. Green's World shed light on indoor toxins and how we can reduce our exposure to them.



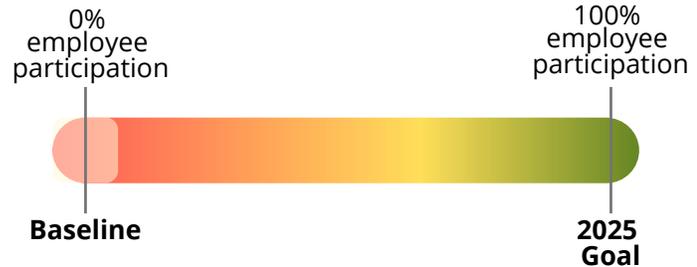
# WORKFORCE BASELINE REPORT

## Workplace preparedness

### TARGET

100% of employees complete emergency trainings (annual)

**Baseline:** 0% employee participation<sup>1</sup>



## Personal Preparedness

### TARGET

100% of employees download emergency checklist and information handouts (annual)

**Baseline:** 0% employee participation<sup>1</sup>



### Keeping our employees safe



The Workforce Preparedness section of SAPCO is a response to research on climate change and public health risks. In Pima County these risks include but are not limited to increased exposure to extreme heat, worsening air quality associated with dust, smoke and ash from wildfires and elevated ozone pollution; along with elevated risks of encountering vector-borne diseases and venomous insects. Extreme weather linked events such as heat and storm-related grid failures, flooding and damage to roads and infrastructure, can compound risks. Although these areas are the focus, recent circumstances related to Covid-19 and Public Health Emergencies is generating the need to provide employees with additional information and resources to protect themselves and their families.

<sup>1</sup> For the Baseline Report, while recognizing multiple departments are actively involved in employee trainings, we intentionally set a zero baseline so that going forward, we can collect, aggregate and report data representing County-wide efforts to provide climate risk preparedness education.

# Acknowledgements

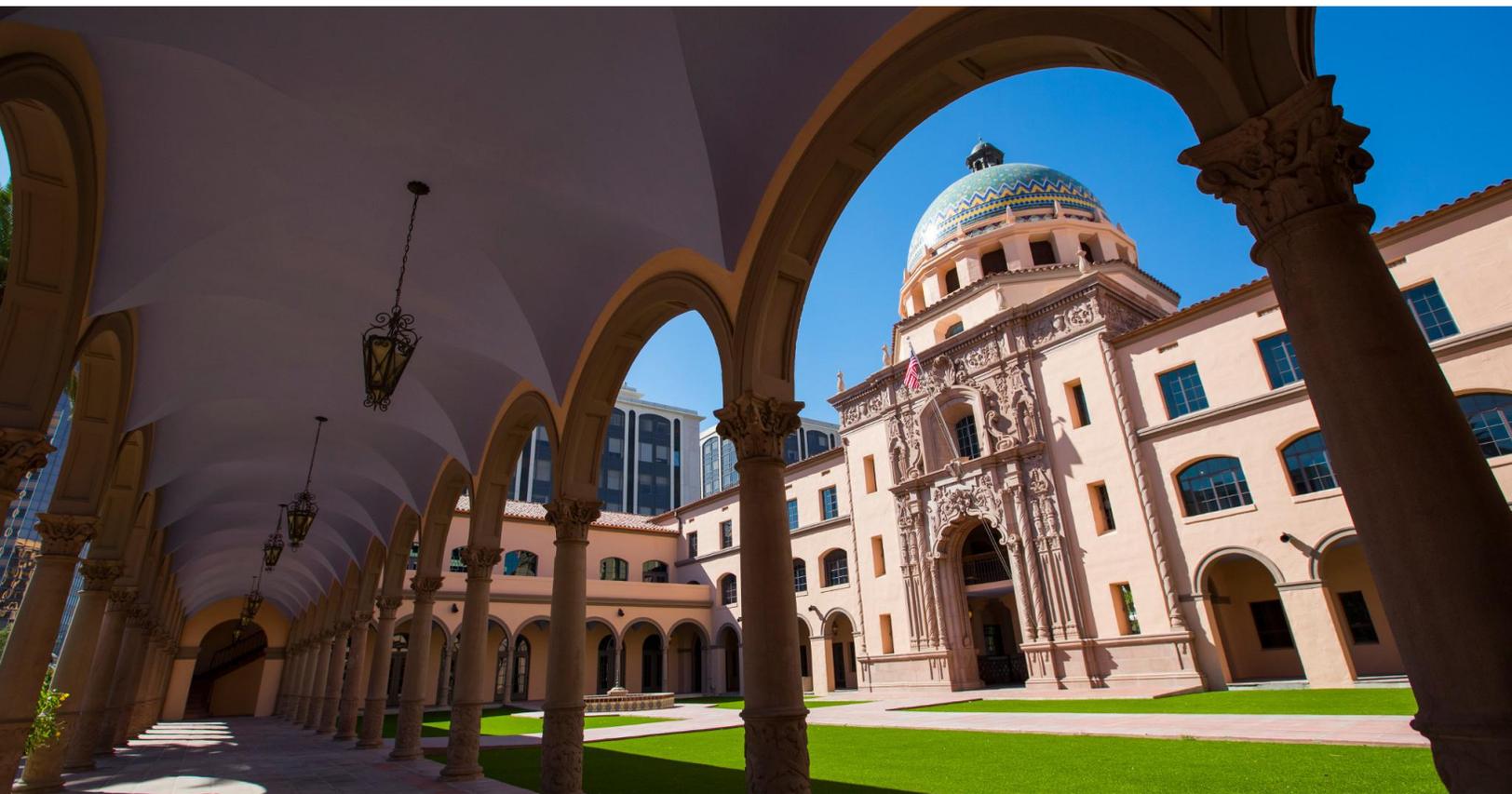


The FY 2018/19 Baseline Sustainability Report was made possible by the support and commitment of County leadership and staff from multiple departments who contributed performance data, success stories and broader input. It is through their work that Pima County is able to maintain accountability and transparency as we navigate our way toward sustainable operations.

For questions or comments, please contact:

**Julie Robinson**

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To learn more about Pima County's Sustainability initiatives, please visit the Pima County Sustainability Programs Division webpage.



### Did you know?

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PIMA COUNTY