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# Board of Supervisors Memorandum

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October 16, 2018

**Resolution 2018- \_\_\_\_\_ in Support of the 2018 Sustainable Action Plan for County Operations**

The County has a long history of protecting the environment and acting responsibly to do so. Our conservation efforts started with creating Catalina State Park in 1974. We have continued this tradition of conservation with the award-winning Sonoran Desert Conservation Plan, which is Pima County's plan for balancing the conservation of our cultural and natural resources while maintaining an economically vigorous and fiscally responsible community. This final plan, completed in 2017 was started in 1998, or nineteen years later. It took a great deal of time to achieve community consensus on our conservation plan. The Plan succeeds because it seeks to balance growth and conservation to protect and preserve the natural and cultural landscape of the Sonoran Desert.

One significant outgrowth of the conservation plan was to additionally focus on sustainability measures to balance how best to achieve the social, economic and environmental well-being of the region, especially in light of ongoing climate change. The Southwest is already the hottest and driest region in the United States and, according to climate models; these trends will intensify in the coming decades. Harsh conditions coupled with other stresses—water shortages and a growing population in the greater Southwest (expected to increase by nearly 70 percent by 2050 according to the US Global Change Research Program) —have created a region acutely vulnerable to climate change impacts. In fact, the Southwest is considered one of the planet's "*climate change hotspots*."

Pima County acknowledges these climate challenges and has worked for the last 11 years to make its overall operations more sustainable. On May 1, 2007, the Board of Supervisors unanimously adopted Resolution No. 2007-84, which set forth a series of initiatives designed to promote and advance sustainability in County operations. This resolution provided the basis for the 2008 Sustainable Action Plan for Pima County Operations (SAPCO), which recommended a multi-faceted approach toward implementing more sustainable practices. The 2014 update to SAPCO further reaffirmed our sustainability commitments and created a more rigorous methodology for measuring progress. As a result of these ongoing efforts, the County has made important progress and realized a number of cumulative benefits since the adoption of the first Sustainable Action Plan for County Operations in 2008:

- 13.48 megawatts of solar photovoltaic installed
- 5 buildings have received LEED silver certification or higher
- Nearly 15,000 acre feet of reclaimed water used for groundwater recharge since 2008
- More than 170,000 Mt CO<sub>2</sub>e emissions avoided
- Five County parks and 47.95 miles of trails established and served by reclaimed water

- Addition of hybrid and fully electric vehicles in the County's fleet
- Six percent decrease since 2012 in the percentage of County employee (self-reported) tobacco users
- 83,850 acres of natural open space lands conserved
- 604 acres of riparian areas restored
- Four historic properties restored or adaptively reused
- 17 percent increase in the beneficial use of RWRD biogas since 2008
- More than \$14 million saved in avoided costs

### **Cutting Carbon Emissions**

In 2017, following the United States withdrawal from the Paris Agreement, the Board passed Resolution 2017-39 and Resolution 2017-51, which committed Pima County to maintaining the United States goal to reduce national carbon emissions 26 to 28 percent below 2005 levels by 2025. As a result, I directed County staff to update the SAPCO accordingly, to reflect our new emissions reduction pledge and climate adaptation strategies outlined in Resolution 2017-51. Consequently, a major emphasis of the 2018-2025 Sustainable Action Plan (Attachment 1) is to reduce carbon emissions through energy conservation and alternative renewable sources and reducing waste.

### **Building Resilience**

Moreover, recognizing that climate variability is already negatively effecting sectors of our environment, economy and community, and will continue to do so, the County has committed to implementing a number of adaptation strategies to bolster climate resilience. Resilience is the ability to prepare and plan for, absorb, recover from, and more successfully, adapt to adverse events that can affect infrastructure, natural systems and public health. SAPCO addresses building resilience through adaptive capacity in sections devoted to water and landscapes, and preparing our workforce for climate extremes.

### **Science-driven, Collaboratively Designed**

In order to integrate the best available science into the new Plan, staff have been working with participating County departments and University of Arizona climate scientists who were invited to a "brown bag" discussion with County staff in the spring of 2018, which resulted in the attached climate brief (Attachment 2). Furthermore, to assure that the proposed sustainability, climate mitigation and adaptation targets in the Plan are practically and feasibly aligned with operations, the Office of Sustainability and Conservation (OSC) facilitated over 50 internal meetings with County Department Directors and key staff to gather their input and ideas. The resulting 2018 Sustainable Action Plan reflects the input by the many departments who will be responsible for implementing the strategies to work towards achieving the County's sustainability targets.

The Honorable Chair and Members, Pima County Board of Supervisors  
Re: **Resolution 2018- \_\_\_\_\_ in Support of the 2018 Sustainable Action Plan for County Operations**  
**October 16, 2018**  
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The following departments that control and monitor specific operational functions that pertain to the SAPCO have been assigned lead responsibilities in achieving the plan's goals and targets. They will identify the strategies they are using and provide data for their area of implementation. OSC staff will compile the data provided by departments and in collaboration with each department, prepare an annual report for the Board.

The departments with implementation responsibilities are: Attractions & Tourism (A&T), Community Development and Neighborhood Conservation (CDNC), County Administration (CA), Emergency Management (OEM), Environmental Quality (PDEQ), Facilities Management (FMD), Finance and Risk Management (Risk), Fleet Services (Fleet), Natural Resources Parks & Recreation (NRPR), Procurement, Regional Flood Control District (RFCD), Regional Wastewater Reclamation Department (RWRD), Sustainability & Conservation (OSC), and Transportation (DOT). Other departments may participate as grants or other opportunities arise.

As in the past, the success of the plan depends upon the active engagement of all departments and employees in concerted efforts to conserve water and energy, and to reduce waste, wherever and whenever possible.

This seven-year plan provides a practical framework to implement the County's commitments to the Paris Agreement and further our overall sustainability objectives that help to create a more resilient economy, a healthier environment and a safer community for our workforce and residents.

#### **Recommendation**

I recommend that the Pima County Board of Supervisors adopt Resolution No. 2018-\_\_\_\_\_ and the 2018-2025 Sustainable Action Plan for County Operations to guide the County's sustainability efforts forward for the next seven years.

Sincerely,



C.H. Huckelberry  
County Administrator

CHH/lab – October 3, 2018

#### **Attachments**

c: Carmine DeBonis, Jr., Deputy County Administrator for Public Works  
Linda Mayro, Director, Office of Sustainability and Conservation

RESOLUTION 2018 – \_\_\_\_

**RESOLUTION OF THE PIMA COUNTY BOARD OF SUPERVISORS  
ADOPTING THE  
SUSTAINABLE ACTION PLAN FOR PIMA COUNTY OPERATIONS 2018–2025**

**The Board of Supervisors of Pima County, Arizona finds:**

1. In 1992, the United Nations Framework Convention on Climate Change (UNFCCC) adopted an international environmental treaty with the objective to "stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."
2. In 2015, the Paris Agreement, as part of the UNFCCC treaty, was adopted by consensus by 196 state parties including the United States to reduce greenhouse gas emissions.
3. On May 1, 2007 the Pima County Board of Supervisors unanimously adopted Resolution No. 2007-84, which set forth a series of initiatives designed to promote and advance sustainability.
4. Subsequently, the Board of Supervisors unanimously adopted the 2008 and 2014 Sustainable Action Plans for Pima County Operations for implementation.
5. The 2008 and 2014 Sustainable Action Plans for County Operations were successfully implemented through collaboration of County staff and departments.
6. Since 2008, implementation of the Sustainable Action Plans focused on Alternative Fuel Vehicles, Green Building, Green Purchasing, Renewable Energy, Waste Reduction, Water and Land Conservation, Carbon Reduction, and Health.
7. In 2017, the Board of Supervisors adopted Resolution 2017-39 and Resolution 2017-51 formalizing Pima County's commitment to supporting the United States commitment to the Paris Agreement by pledging to reduce its greenhouse gas emissions 26%-28% below its 2005 levels by 2025 through energy efficiency, fleet electrification, and renewable energy projects; and to implement climate adaptation strategies including green infrastructure and tree planting.
8. Resolution 2017-51 directs County staff to prepare an update to the Sustainable Action Plan for County Operations to reflect the County's alignment with the Paris Agreement.

**NOW, THEREFORE, BE IT RESOLVED THAT THE BOARD OF SUPERVISORS OF PIMA COUNTY, ARIZONA:**

1. Continues to support sustaining a livable community through implementing and promoting sustainable practices in County operations that protect the natural, social, and economic well-being of the County through energy and water efficiencies, renewable energy, green infrastructure, environmental stewardship and sustainable food production, green purchasing, waste reduction, and workforce resiliency and preparedness.
2. Adopts the 2018 Sustainable Action Plan for County Operations, a copy of which is attached to this Resolution as Exhibit A.
3. Authorizes and directs the County Administrator and staff to ensure that the 2018 Sustainable Action Plan for County Operations is implemented, beginning October, 2018, for the next seven years by County departments and organizational units.
4. Authorizes and directs the County Administrator and staff to prepare an annual report that summarizes the strategies being used and progress being made in reaching the goals of the 2018-2025 Sustainable Action Plan for County Operations.

Passed and adopted, this \_\_\_\_\_ day of October, 2018.

\_\_\_\_\_  
Chair, Pima County Board of Supervisors

ATTEST:

APPROVED AS TO FORM:

\_\_\_\_\_  
Clerk of the Board

  
Dep County Attorney  
**REGINA NASSEN**

# ATTACHMENT 1



# Sustainable Action Plan for County Operations 2018-2025

# ACKNOWLEDGMENTS



SUSTAINABILITY & CONSERVATION

The 2018 Sustainable Action Plan for County Operations (SAPCO) was made possible by the continuing support and commitment of the Pima County Board of Supervisors, County Administration, staff from multiple departments, and external experts who devoted time and resources toward updating this plan over the past year. It is through their ongoing work that Pima County has been able to achieve and surpass many of the SAPCO objectives first formalized in Resolution 2007-84.

Questions and comments may be directed to the Pima County Sustainability Manager at [SustainabilityPrograms@pima.gov](mailto:SustainabilityPrograms@pima.gov) or 520-724-6940.

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# Introduction

## CLIMATE CHANGE IN THE SOUTHWEST

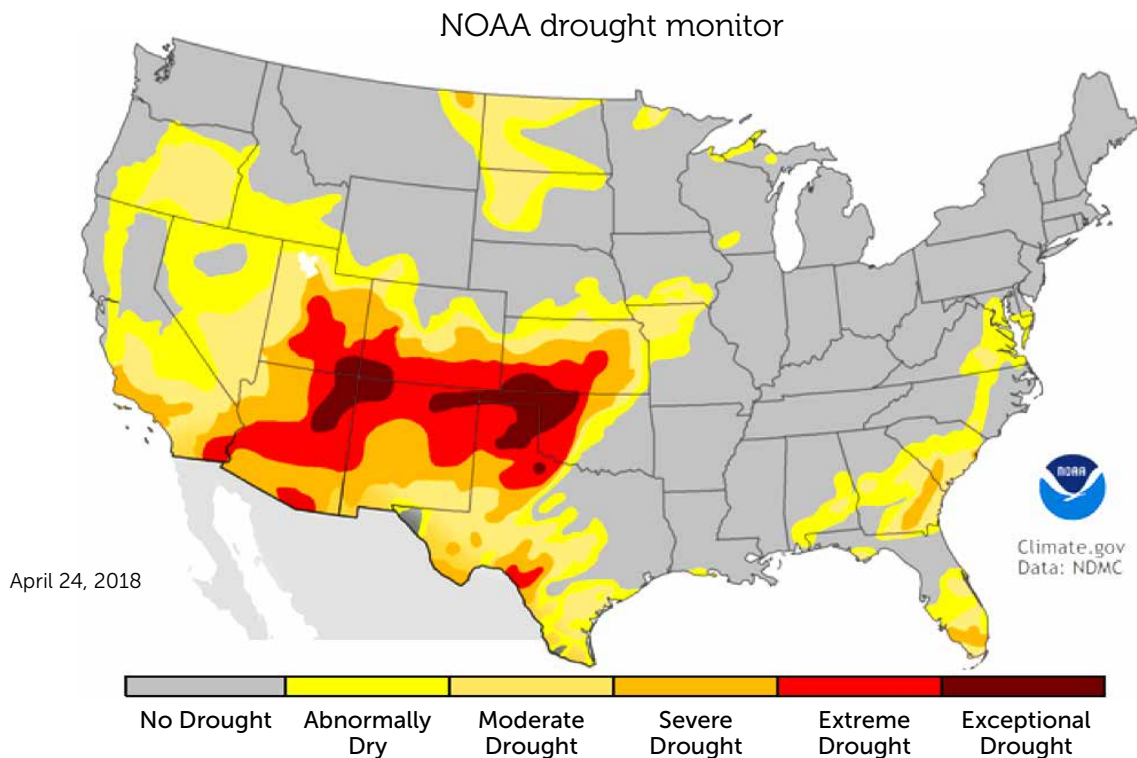


The Southwest is already the hottest and driest region in the United States and, according to climate models, these trends will intensify in the coming decades. Harsh conditions coupled with other stresses—water shortages and a growing population expected to increase 70 percent by 2050<sup>ii</sup>—have created a region acutely vulnerable to climate change impacts. In fact, the Southwest is considered one of the planet’s *climate change hotspots*.<sup>i</sup>

As a result, Pima County’s economic robustness, environmental quality and public health are at risk. Fortunately, through decisive action to cut greenhouse gas emissions in operations and implement climate adaptation strategies, the County is working to build cross-sector resilience to current and future climate variability.

# INTRODUCTION

## ENVIRONMENT



Human-driven activities have increased greenhouse gas concentrations to levels that are disrupting Earth's biophysical systems. The rise in regional temperatures—at a rate more rapid than any other state in the contiguous U.S.—have been exacerbated by population growth and conventional urbanization. Unpredictable precipitation patterns and longer snow-free seasons, amplified by the hotter climate, increase the risk of severe and frequent wildfires as well as the prolongation of Arizona's worst drought in over a century. These rapid shifts jeopardize the reliability of an adequate water supply as well as the vitality of our unique and diverse flora and fauna and consequently, place Pima County on a collision course with climate change.

**4.2 million**

Hectares of forest area burned during 1984-2015 as a consequence of human-caused climate change<sup>iii</sup>

**Up to 10° F**

Projected increase in average daily temperatures in Pima County by 2099<sup>iv</sup>

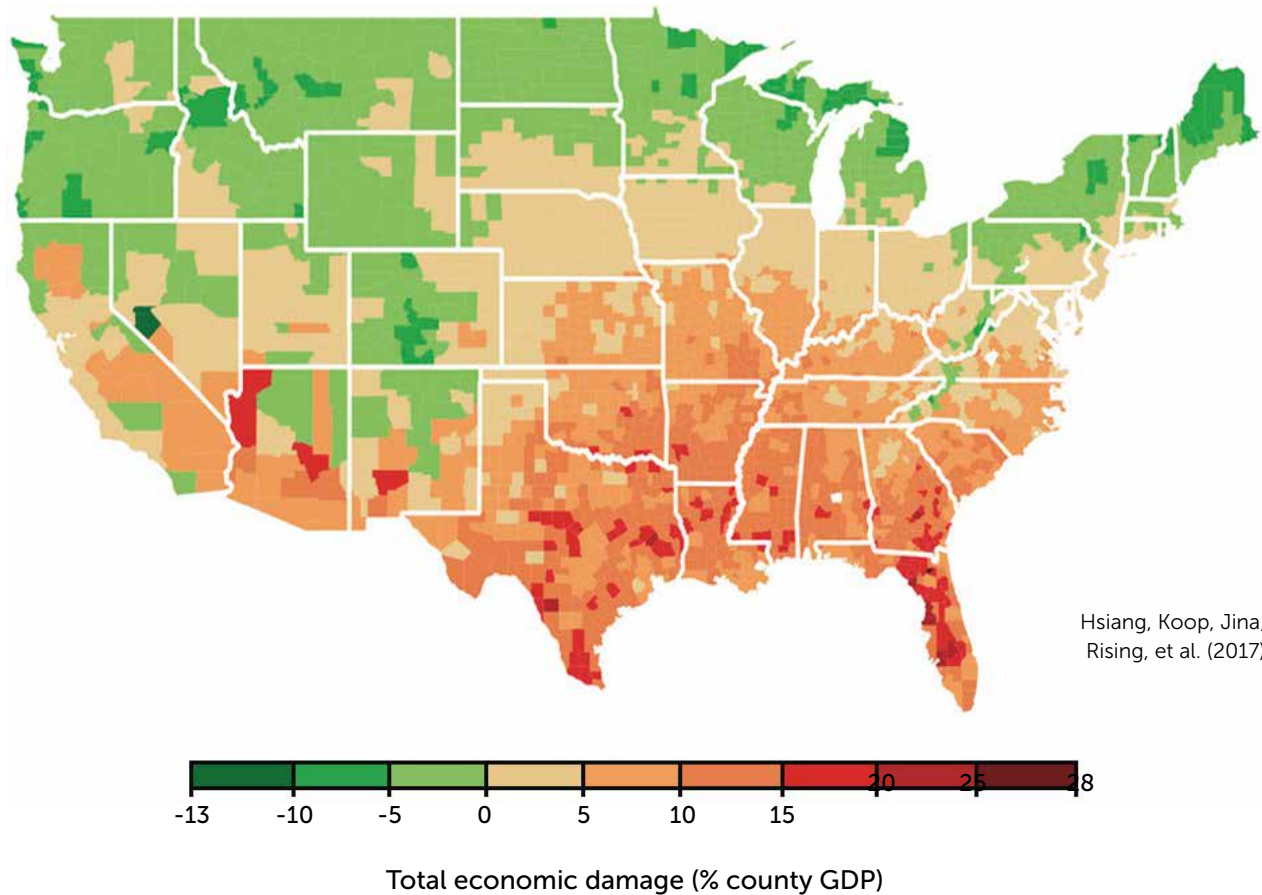
**Up to 40%**

Projected decline in Arizona's water supply by 2050<sup>v</sup>

**10° F hotter**

The difference in recorded evening temperatures between Arizona's urban and adjacent natural areas – a result of the urban heat island effect<sup>v</sup>

Median total direct economic damage across all sectors  
from climate change by 2080-2099



The environmental consequences of climate change, if unmitigated or unprepared for, frequently translate to financial costs. Higher temperatures, less rainfall, and more extreme weather events often lead to increases in utility demand and prices; costs of goods and services; cost of emergency services; infrastructure repairs from heat-induced damage, flooding, erosion and more. Climate change is particularly detrimental to travel and tourism—Arizona’s number one export industry— which generated \$3.09 billion in tax revenue and supported over 184,000 industry jobs in 2016 alone.<sup>vi</sup> These trends affect our residents’ cost of living, disposable income, and ability to support Pima County’s local economy. Employment opportunities may also suffer, as there is a negative association between temperature and the likelihood new employers will establish in an area.<sup>v</sup> Inaction may not only affect economic growth but also increase the costliness of combating climate threats over time.

**Up to 350%**

Projected percentage increase in Arizona’s peak summer electricity rates (from current rate of approx. 11¢ / kWh) by 2050<sup>v</sup>

**\$60 million**

Cumulative revenue lost at Lake Powell and Glen Canyon from the visitation reduction that resulted from drops in water level at Lake Mead and Lake Powell from 1999 to 2003<sup>v</sup>

**More than 10%**

Projected percentage of annual County GDP lost due to damages that result from climate change, by 2099<sup>vii</sup>

**Up to 50%**

Projected percentage drop in crop yield produced in Pima County by 2099<sup>vii</sup>

# COMMUNITY HEALTH AND WELLBEING



Public health is intricately tied with environmental health. Climate change has the capacity to undermine community wellbeing by increasing the incidence of heat-related illness, vector-borne diseases and premature death; jeopardizing food security and nutrition; worsening the inequalities felt by vulnerable communities; and increasing emigration to escape extreme weather events and to settle in other locations with greater resource and services reliability. Higher temperatures combined with particulate matter from smog, dust and wildfires contribute to poorer air quality and higher ground-level ozone pollution. This introduces and/or worsens health risks like allergies, asthma, lung cancer and other respiratory illnesses. Employee safety and productivity are also expected to decline, resulting in less hours worked for both low-risk (indoor) and high-risk (outdoor) employees.<sup>vii</sup>

**More than 2,000**

Number of people who land in Arizona emergency rooms due to heat-related illnesses each year, making heat stress the leading cause of weather-related death in the Southwest<sup>viii</sup>

**40**

Projected number of additional climate-related deaths per 100,000 for each degree Celsius increase in Pima County by 2099<sup>vii</sup>

**14.2**

Arizona's asthma mortality rate per million residents – the fifth highest rate in the U.S.<sup>ix</sup>

**0.070 ppm**

The US EPA's National Ambient Air Quality Standard for ground-level ozone pollution. As of July 2018, Pima County is in jeopardy of being designated as non-attainment by the federal government due to multiple exceedances of the ozone standard.

# GUIDING PRINCIPLES FOR THE SUSTAINABLE ACTION PLAN

## **Pillars of Sustainability:**

There are three tenets, or pillars, of a sustainable system: social well-being, environmental protection and economic development – informally referred to as people, planet and profits. These three pillars are mutually dependent; if any one pillar is weak then the system as a whole is unsustainable. A sustainable policy or practice will ultimately bolster all three. Building, protecting, and restoring the environment, the economy, and the community in a way that all three pillars work in harmony with each other as opposed to in conflict with each other is at the heart of any sustainable system.

## **Leading by Example:**

People tend to model the behaviors and beliefs of their leaders. It is imperative that County operations reflect its beliefs and commitments in order to build trust with the community and make way for favorable social change.

## **Practicality:**

Pima County's sustainability policies and practices are based on evidence-based practices and pragmatic recommendations that have been fine-tuned for the County's current or anticipated constraints, obstacles and circumstances.

## **Durability:**

Developing policies and practices that have the ability to withstand unforeseen obstacles to achieve longevity and robustness is a priority.

## **Efficiency:**

Achieving Pima County's sustainability goals while utilizing the least amount of physical, financial, or labor resources possible, thereby maximizing the County's ability to continue its sustainability initiatives.

## **Long-term Planning and Proactive Solutions:**

Sustainability is long-term planning: meeting future demands by extrapolating from current demands and circumstances. Building a long-term trajectory that predicts forthcoming needs and risks and incorporates proactive instead of reactive solutions allows for more resilient and cost-effective operations.

## **Collaboration:**

Sustainability policy is a multidisciplinary initiative. Successful development and implementation requires a horizontally and vertically diverse range of contributors. Interdepartmental collaborations from employees with various skill sets and roles is an integral part of the County's sustainability program.

## **Accountability:**

Pima County government is committed to accounting for its efforts toward sustainability, accepting responsibility for them, and disclosing the results in a transparent manner.



# PIMA COUNTY'S VISION FOR SUSTAINABLE OPERATIONS

*The ability of local governments to prepare for, adapt to, and mitigate changing climate conditions will greatly affect the severity and impact of climate risks. It is thus Pima County's responsibility as first responders to climate change to protect and restore our County's environmental integrity, economic durability, and public health and wellbeing.*

Pima County has a long history of adopting strong sustainability policies and practices, starting with the award-winning Sonoran Desert Conservation Plan in 2001 to adopting the first Sustainable Action Plan for County Operations in 2007. The 2018 iteration of SAPCO extends the County's commitment by integrating the goals and targets of the Paris Agreement as required by two resolutions adopted by the Board of Supervisors in 2017.

The Paris Agreement is a voluntary international agreement whereby nations identified and committed to reducing their carbon emissions to keep global temperature increases below 2°C (3.8° F). When the United States signed onto the Paris Agreement in 2015, the nation committed to reducing emissions 26% below its 2005 levels. However, when the U.S. rescinded its commitment in 2017, Pima County joined hundreds of local municipalities who came out in support of maintaining a commitment to the Agreement. Climate Resolution 2017-39, adopted in June 2017, formalized the County's pledge to uphold the carbon-cutting targets established by the United States. Resolution 2017-51, passed one month later, specified the climate mitigation and adaptation measures the County would undertake to meet this commitment.

This plan outlines the specific targets and recommended mitigation strategies the County will pursue to reduce current greenhouse gas emissions from operations to 26%-28% below 2005 levels by 2025. Pima County will therefore need to reduce its projected 2025 emissions by 50% by 2025 through energy and fleet efficiency measures, and increasing its use of renewable energy.

## The Paris Agreement Objective

[Hold] the increase in the global average temperature to well below 2°C above pre-industrial levels and [pursue] efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change



## The Paris Agreement U.S. commitment

Reduce emissions by 26%-28% below U.S. 2005 levels by 2025



## Pima County Total Emissions (Mt CO<sub>2</sub>e)

2005	2016	2025 (projected)
106,530	133,415	159,444*



## Emissions Target for Pima County Operations

(26% below Pima County 2005 levels by 2025)

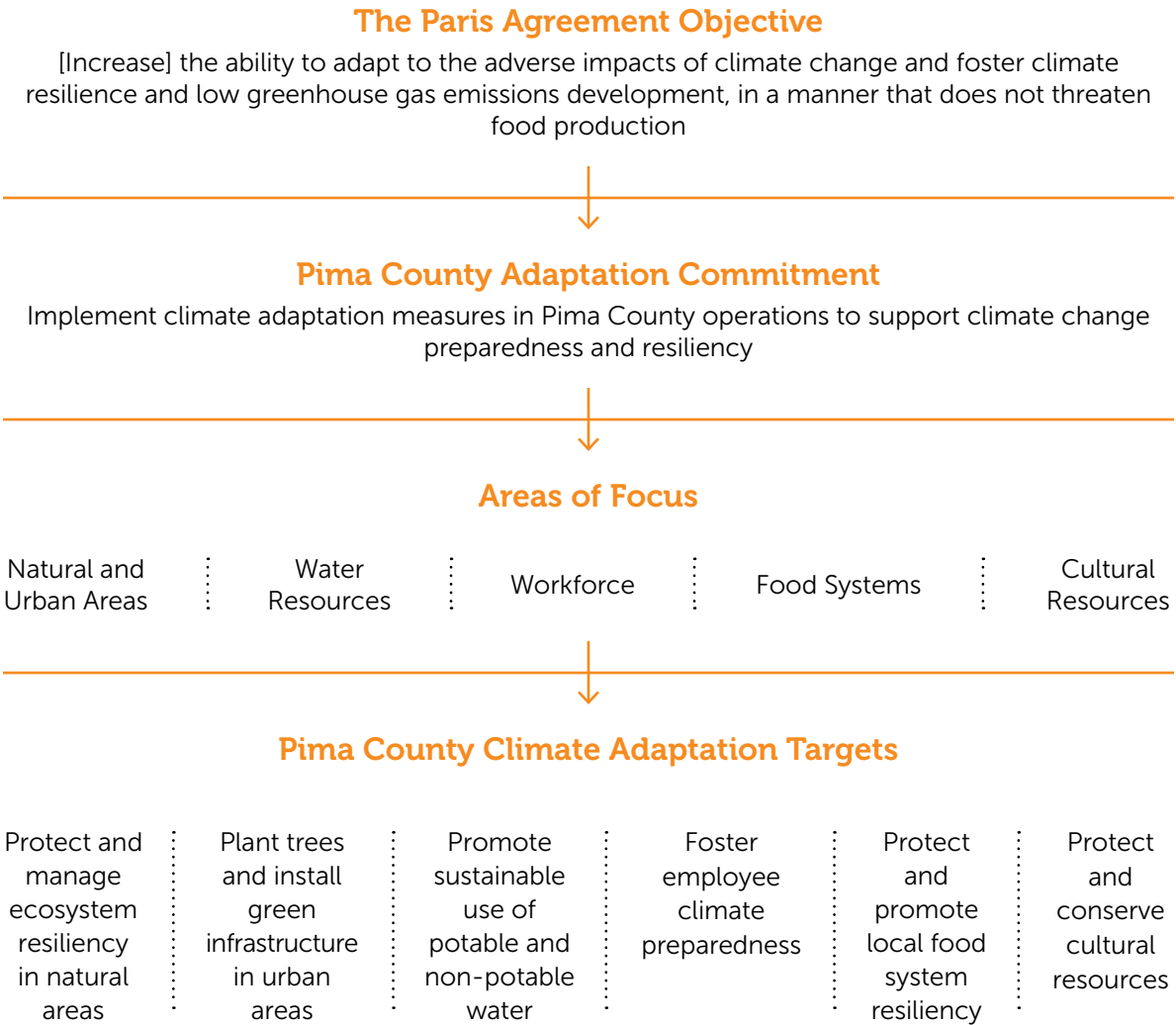
78,832 Mt CO<sub>2</sub>e or below\*\*

\* Assumes emissions increase by 2% annually, in accordance with historical trends.

\*\*This calls for an approximate 50% cut in projected 2025 Pima County emissions, which is equivalent to cutting emissions by 80,612 Mt CO<sub>2</sub>e



In accordance with the Paris Agreement, this plan also identifies specific focus areas and recommended strategies related to climate adaptation to safeguard infrastructure, the environment and residents from the impacts of climate change in Pima County.



**What does sustainability mean for Pima County operations?**

The term *sustainability* can connote different meanings to different people.

In this plan, sustainability refers to the management of building design, construction and renovation, land use and conservation practices , energy use, water and waste management, emissions, transportation, and procurement, with fiscal prudence in order to contribute to the long-term environmental, social and economic health of Pima County.