

# *SA Tomorrow Sustainability Plan:* *A Vision for a Sustainable San Antonio*

*CATEE 2016*  
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Presented by:  
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Chief Sustainability Officer

# Sustainability Plan Overview

## A Data-Driven Roadmap:

- to enhance a community's **quality of life**
- build overall **resilience**
- balance impact of expected growth with **economic, environmental, and social resources**
- covers community sector and municipal operations

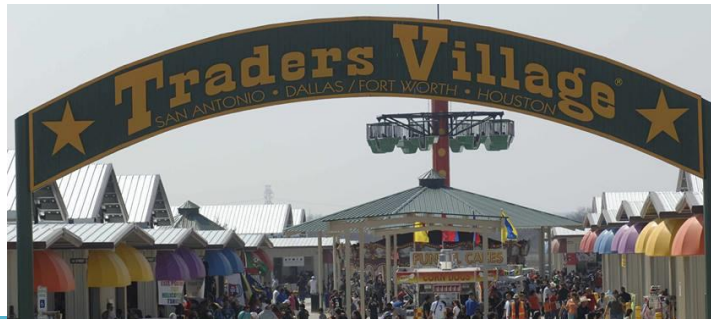


# Public Engagement Types



- In Person
  - April SA Tomorrow Kick-Off
  - Sustainability Forum
- Online
  - MindMixer Virtual Town Hall
  - Survey Monkey
  - Social Media
- Stakeholder Interviews
- Focus Groups

- Go-to-them Activities
  - VIA Park-n-ride
  - Outdoor Markets
  - City Parks
  - School Events



# Sustainability Summit



# Working Groups

- Steering Committee
- Resiliency Advisory Committee
- Municipal Leadership



# Focus Areas



# Cross Cutting Themes



## Growth and City Form (GCF) Element Actions

18.2

Action	Description	Air Quality	Economic Vitality	Equity	Resilience	Water Resources
GCF A1	Incentivize the development of energy efficient buildings (streamlined permitting processes, fee waivers, etc).	✓			✓	✓
GCF A2	Expand and incentivize participation in the Build San Antonio Green program	✓			✓	✓
GCF A3	Modify the Unified Development Code (UDC) to reduce barriers to mixed-use development.		✓		✓	
GCF A4	Modify the UDC to reduce barriers to higher density development in regional centers.		✓		✓	

# City of San Antonio SA Tomorrow Sustainability Plan

## Energy



The Energy Focus Area encompasses all direct components of energy generation including generation and distribution, efficiency, renewable energy, demand response, and green power purchasing.

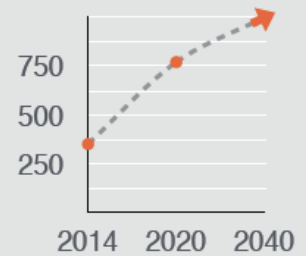
**Vision:** San Antonio leads the nation in the generation and delivery of clean, reliable, affordable energy.



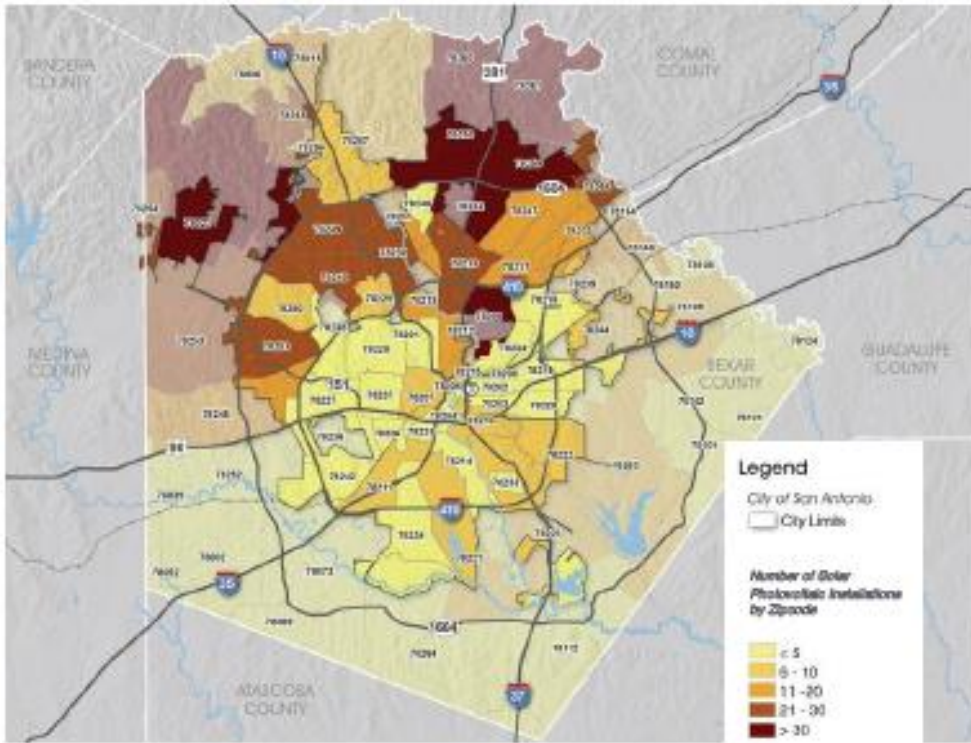


# Energy Indicators

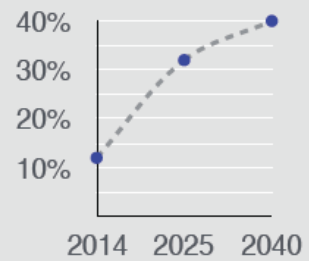
Reduction in Energy demand in megawatts (MW)



Base Year **2014**  
 Baseline **352 MW Reduced**  
 2020 Target **771 MW Reduced**  
 2040 Target \* This target will be identified during CPS Energy's upcoming Beyond 2020 strategic planning process.



% of total electricity generation capacity from renewable energy (solar, wind)



Base Year **2014**  
 Baseline **12%**  
 2040 Target **\*40%**

\* This target will be confirmed or adjusted during CPS Energy's upcoming Beyond 2020 strategic planning process.



# Energy Strategies

EN1	Support a Property Assessed Clean Energy (PACE) financing program in Bexar County.
EN2	Develop partnerships to fund research and development of energy efficiency and renewable energy generation technology and innovations.
EN4	<p>★ <b>Public's Top Choice</b></p> Expand participation in the CPS Energy Simply Solar Initiative programs, with a particular focus on low income and affordable housing units.
EN5	Launch a pilot "Resilient Neighborhoods" program to identify critical facilities within vulnerable neighborhoods and establish renewable energy back-up power systems for emergencies.
EN8	Identify opportunities to leverage technology to deliver effective demand response and other energy use reduction programs.

# Energy Strategies



## Leading by Example:

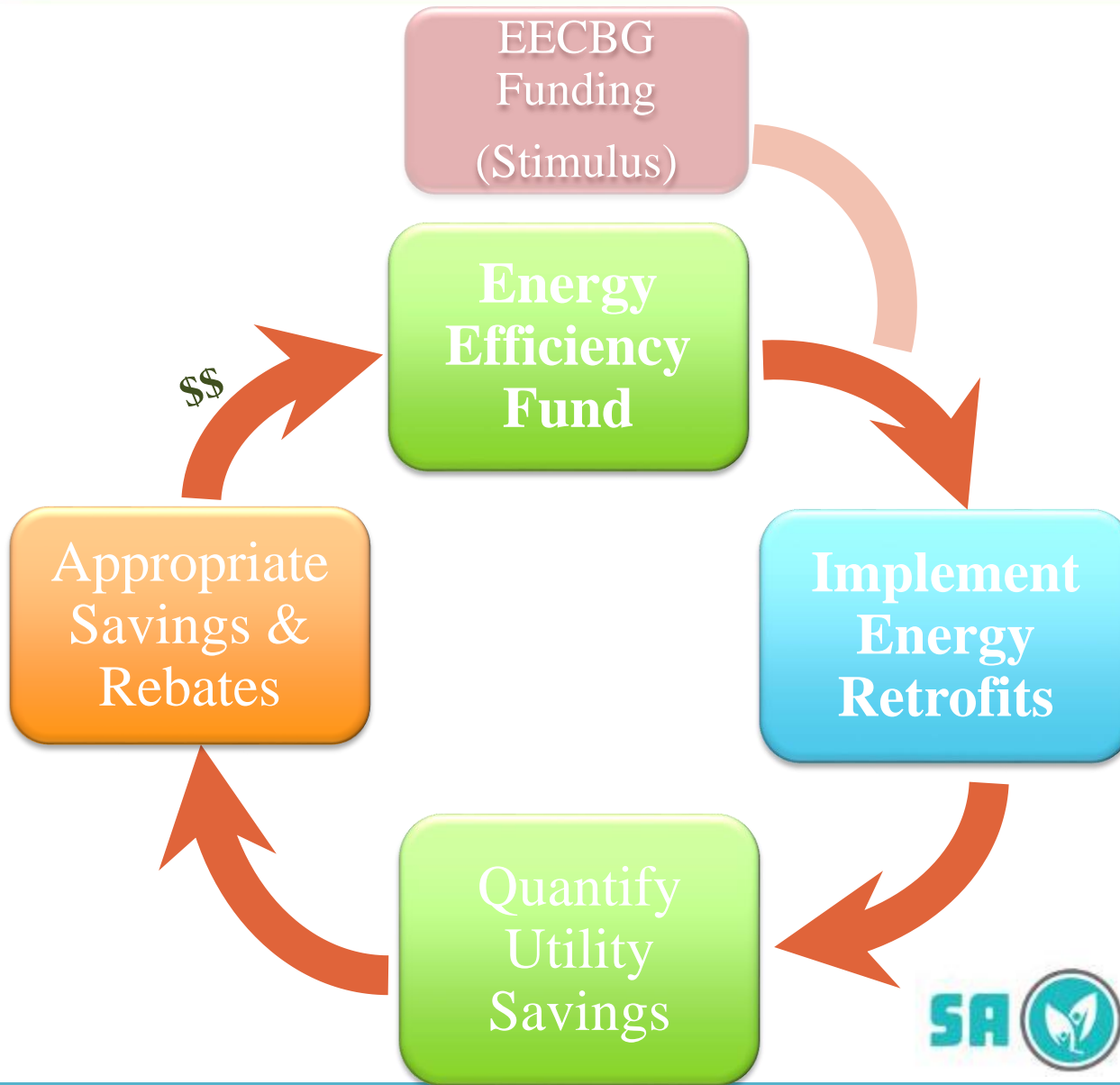
- Purchase renewable energy for government operations.
- Explore renewable energy distributed generation and battery storage opportunities at critical municipal facilities.
- Develop and implement an Energy Policy for city buildings and operations.



# Energy Efficiency Fund

- Created by City Council in FY 2011
- Designed as a financial mechanism to capture utility saving dollars and re-invest into future projects
- Goal is to maximize energy efficiency of all municipally-owned facilities
- Types of Projects: lighting, controls, HVAC, building envelope, retro-commissioning

# Energy Efficiency Fund



# Energy Efficiency Fund

1. Ongoing benchmark of facility energy use
2. Prioritize facilities
  - Heavy usage
  - High public visibility
3. Conduct energy assessments
4. Self-manage retrofits, quick payback first
5. Measure & verify utility savings (avoided cost)
6. Revolve energy savings and rebates

Projects are approved and adopted by City Council during the adoption of the Annual City Budget.

# Energy Efficiency Fund: FY11 - 15

Municipal Facilities Impacted	188
Avoided Utility Costs	\$1,246,083
Project Costs	\$6,676,473
CPS Rebate	\$2,062,773
Payback	3.7 Years

- Energy savings are captured for the useful life of the equipment/energy conservation measure

# Green Certification



SF Retrofit



SF New Construction



Multifamily



Mixed-Use/Light Commercial

- 5176 Projects to date
- 9.5 MW peak demand reduction
- 103 Million lbs CO<sub>2</sub> saved = 8645 Cars for one year.
- 79,558 lbs NO<sub>x</sub> saved



# City of San Antonio SA Tomorrow Sustainability Plan

## Green Buildings & Infrastructure

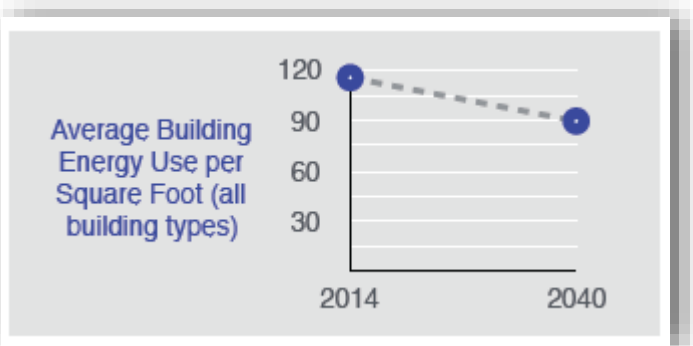


The Green Buildings & Infrastructure Focus Area seeks to incorporate more sustainable practices within the physical structures of the city's built environment, specifically buildings, water and sewer lines, stormwater systems, wastewater treatment facilities, and other infrastructure.

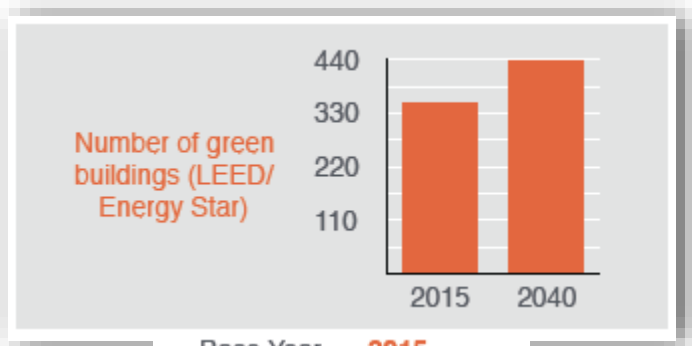
**Vision:** San Antonio is a leader in high performance and resilient buildings and infrastructure.



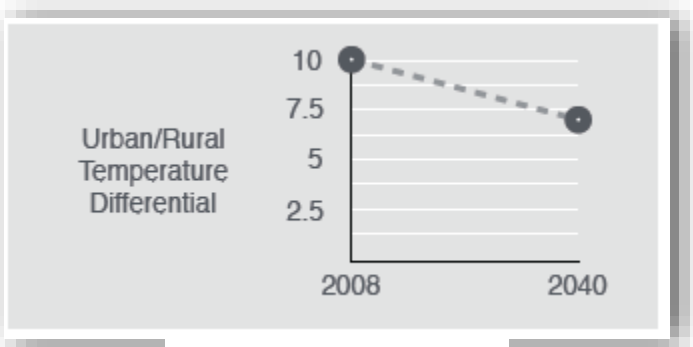
# Green Buildings & Infrastructure Indicators



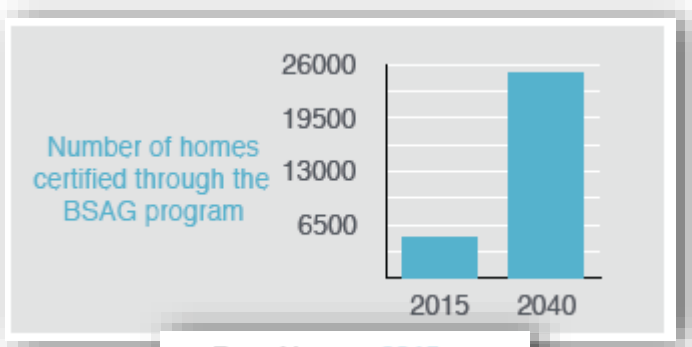
Base Year **2014**  
Baseline **116 kBTU/ square foot**  
2040 Target **90 kBTU/square foot**



Base Year **2015**  
Baseline **349**  
2040 Target **436.25**



Base Year **2008**  
Baseline **8-12°F**  
2040 Target **5-9°F**



Base Year **2015**  
Baseline **5,150**  
2040 Target **25,000**



# Green Buildings & Infrastructure Strategies

GB1	Collaborate with developers and community stakeholders to develop and adopt a high performance building standards program with education and technical assistance.
GB2	Pilot a building energy benchmarking and disclosure program.
GB6	<b>★ Public's Top Choice</b> Expand education, outreach, and technical assistance associated with the low impact development (LID) voluntary program to encourage significant onsite stormwater management for all new development and substantial retrofits and to encourage LID as the standard for San Antonio.
GB8	Launch an urban heat island mitigation program in priority areas to address opportunities for new and existing developments to minimize their contribution to excessive heat associated with the urban heat island effect.
GB11	Initiate a climate education campaign for businesses and property owners, including details about how to make built and natural infrastructure more resilient to existing and projected changes in climate.



# Green Buildings & Infrastructure Strategies

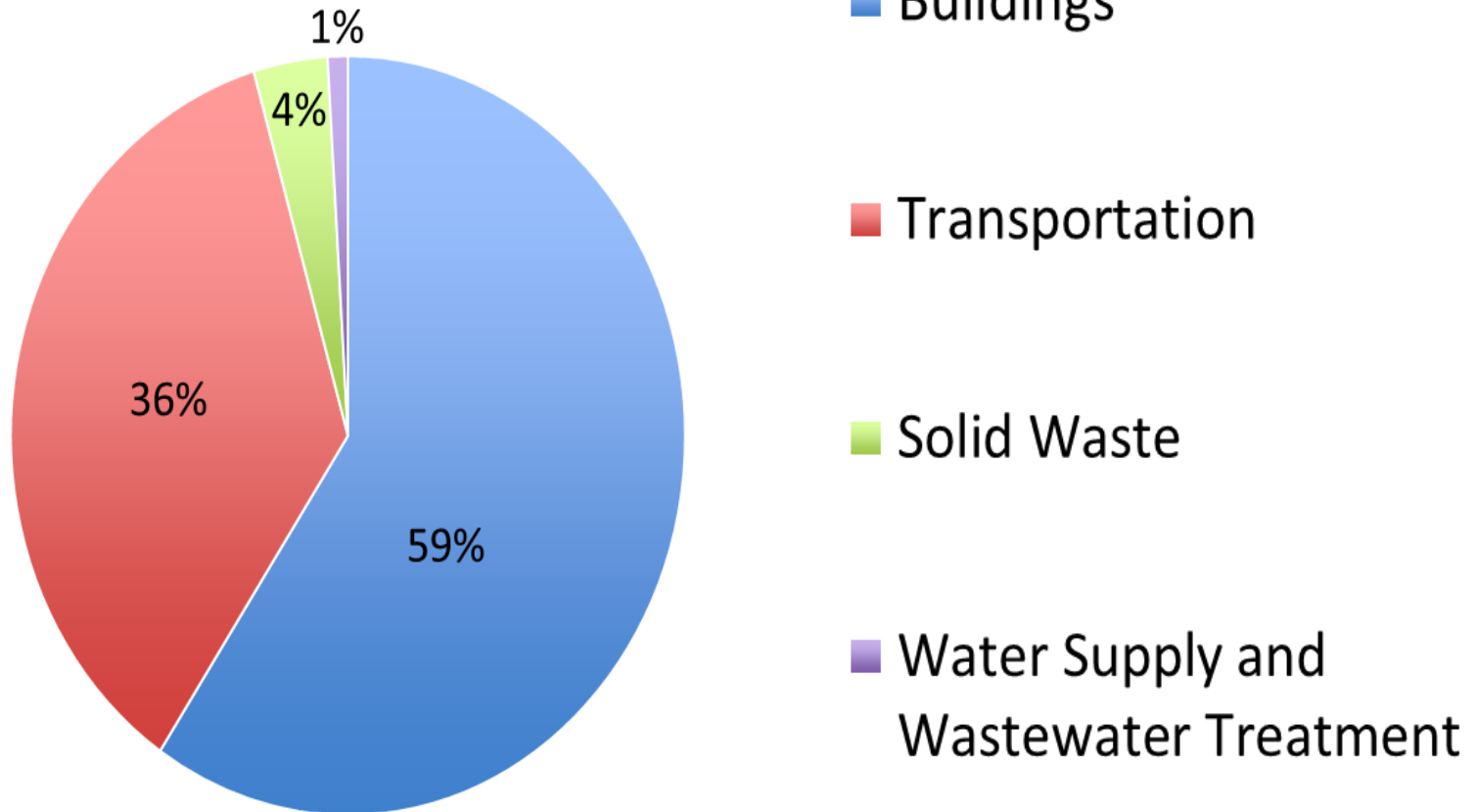
## Leading by Example:

- Update city facility design guidelines to require new construction and significant renovations to meet and receive EPA Energy Star Certification within the 80th percentile.
- Develop a building and facility energy management system for real-time data and operational control.
- Require all appropriate City-funded infrastructure projects be designed to deliver no net runoff/or provide for an increase in net natural areas.
- Assess city-owned buildings and install green or cool roofs to reduce building energy consumption and mitigate urban heat island impact.
- Ensure all essential City assets and systems are assessed for their preparedness and ability to recover from current and future extreme weather events.
- Support the development of the San Antonio 2030 District.
- Pilot the use of Sustainable Return on Investment (SROI) analysis for city building and infrastructure projects.



# 2014 Greenhouse Gas Inventory

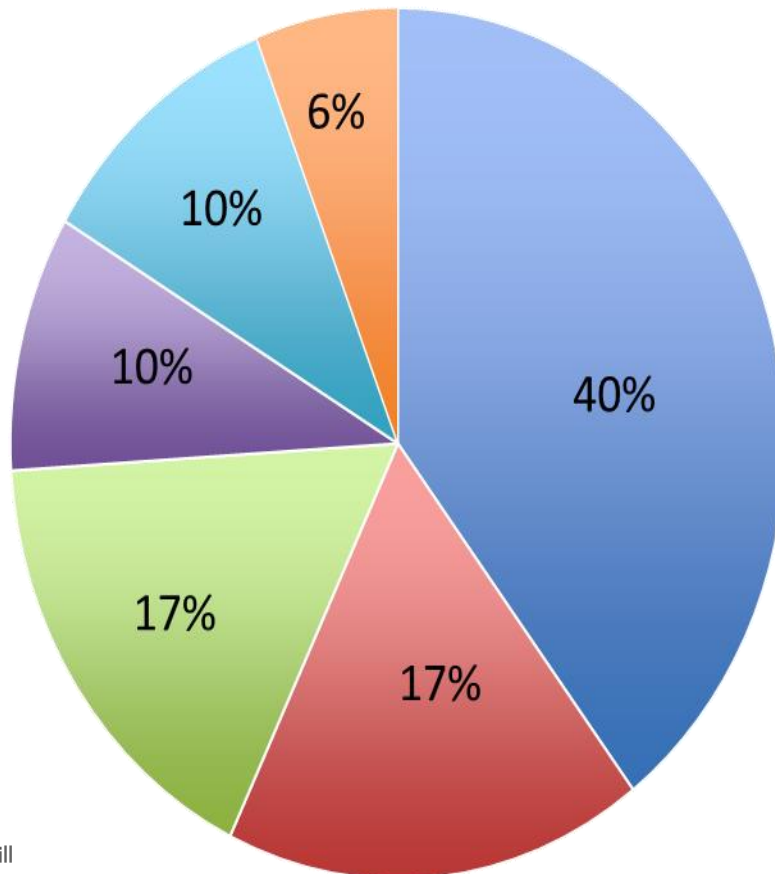
16,498,864 metric tons CO<sub>2</sub>e



San Antonio Community GHG Emissions (by Sector)

# 2014 Greenhouse Gas Inventory

583,326 metric tons CO<sub>2</sub>e

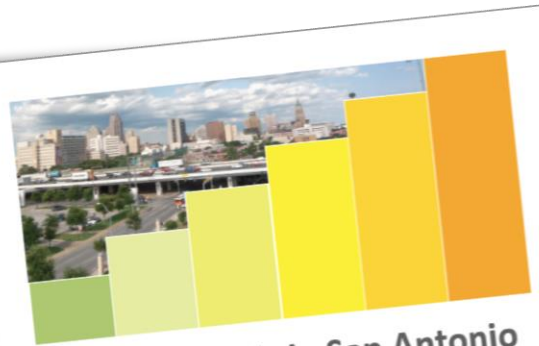


- Closed Landfills\*
- Buildings and Facilities
- Water Supply
- Vehicle Fleet
- Wastewater Treatment
- Streetlights and Traffic Signals

\*Nelson Gardens Landfill

Municipal Operations GHG Emissions (by Sector)

# Studies: Climate Trends



## Climate trends in San Antonio and an overview of climate projections for the South Central region

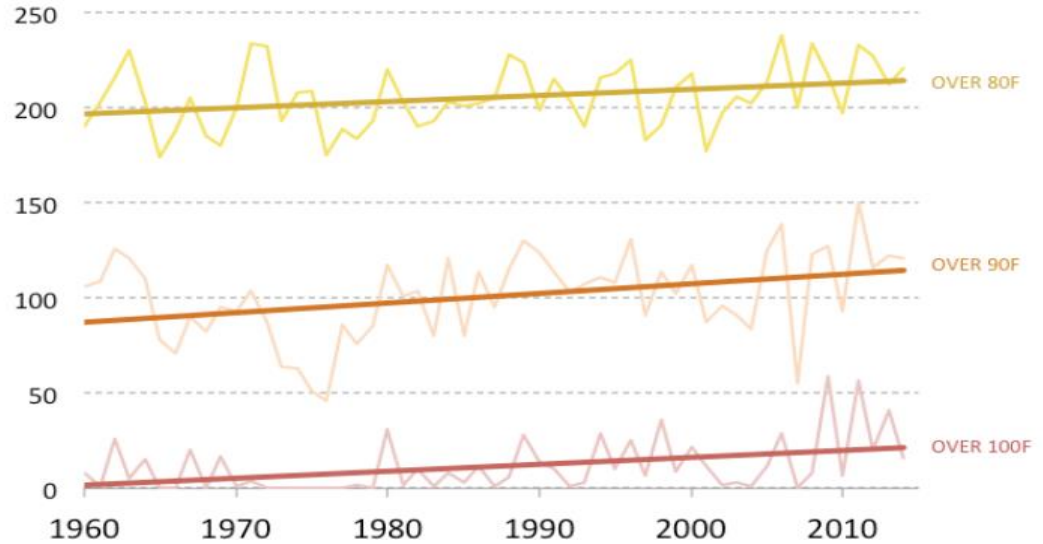
Katharine Hayhoe, Ph.D.  
ATMOS Research & Consulting

MAY 2015, REVISED

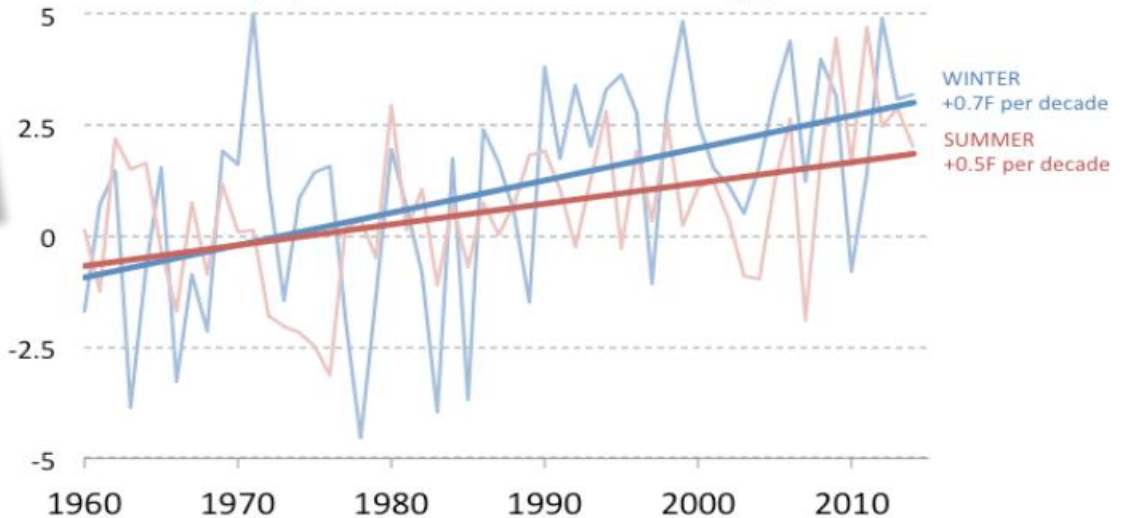
### EXECUTIVE SUMMARY

In this report, we discuss what scientists know about why climate is changing, and what this means for the future. We analyze observed trends in San Antonio and compare them with those seen across Texas and South Central region. Finally, we summarize qualitative projected future changes across the South Central region as described in the U.S. National Climate Assessment.

### Frequency of Warm and Hot Days

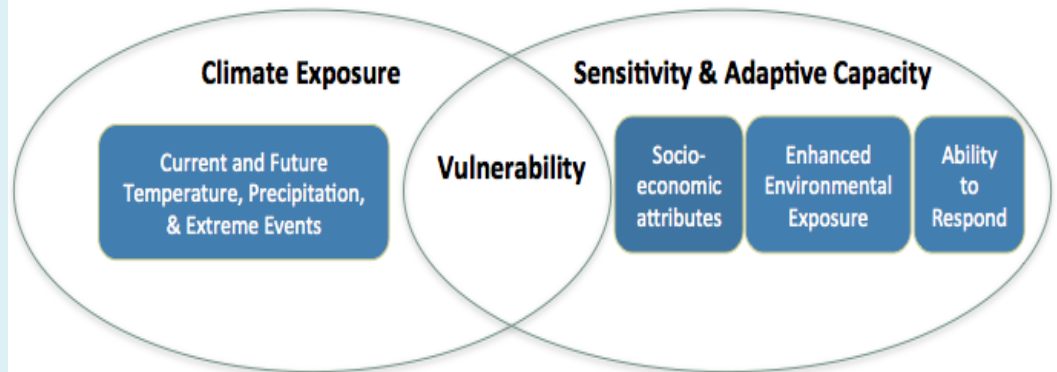


### Seasonal Average Temperature in San Antonio (degrees F relative to 1961-1990 average)



# Vulnerability Assessment

- Building climate resilience is a process and not an outcome.
- Look beyond the historic record to the future for how extreme weather events and changing climate conditions could affect the city.
- Build upon the Hazard Mitigation Action Plan





# Key Vulnerability Assessment Findings

Vulnerability Ranking Table
Potential Opportunity
Low Vulnerability
Medium-Low Vulnerability
Medium Vulnerability
Medium-High Vulnerability
High Vulnerability

## High Vulnerability

- Extreme heat and impacts to vulnerable populations
- Vector borne disease

## Medium Vulnerability

- Wildfires and the potential for increased incidence
- Impacts to multifamily in 100 year flood plain

## Medium-High Vulnerability

- Critical/public infrastructure and assets in 100yr floodplain (communications, power, etc.)
- Critical transportation infrastructure
- Low water crossings high call rescue sites
- Local food security

# Implementation

*The success of any plan is its ability to be implemented to bring real change.*

- **Online dashboard and tracking** to highlight plan indicators and targets
- **Annual sustainability report**
- Sustainability Plan **update every five years**
- Continued **public engagement**
- **Annual Sustainability Summit**
- **Climate Action Planning**
- Spring 2017 **Community Resilience Workshop**



★ Sustainable San Antonio



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