



SA  
CLIMATE  
READY

# San Antonio's Draft Climate Action & Adaptation Plan

CPS Energy Board of Trustees Public Input Session  
February 18, 2019

# Policy Direction

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**Aug 11, 2016**

San Antonio City Council adopted SA Tomorrow Sustainability Plan that identified strategies to develop a Climate Action and Adaption Plans.

**Nov 30, 2017**

San Antonio City Council approves an agreement to develop a Climate Action and Adaptation Plan.

**June 22, 2017**

San Antonio City Council approved a resolution in support of the Paris Climate Agreement and the Mayor's National Climate Action Agenda.

# Scientific Consensus: Earth's Climate is Warming

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American Academy of Pediatrics  
American Anthropological Association  
American Association for the Advancement of Science  
American Association of State Climatologists (AASC)  
American Association of Wildlife Veterinarians  
American Astronomical Society  
American Chemical Society  
American College of Preventive Medicine  
American Fisheries Society  
American Geophysical Union  
American Institute of Biological Sciences  
American Institute of Physics  
American Medical Association  
American Meteorological Society  
American Physical Society  
American Public Health Association  
American Quaternary Association  
American Society for Microbiology  
American Society of Agronomy  
American Society of Civil Engineers  
American Society of Plant Biologists  
American Statistical Association

# Climate change is impacting us daily



# of days  
Over 100°F

2011 2015 2018



Photo: Kin Man Hui /San Antonio Express-News



Photo: Kin Man Hui, San Antonio Express-News



Photo: Jerry Lara, San Antonio Express-News



Photo: Jerry Lara, San Antonio Express-News







# We are experiencing more than just higher temperatures



Hurricane Harvey was fueled by record heat in the Gulf of Mexico.

San Antonio hail storm called costliest in Texas history with nearly \$1.4 billion in losses.



# How will you be affected?



## COST OF LIVING

Fewer, less stable jobs from climate and resource uncertainty

Higher heating and cooling bills



## PUBLIC & COMMUNITY HEALTH

Respiratory illness from unhealthy air quality  
Increased vector-borne diseases

Greater risk of heat stress, heat stroke, etc.



## PUBLIC SAFETY

Property damage from severe weather events

Decreased water access and quality

More traffic and higher transportation costs



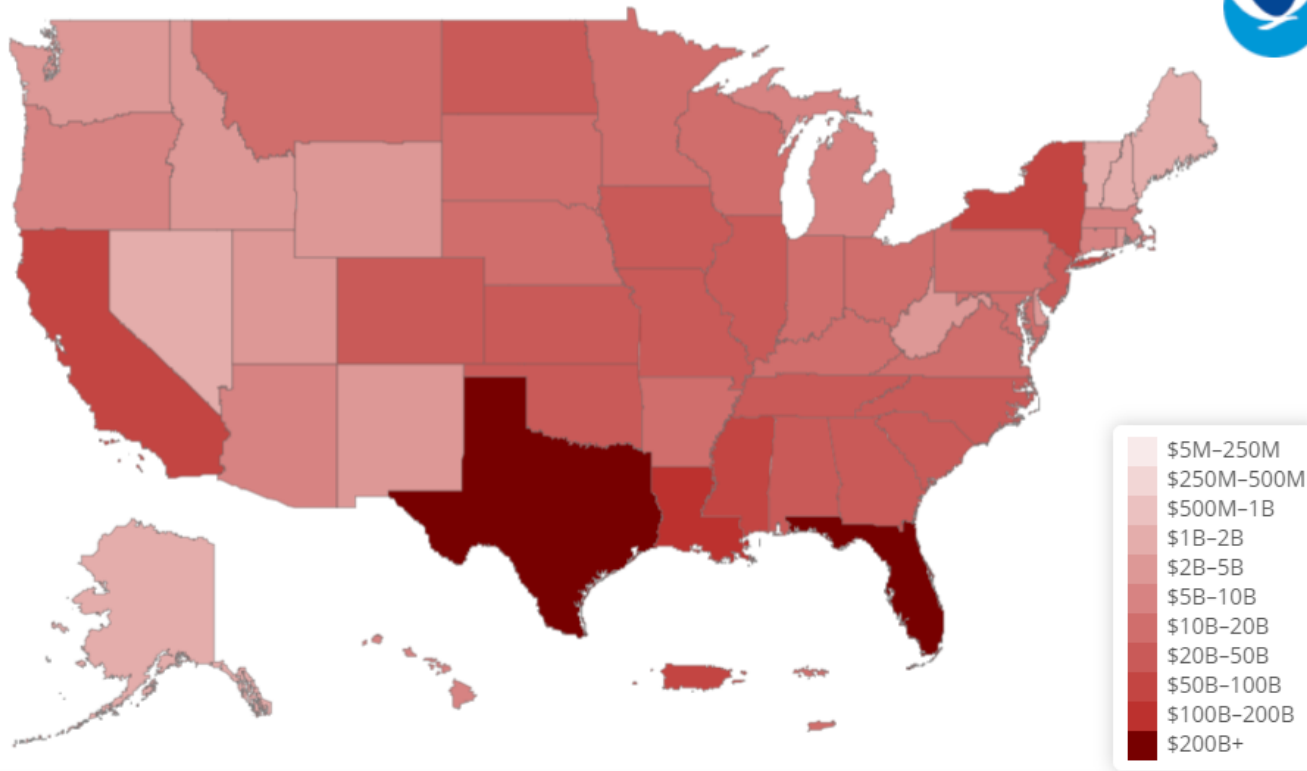
## LIVELIHOOD & WELL BEING

Greater impact on low-income residents, young, and old: populations less likely to own homes or have health insurance

Reduced food options due to drought and heat

# Cost-Benefit Analysis: Cost of Doing Nothing

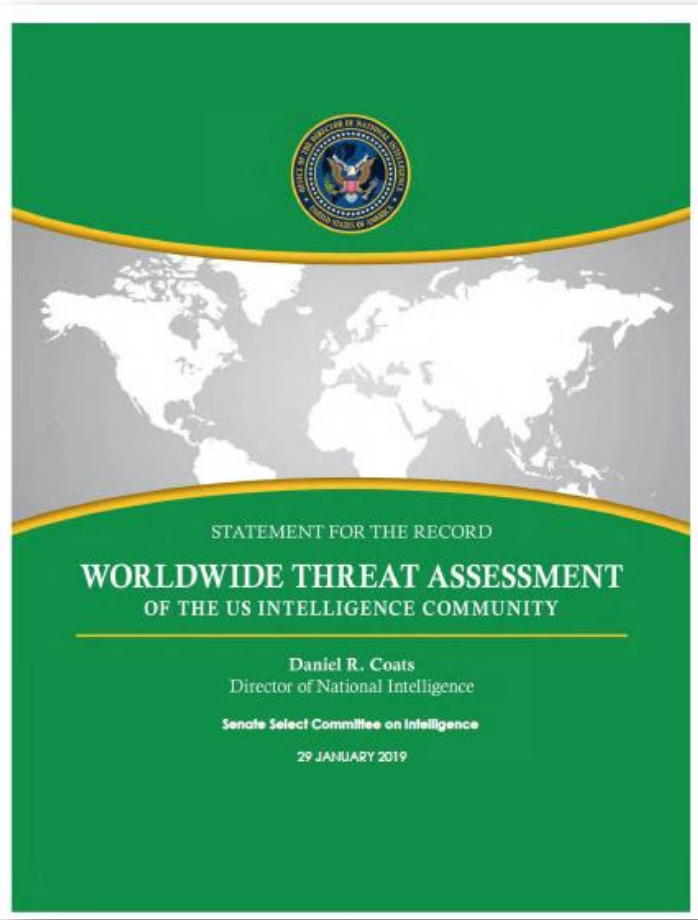
1980-2018\* Billion-Dollar Weather and Climate Cost (CPI-Adjusted)



## United States

■ Drought:	\$200B+	■ Flooding:	\$100B-200B	■ Freeze:	\$20B-50B	■ Severe Storm:	\$200B+
■ Tropical Cyclone:	\$750B+	■ Wildfire:	\$50B-100B	■ Winter Storm:	\$20B-50B	■ All Disasters:	\$1.5T+

# Worldwide Threat Assessment



## *Environment and Climate Change:*

“Global environmental and ecological degradation, as well as climate change, are likely to fuel competition for resources, economic distress, and social discontent through 2019 and beyond. Climate hazards such as extreme weather, higher temperatures, droughts, floods, wildfires, storms, sea level rise, soil degradation, and acidifying oceans are intensifying, threatening infrastructure, health, and water and food security. Irreversible damage to ecosystems and habitats will undermine the economic benefits they provide, worsened by air, soil, water, and marine pollution.”



# We are creating a Plan for our future



**C** Understanding the ways our **CLIMATE** is changing

**A** Taking **ACTION** to reduce our carbon emissions

**A** Develop strategies to **ADAPT** to a warming planet

**P** Creating a **PLAN** to guide our efforts

# CAAP Public Draft



## Plan Contents:

- Message from the Mayor
- Our City, Our Plan
- Introduction
- Grounding the Response: Climate Equity
- The Challenge and Response
- Mitigation
- Adaptation
- Implementation
- Appendix / Methodology

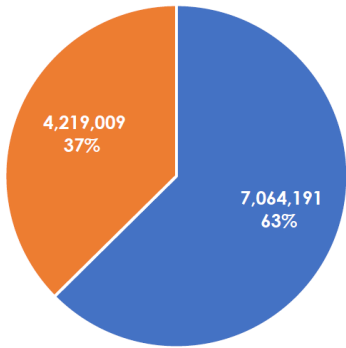
# San Antonio's GHG emissions

Greenhouse gases (GHG) trap heat and make the planet warmer.



## CPS Energy's Total 2016 GHG Emissions from Electricity Generation

11,283,200 tCO<sub>2</sub>e

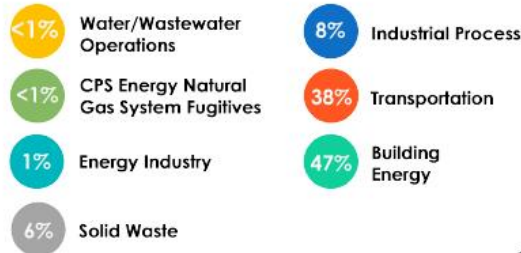


Emissions from the electricity usage of CPS Energy's customers outside the geographic boundary of San Antonio, including:

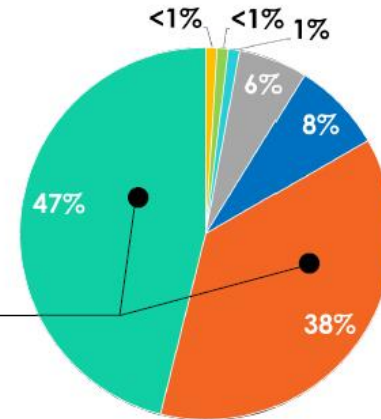
- Suburban Cities
- Unincorporated Areas
- Wholesale

Emissions from the electricity usage of CPS Energy's customers inside the geographic boundary of San Antonio, aka total Scope 2 emissions included in the community inventory.

## San Antonio's Total Emissions by Sector



**85%** of the opportunity to reduce GHG emissions lies within Transportation & Buildings



LEGEND  
Emissions from 2016



# The Carbon Neutral Pathway

## Carbon Neutral:

*Having or resulting in no net addition of carbon dioxide to the atmosphere.*

## Paris Climate Agreement:

*An international commitment to limit global temperature increase to well below 2 degrees Celsius (3.6°F) with a goal of limiting global temperature increase to 1.5 degrees Celsius (2.7°F).*



# Mitigation Framework

- How Will San Antonio Reduce GHG Emissions?
- San Antonio's Path to Carbon Neutrality
- Community & Municipal Mitigation Strategies:
  - 1) Increase Carbon-Free Energy
  - 2) Reduce Building Energy Consumption
  - 3) Reduce Transportation Energy Consumption
  - 4) Increase Circularity
  - 5) Promote Biodiversity and Healthy Ecosystems
  - 6) Educate & Enable
- 28 Community Strategies
- 13 Municipal Strategies

STRATEGIES	
INCREASE CARBON-FREE ENERGY	1 <b>DECARBONIZE THE GRID</b> Work with CPS Energy to continue to reduce the emissions factor of supplied electricity to reach an emissions factor of 0.0 kg CO <sub>2</sub> e / kWh by 2050.
	2 <b>SUPPORT AND INCENTIVIZE DISTRICT-SCALE CLEAN ENERGY PROJECTS</b> Support and incentivize district-scale clean energy projects that harness renewable and waste energy at large-scales.
	3 <b>FUEL SWITCHING</b> Promote and incentivize fuel switching from natural gas to electric for existing buildings, including industrial process applications.
REDUCE BUILDING ENERGY CONSUMPTION	4 <b>COMMERCIAL &amp; MULTIFAMILY BENCHMARKING &amp; DISCLOSURE ORDINANCE</b> Implement a benchmarking and disclosure ordinance for large commercial, industrial, and multifamily buildings (above 50,000 sq. ft.).
	5 <b>COMMERCIAL AND RESIDENTIAL ENERGY AND WATER RATING SYSTEM</b> To inform owners, builders, renters, and potential buyers, research and develop an energy and water rating system for all commercial and residential properties.
	6 <b>ZERO NET ENERGY BUILDING CODE</b> Continue San Antonio's leadership in building codes by continually adopting the most recent update to the IECC code, with the goal of adopting a Zero Net Energy (ZNE) code for all new buildings and substantial rehabilitations by 2040, taking into consideration technical and economic feasibility.
	7 <b>ENERGY EFFICIENCY PROGRAMS</b> Continue to support and expand the energy efficiency and green building programs functioning within the City, such as the CPS Energy STEP program, with a goal of reducing city-wide annual building energy use 15% by 2030 and 40% by 2040.
	8 <b>REDUCE WATER CONSUMPTION</b> Support all opportunities to further reduce San Antonio's water consumption both per capita and on a total consumption basis.
REDUCE TRANSPORTATION ENERGY CONSUMPTION	9 <b>CARBON-FREE VEHICLES</b> Transition to carbon-free transport by implementing strategies to accelerate the adoption of electric or other carbon-free personal vehicles, trucks, transit, and freight to reach 100% penetration by 2050.
	10 <b>VEHICLE MILES TRAVELED (VMTS)</b> Reduce vehicle miles traveled per person throughout the City, prioritizing the reduction of those traveled in single-occupancy vehicles by diversifying transportation choices.
	11 <b>CONNECTIVITY / WALKABILITY</b> Accelerate connectivity and walkability by prioritizing the funding and construction of infrastructure for micro-mobility modes such as biking and other human-powered transportation with an emphasis on the protection of vulnerable road users.
	12 <b>SUSTAINABLE LAND PLANNING AND DEVELOPMENT</b> Support the development and redevelopment of more compact, connected, and cost-effective communities.
	13 <b>MOBILITY AS A SERVICE</b> Utilize smart city and big data solutions to promote mobility as a service to reduce the GHG impact of transportation solutions.

Initiation Phase	Investments	Co-Benefits
<b>NT</b> Near-term (Initiated by 2021)	<b>C</b> City Investment	<b>AQ</b> Air quality
<b>LT</b> Long-term	<b>R</b> Resident Investment	<b>NC</b> Natural Capital/ Ecosystem Services
	<b>B</b> Business Investment	<b>QJ</b> Quality Jobs
	<b>\$\$\$</b> Greater than \$1 billion investment through 2030	<b>H</b> Health Outcomes
	<b>\$\$</b> \$100 million to \$1 billion investment through 2030	<b>A</b> Affordability
	<b>\$</b> Less than \$100 million investment through 2030	



# Adaptation Framework

- Climate Risks
- Expected Impacts from Climate Change
- Why Adapt?
- The Cost of Doing Nothing
- Adaptation Strategies:
  - 1) Increase Infrastructure Resilience
  - 2) Strengthen Public Health Systems
  - 3) Enhance Emergency Management and Community Preparedness
  - 4) Promote, Restore, and Protect Green Infrastructure and Ecosystems
  - 5) Protect Local Food Security
  - 6) Increase Resiliency Awareness and Outreach
  - 7) Ensure Equity in Adaptation
- 45 Community & Municipal Strategies

## EXPECTED IMPACTS FROM CLIMATE CHANGE

END OF CENTURY, SAN ANTONIO

	Low Emissions Pathway	High Emissions Pathway
Summer Maximum Temperature	+6°F	+10°F
Hot Days (Maximum Temperature >100 °F)	+48 days	+94 days
Warm Nights (Minimum Temperature >80 °F)	+10 nights	+55 nights
Annual Precipitation	-3 inches	-4 inches



# View the Plan and Provide Feedback



View the plan and learn more by visiting [saclimateready.org](http://saclimateready.org)

Take our survey by visiting [saclimateready.org/take-our-survey/](http://saclimateready.org/take-our-survey/)

Provide feedback by:

- Visiting [saclimateready.org](http://saclimateready.org)
- Emailing: [sustainability@sanantonio.gov](mailto:sustainability@sanantonio.gov)
- Mailing: 1400 S. Flores Unit #2  
San Antonio, TX 78204
- Commenting today!

Schedule a Presentation by emailing [christopher.wilcut@sanantonio.gov](mailto:christopher.wilcut@sanantonio.gov)

# Timeline

1/25/19	• Public Release of the Draft Plan & Open Comment Period
2/24/19	• 30-day Public Comment Period Closes – <b>Will BE EXTENDED</b>
2/27/19	• Planning Commission Work Session
3/13/19	• Planning Commission
3/20/19	• Steering Committee/Public Meeting
3/26/19	• Community Health & Equity Committee Briefing
4/3/19	• B-Session
4/11/19	• A-Session

# SA Climate Ready Takeaways

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- Stresses clean energy, energy efficiency, mobility options, vehicle electrification, reduced waste production, and sustainable development.
- Is about clean air, good jobs, transportation choices, clean and secure energy, emergency preparedness, and current and long-term quality of life.
- Our GHG Emissions have fallen 10% between 2014 and 2016.
- SA Climate Ready only provides a general framework and pathway; prior to strategy implementation, additional stakeholder engagement, and evaluation around process, costs, benefits, and potential barriers and opportunities will occur.

# Let's Get Climate Ready!



## Mitigation

Reducing greenhouse gas emissions through everyday behaviors and policies.

Bike or walk to work and school



## Adaptation

Responding to climate change by developing practices that ease the effects of global warming.

Plant a drought-resistant yard



## Resilience

Anticipating, preparing for, and flourishing in a changing climate.

Teach your kids skills for a sustainable, healthy life







# Thank You!

Douglas Melnick, AICP, CNU-A, ISSP-SA  
*Chief Sustainability Officer*  
Office of Sustainability

