

# City of Phoenix Climate Action Planning Process

## SCN Climate and Resilience Workgroup



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Office of Environmental Programs  
March 15, 2021



C4O  
CITIES

# Climate Action Planning Process Outline



- Introduction
- C40 Cities and Deadline 2020
  - Plan Requirements
- Climate Liaisons
- Climate Action Plan Framework
- Community Outreach
- Timeline

# Introduction



**2009**

**First City  
Operations  
Greenhouse  
Gas  
Emissions  
Inventory**

**City  
Operations  
Climate  
Action Plan**

**2012**

**First  
Community-  
Wide  
Greenhouse  
Gas  
Emissions  
Inventory**

**2016**

**2050  
Sustainability  
Goals**

**2018**

**Most Recent  
City  
Operations &  
Community-  
Wide  
Greenhouse  
Gas  
Inventories**

**2020-  
2021**

**Climate  
Action  
Planning**

**Climate  
Action Plan  
by December  
2021**

**2050**

**Net-zero  
GHG city**

# Introduction - C40 Cities



- Phoenix joined C40 Cities in Feb. 2020
- Mayor Kate Gallego affirmed Phoenix commitment to the Paris Climate Accord
- C40-compliant Climate Action Plan by Dec 2021





# Introduction - C40 Cities & Deadline 2020

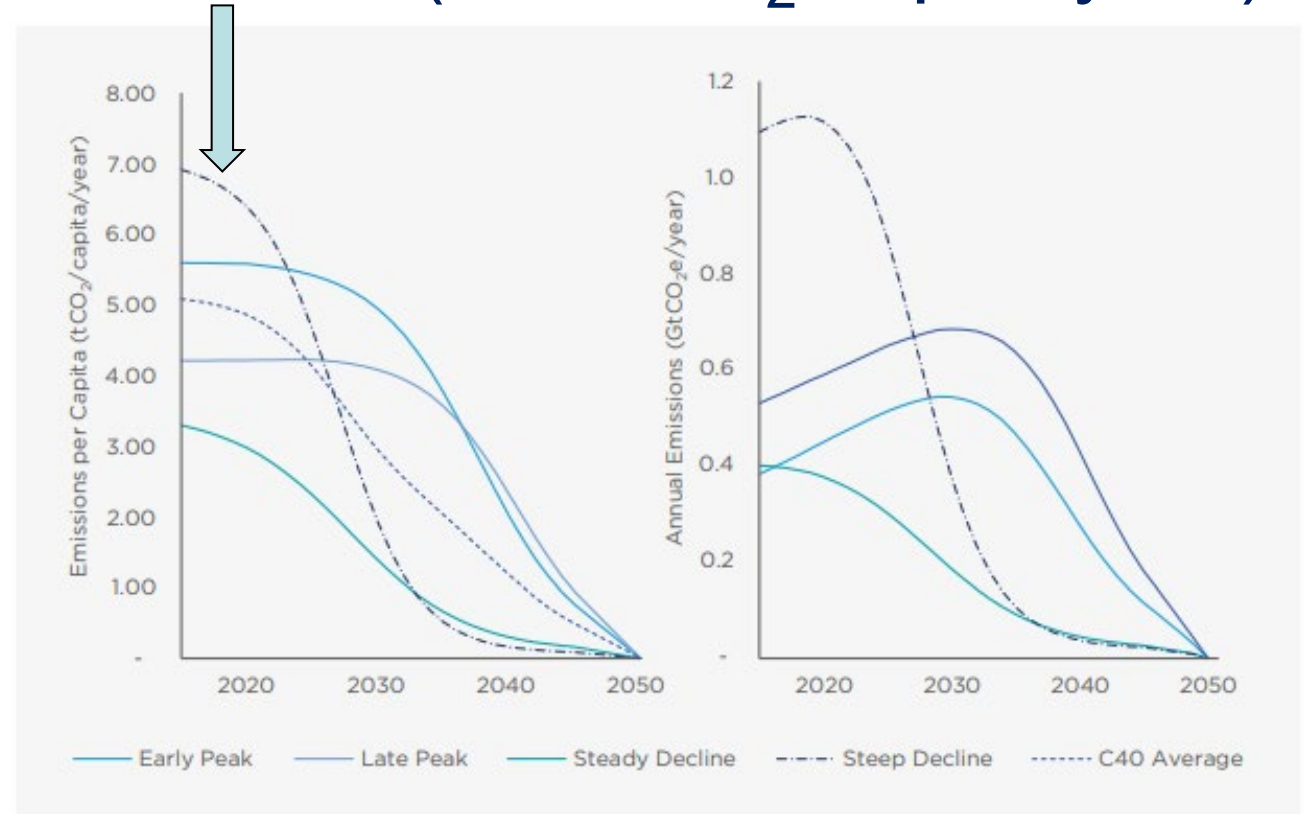


- Develop and begin implementing plan by 2020.
- As a new C40 city, the deadline for Phoenix is 2021.
- Set more stringent emissions targets for wealthier (GDP/capita) and high GHG emissions (GHG/capita) cities.

# Introduction - C40 Cities & Deadline 2020

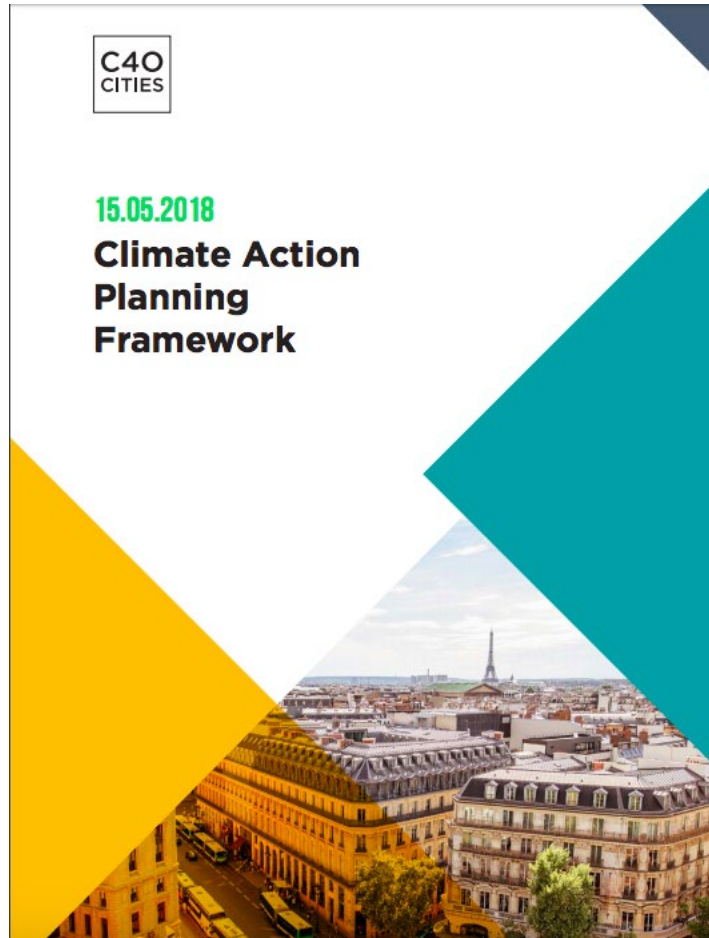


Phoenix (~10 tCO<sub>2</sub>/capita/year)



Phoenix should follow an early peak, steep decline pathway to zero GHG emissions by 2050.

# Climate Action Planning - Plan Requirements



- Support from Leadership - Mayor
- GHG Emissions
  - 2050 Target of Net-Zero GHG Emissions
  - Emissions Inventories from Stationary Energy, Transportation, Waste Sectors
  - **Mitigation Pathway**
- Climate Hazard Assessment
  - **Adaptation Strategy**
- Equity, Socioeconomic Factors, Community Engagement, Barriers

# Climate Action Planning - Plan Requirements



## LETTER FROM THE MAYOR



Climate action is an environmental, public health, and economic imperative. Phoenixians understand the inherent value of reducing our impact on the beautiful Sonoran Desert that we call home, and voters declared their commitment to making Phoenix the most sustainable desert city on the planet in the 2015 General Plan. The global challenge of climate change demands local action, and as a member of the C40 Cities Global Climate Leadership Group and the Climate Mayors Steering Committee, I am committed to doing our part to usher in a healthier, more equitable, and more sustainable future.

Doubling down on meaningful action now is not only the right thing to do—our continued prosperity depends on it. The coronavirus pandemic has dramatically altered the lives of Phoenix residents, exacerbating health issues and economic insecurities and underscoring the importance of clean air and water. Climate action is an essential component of the effort to restore our economic security, modernize our economy, and enhance the well-being of our residents and our environment.

There is incredible enthusiasm for climate action across the community and among residents of all ages and backgrounds. This enthusiasm must be harnessed to drive collaborative, tangible action toward a shared vision for the future of our great city. Every day, companies in Phoenix are committing to cleaner energy, establishing climate goals, and developing the technologies that will power a low-carbon economy. The City of Phoenix aims to lead in the development and implementation of the goals and actions that will move us forward.



This framework provides an outline and overview of the proposed Climate Action Plan, charting the path to carbon neutrality by 2050 or sooner. It consolidates plans and goals previously approved by the City Council and proposes additional actions and projects. The success of this plan depends on the continued commitment of all collaborators, both within the City of Phoenix and throughout the community.

I'd like to acknowledge the energy and effort that city staff across departments have already dedicated to this project. In a tumultuous year, Phoenix is proud to have dedicated public servants who are committed to our shared success.

We invite feedback and ideas from residents and representatives of all sectors. This plan will be made by and for all of us. Throughout the remainder of this year and next, there will be a variety of opportunities to get engaged in its development. It will be designed as a living document—with regular progress reports and updates—able to continuously respond to the ever-changing and unique needs of our city.

We're facing a big challenge, but Phoenix has the ingenuity, resilience, and courageous spirit to create a better city, and a better world, for future generations to come.

*Kate Gallego*

Phoenix Mayor Kate Gallego

## Support from Leadership

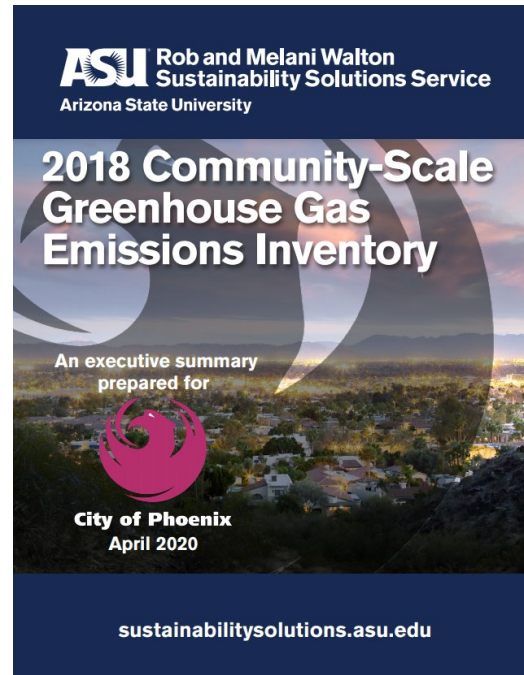
- Elected Officials
  - Mayor Kate Gallego
- City Management
  - Deputy City Manager Karen Peters
  - Office of Environmental Programs Administrator Nancy Allen
  - Chief Sustainability Officer Mark Hartman



# Climate Action Planning - Plan Requirements



- GHG Emissions
  - 2050 Target of Zero GHG Emissions
  - Emissions Inventories from Stationary Energy, Transportation, Waste Sectors
  - Mitigation Pathway

A screenshot of the Maricopa County Air Quality Department's Greenhouse Gas Emissions Inventory website. The page has a blue header with the Maricopa County logo and navigation links. A sidebar on the left lists various resources. The main content area is titled "GREENHOUSE GAS EMISSIONS INVENTORY" and includes an introductory paragraph, a "Summary of Results" section, and a table of 2018 Maricopa County GHG Emissions by Source Category.

Source Category	Gross GHG Emissions *MTCO2e	Percent
Electricity Use	21,859,902	42.6
Mobile Sources	20,857,181	40.7
Stationary Fuel Combustion	5,123,377	10
Wastewater	947,506	1.8
Livestock (Cattle)	904,886	1.8

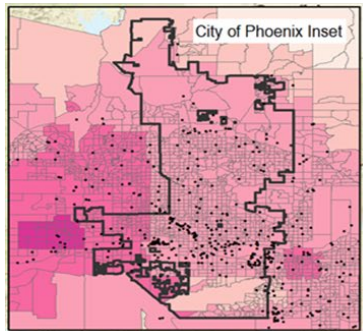
**8% difference** between what ASU calculated compared to Maricopa County Air Quality Department's county-wide GHG Emissions Inventory

# Climate Action Planning - Plan Requirements

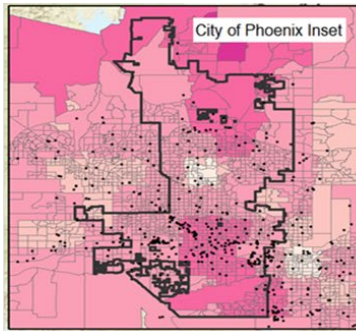


## ➤ Climate Hazard Assessment ➤ Adaptation Strategy

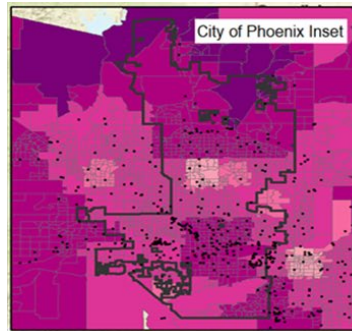
**Extreme Heat: Maximum Summer Temperature**  
(Darker colors signify higher temperatures)



**Historical  
Average over  
1986-2005**

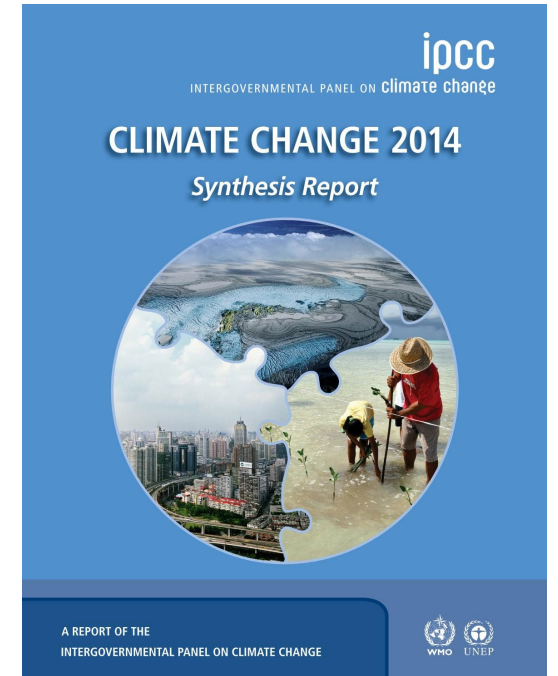
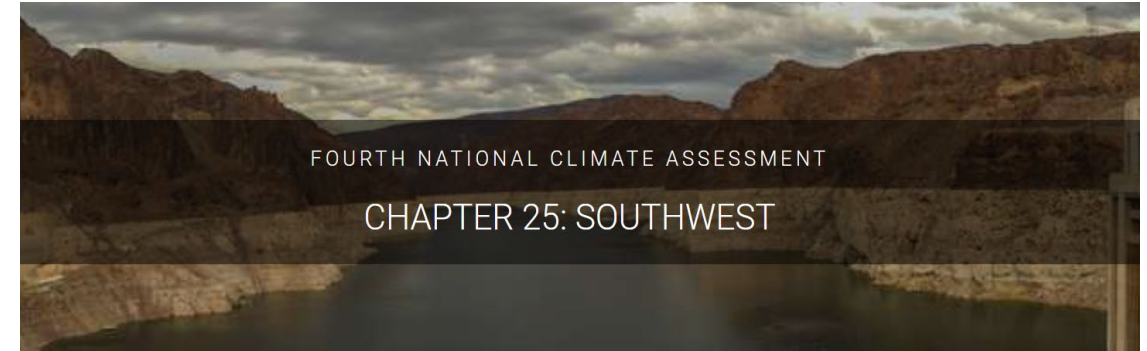


**Predicted:  
Lower Emissions**



**Predicted:  
Business as  
Usual**

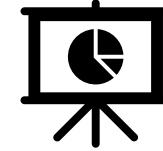
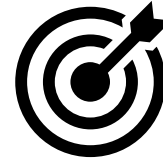
(Source: Study by RTI International, 2020)



# Climate Action Planning - Climate Liaisons



- Representative(s) from city departments
- Director Level
  - Or direct reports
- Established by City Management
- Began meeting over WebEx – Summer 2020
- Microsoft OneDrive to share presentations, documents, etc.



# Climate Action Planning - Climate Liaisons



- Office of Arts and Culture
- Aviation Department
- Budget and Research Department
- City Clerk Department
- Communications Office
- Community and Economic Development
- Phoenix Convention Center
- Office of Environmental Programs
- Equal Opportunity Department
- Finance Department
- Fire Department
- Governmental Relations Office
- Housing Department
- Human Resources Department
- Human Services Department
- Information Technology Services
- Law Department
- Phoenix Public Library
- Neighborhood Services Department
- Parks and Recreation Department
- Planning and Development Department
- Police Department
- Public Transit Department
- Public Works Department
- Retirement Office
- Street Transportation Department
- Office of Sustainability
- Water Services Department



# Climate Action Planning – Framework



**Climate Liaisons - 28 Departments**



# Climate Action Planning – Framework



**Climate Liaisons - 28 Departments**



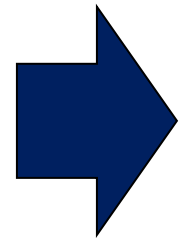
**ACTIONS**

Mitigation

Adaptation

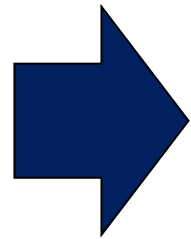


# Climate Action Planning – Framework



**Emission  
Reduction  
Goals**

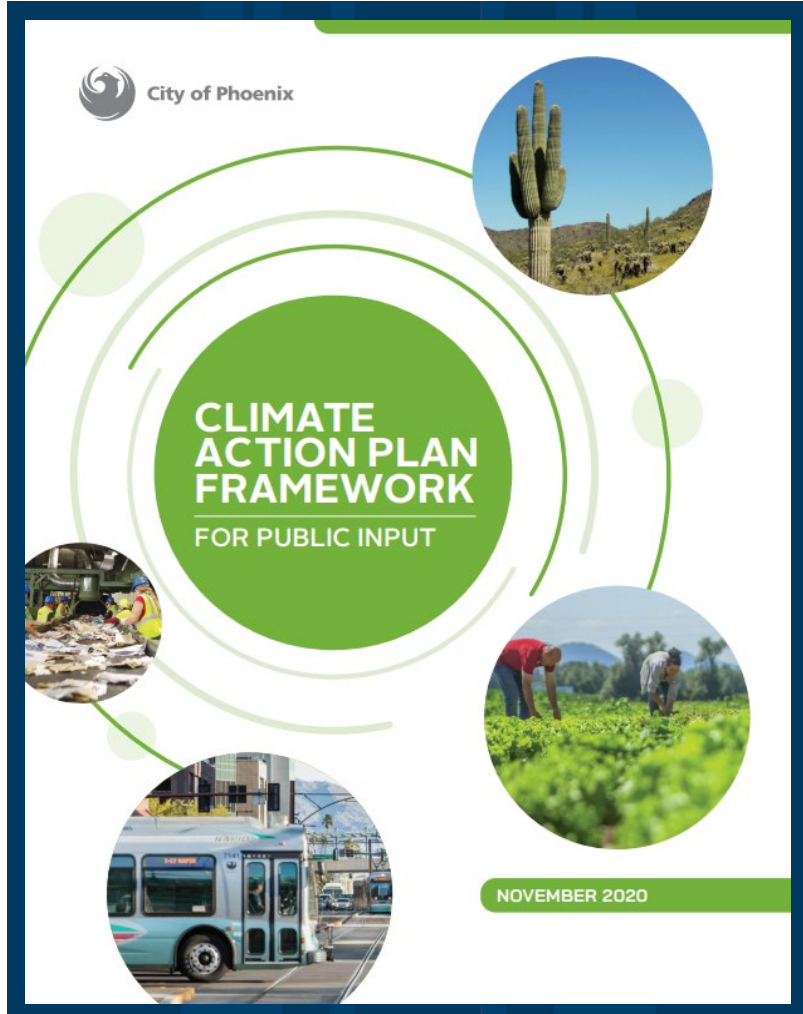
**Stationary Energy Sector  
Transportation Sector  
Waste Sector**



**Resiliency  
Goals**

**Air Quality  
Local Food Systems  
Heat  
Water**

# Climate Action Planning – Framework



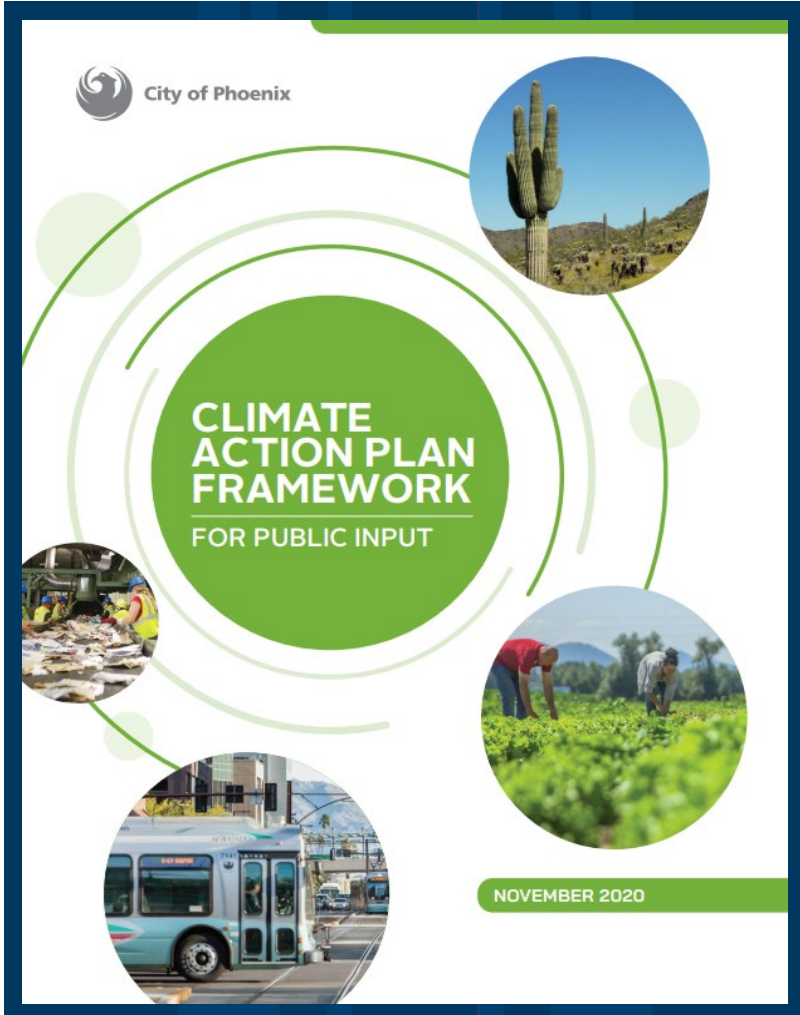
- Released in October 2020
- Basis for community outreach

[phoenix.gov/oep/climate](https://phoenix.gov/oep/climate)

- Recommendation – start with a user-friendly website URL



# Climate Action Plan Framework



**Sector Goals**

**2050 Goals**

**Quickstart Action Examples**

**Short, Mid, Long-term Goals**

**Key Achievements**

# Stationary Energy Sector Goals Example



## 2050 Goal:



New buildings are  
**Net Positive**  
in energy & materials



**15**  
vibrant compact  
complete centers

### Goal 1

Add 50 MW **Solar** by  
2030

### Goal 2

**Reduce energy use**  
25% by 2025

### Goal 3

Secure 200MW of  
**renewable energy** to  
offset electricity use in  
City Operations.

### Goal 4

Three new  
**conservation and  
renewable-energy  
programs** by 2025.

### Goal 5

Promote development  
of **microgrids**

### Goal 6

**Net-Positive  
Buildings** by 2050

### Goal 7

**Net-zero electrical  
grid** by 2050

# Stationary Energy – Quickstart Example



- Install solar at city housing sites for a total of 872 kW by 2021.

Osborn



Fillmore Gardens



[phoenix.gov/housing/building-affordable-housing/cni-grant](http://phoenix.gov/housing/building-affordable-housing/cni-grant)



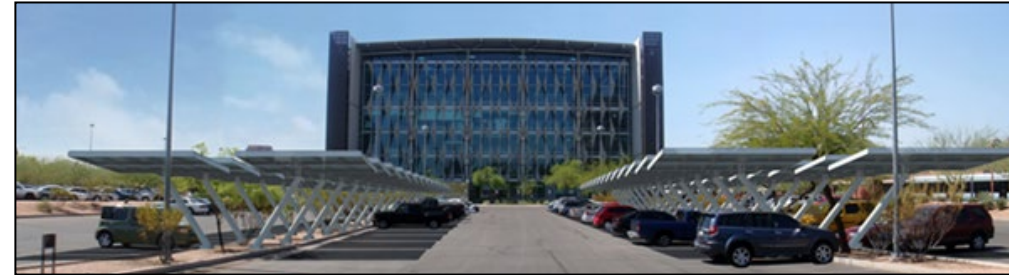
# Stationary Energy – Key Achievement Example



## Solar on 50 City Properties



***Rental Car Center Solar  
Installation: 4.2 Mega-watts***



***Burton Barr Library: 148 KW***



***Lake Pleasant Water  
Treatment Plant – 7.5 MW***



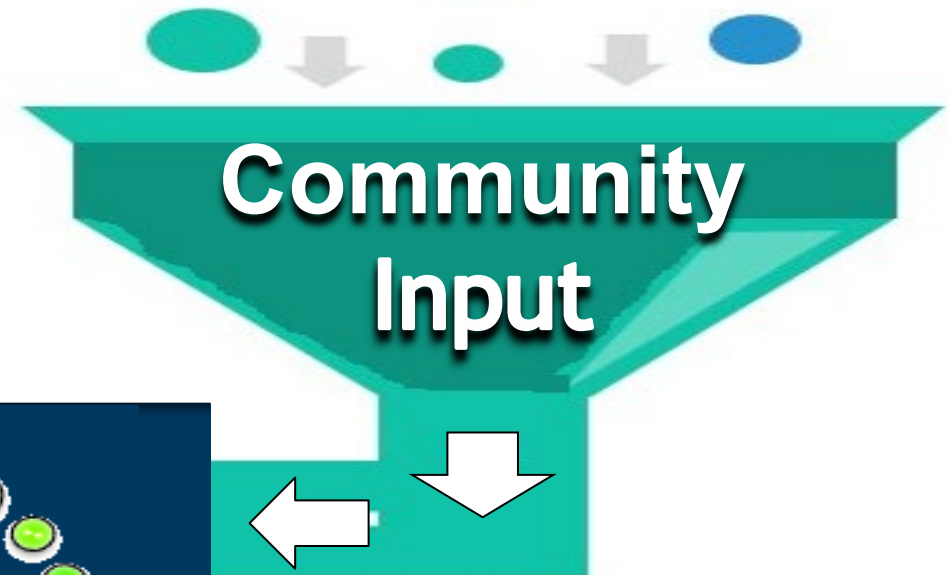
# Climate Action Planning – Community Outreach



**Climate Liaisons - 28 Departments**



**C40 Pathways Modeling  
Data Verification**



**ACTIONS**

Mitigation

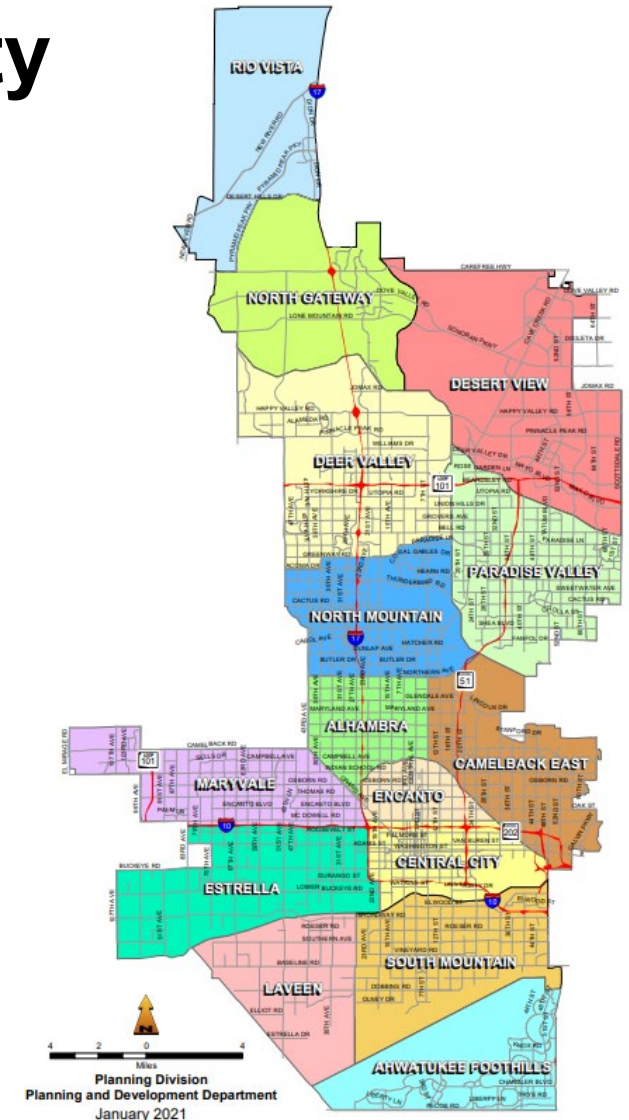
Adaptation



# Community Outreach – Council, Boards, Commissions



- **Environmental Quality and Sustainability Commission**
  - **Climate Action Planning Updates**
- **Transportation, Infrastructure and Innovation Subcommittee**
  - **Climate Action Planning Update**
- **Village Planning Committees**
  - **Greenhouse Gas Inventories and Climate Action Planning Update**



# Community Outreach – Workshops



1. Air Quality, Energy, Heat, Transportation, Waste
2. Energy, Heat, Water
3. Heat
  - Co-Hosted with CHISPA AZ
  - Offered in English with Spanish Translation
4. All goals within Framework
  - Co-hosted with Phoenix Union High School Sustainability Officer Program



The flyer is for the "Programa de Medidas Climáticas Ahora!" (Climate Action Program Now!) organized by the City of Phoenix and CHISPA AZ (League of Conservation Voters). It features a background image of a park with people walking. The text is in Spanish and includes the following details:

- City of Phoenix** and **CHISPA AZ** logos at the top.
- ¡Programa de Medidas Climáticas Ahora!** in large, bold letters.
- A blue speech bubble icon with the text: "Interpretación será disponible en tiempo real."
- 28 de enero - 6 PM a 7:30 PM**
- Oprima aquí para registrarse en línea** (Click here to register online)
- Responder antes del 27 de enero** (Respond before January 27)
- A paragraph: "Únase con CHISPA AZ y Municipalidad de Phoenix y exprese sus ideas sobre cómo tratar los cambios climáticos. Comparta sus inquietudes, necesidades e ideas para participar en la creación de soluciones."
- A paragraph: "Necesitamos su colaboración para ayudar a la Municipalidad en la determinación de prioridades, necesidades y oportunidades para tratar los cambios climáticos. El taller será presentado por CHISPA AZ y Oficina de Programas Ambientales."
- A blue box with white text: "Este taller tratará metas y medidas climáticas con un enfoque en Calor Extremo. Participantes verán una presentación breve seguido por discusión en grupos donde un facilitador iniciará actividades de visualización y pláticas guiadas."
- At the bottom: "Para más información sobre el Programa de Medidas Climáticas, [phoenix.gov/osp/climate](http://phoenix.gov/osp/climate)."

**4 Workshops**  
**186 participants**

# Phoenix Union High School Sustainability Officer Program Workshop



**Glendale Elementary School Solar Project - [Solar4Students.org](http://Solar4Students.org)**  
**Alyssa Cortez, Chief Sustainability Officer**



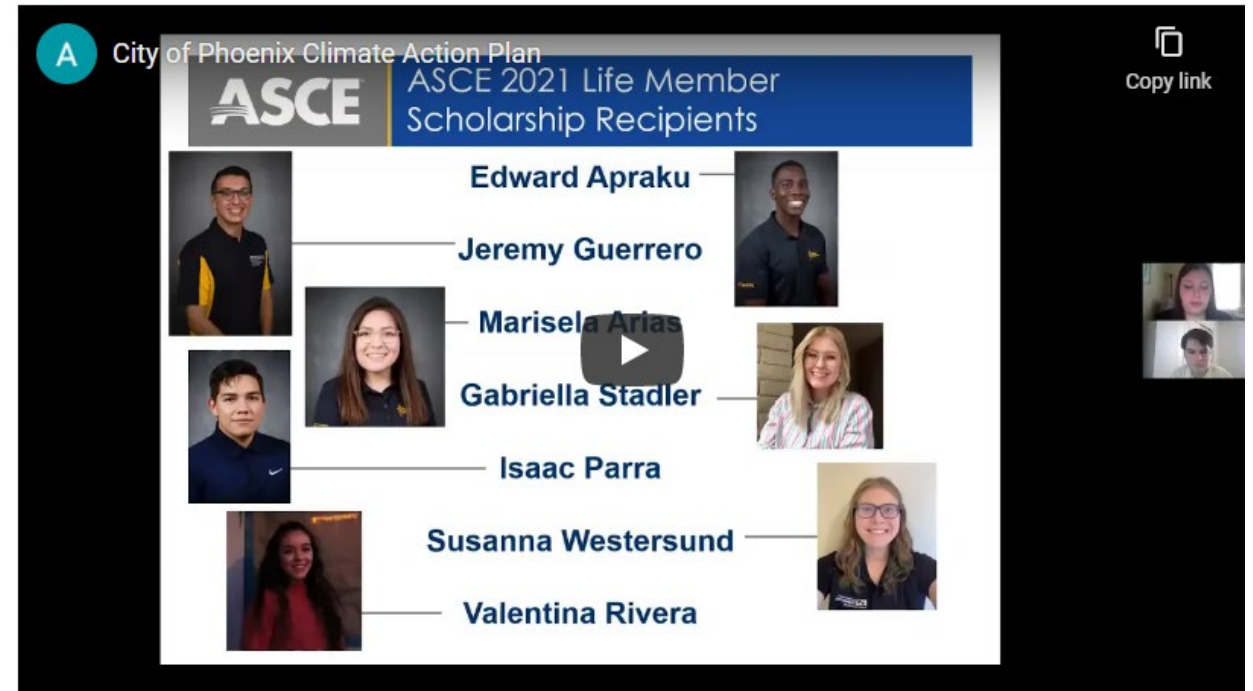
**School solar pavilion – photovoltaic-enhanced shade structure**



# Community Outreach - Presentations



1. American Society of Civil Engineers
2. Unlimited Potential AZ
  - In Spanish
3. Arizona Green Chamber of Commerce
4. Climate and Resilience Workgroup (Today)
5. Heat Preparedness and Resilience Workgroup



**4 Presentations**  
**135+ participants**

# Community Outreach – Online Surveys



## 1. General Climate Action Planning Survey

➤ Summer 2020

## 2. Framework Survey

➤ Fall/Winter 2020

## 3. Action Now Survey

➤ Winter 2020

Example of results from Summer 2020 Survey

	EXTREMELY CONCERNED	MODERATELY CONCERNED	SOMEWHAT CONCERNED	SLIGHTLY CONCERNED	NOT CONCERNED
Extreme Temperature/Heat Waves	75.64% 506	15.84% 106	4.63% 31	2.09% 14	1.79% 12
Prolonged and extreme drought conditions	82.21% 550	12.56% 84	1.94% 13	2.24% 15	1.05% 7
More intense and frequent thunderstorms and flooding during monsoon season	37.03% 247	29.09% 194	17.39% 116	7.35% 49	9.15% 61
Decreased air quality	81.76% 547	12.11% 81	3.14% 21	2.09% 14	0.90% 6
Increased wildfires	76.83% 514	15.25% 102	4.19% 28	2.09% 14	1.64% 11

**3 Surveys**  
**1,333 responses**

# Community Outreach – Other

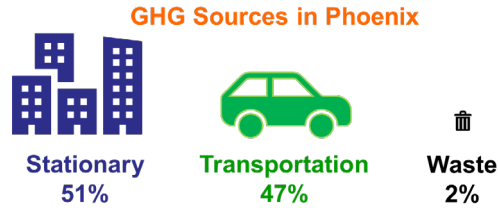


- Emails to [climate@phoenix.gov](mailto:climate@phoenix.gov)
- 34 emails
- Social media
- 50,000 Nextdoor impressions
- Facebook, Twitter
- PAYS – PHX At Your Service
- Television/Radio
- Enlace Noticias
- KTAR
- PHXTV



Other  
50,000+ impressions

# Community Outreach – Impact on Plan



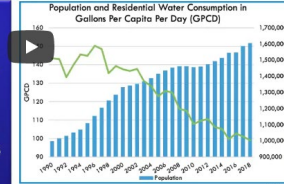
**GHG Inventory**

**Community Outreach**



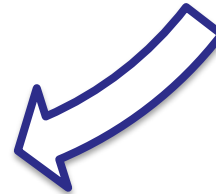
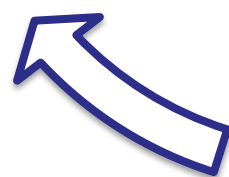
**PHXWATERSMART**

- Leads water conservation efforts
- Distributes tap water to 1.7 million customers
- Wastewater treatment for 2.5 million residents in 5 valley cities

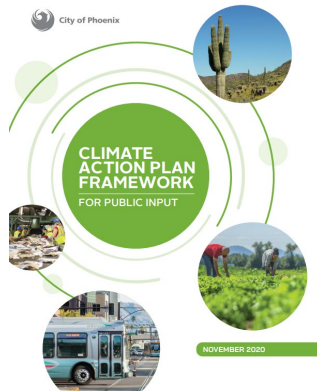


**Plan**

**C40 Pathways Model**



**Climate Liaisons**





# Climate Action Planning Timeline



**Framework Public Engagement**  
Virtual Workshops & Topic-Driven Surveys

Spring 2021

**Complete C40 Pathways Modeling**

Spring 2021 ← *We are here*

**Draft Plan Completed**

Spring 2021

**Draft Plan Community Engagement**

Summer 2021

**Final Plan to City Council**

Fall 2021

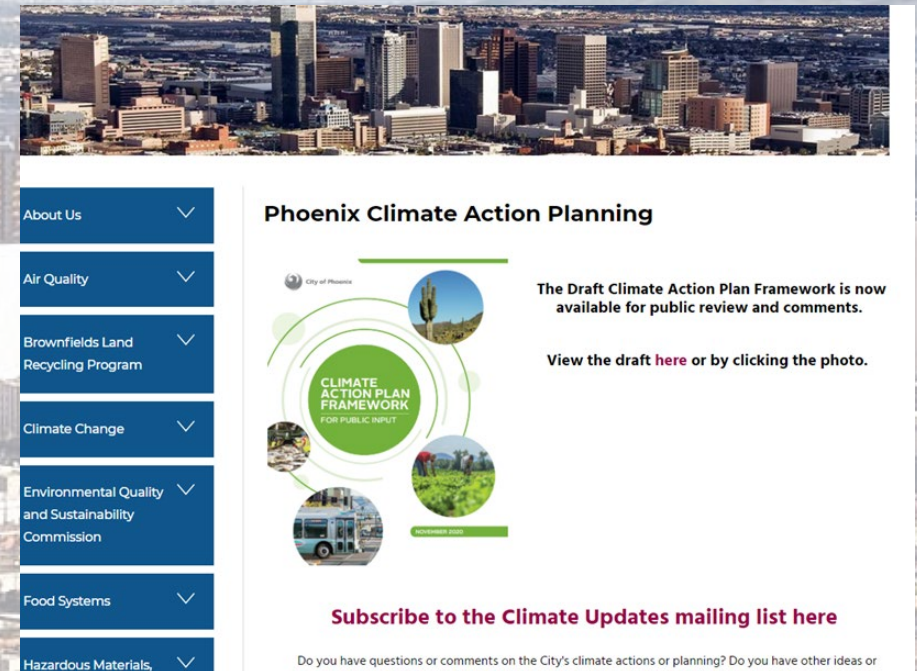
# Comments & Questions



## Climate Page, Surveys, Future Workshop Information

[www.phoenix.gov/oep/climate](http://www.phoenix.gov/oep/climate)

Public can submit questions to  
[climate@phoenix.gov](mailto:climate@phoenix.gov)



The screenshot shows the 'Phoenix Climate Action Planning' website. On the left is a vertical navigation menu with blue buttons and white text, each with a downward arrow: 'About Us', 'Air Quality', 'Brownfields Land Recycling Program', 'Climate Change', 'Environmental Quality and Sustainability Commission', 'Food Systems', and 'Hazardous Materials'. The main content area has a header image of the Phoenix skyline. Below the header, the text 'The Draft Climate Action Plan Framework is now available for public review and comments.' is displayed, followed by 'View the draft [here](#) or by clicking the photo.' A circular graphic with the text 'CLIMATE ACTION PLAN FRAMEWORK FOR PUBLIC INPUT' is shown, surrounded by four small images: a cactus, a person walking, a person working in a field, and a bus. At the bottom, there is a link 'Subscribe to the Climate Updates mailing list here' and a footer note: 'Do you have questions or comments on the City's climate actions or planning? Do you have other ideas or'.