

Welcome to the City of Phoenix Climate Action Planning 2021 Youth Workshop

February 20, 2021



C4O
CITIES



“Thanks for joining us today!”

Colin Tetreault



**C40
CITIES**



“The City of Phoenix aims to lead in the development and implementation of the goals and actions that will move us forward.”

Mayor Kate Gallego



Climate Strike



Sept 20, 2019 - over 1000 participants

Introduction



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



Paris Climate Agreement - The goal



Limit global warming to **2 °C** (or 3.6 °F) above pre-industrial levels by decreasing **greenhouse gas emissions** (GHG)

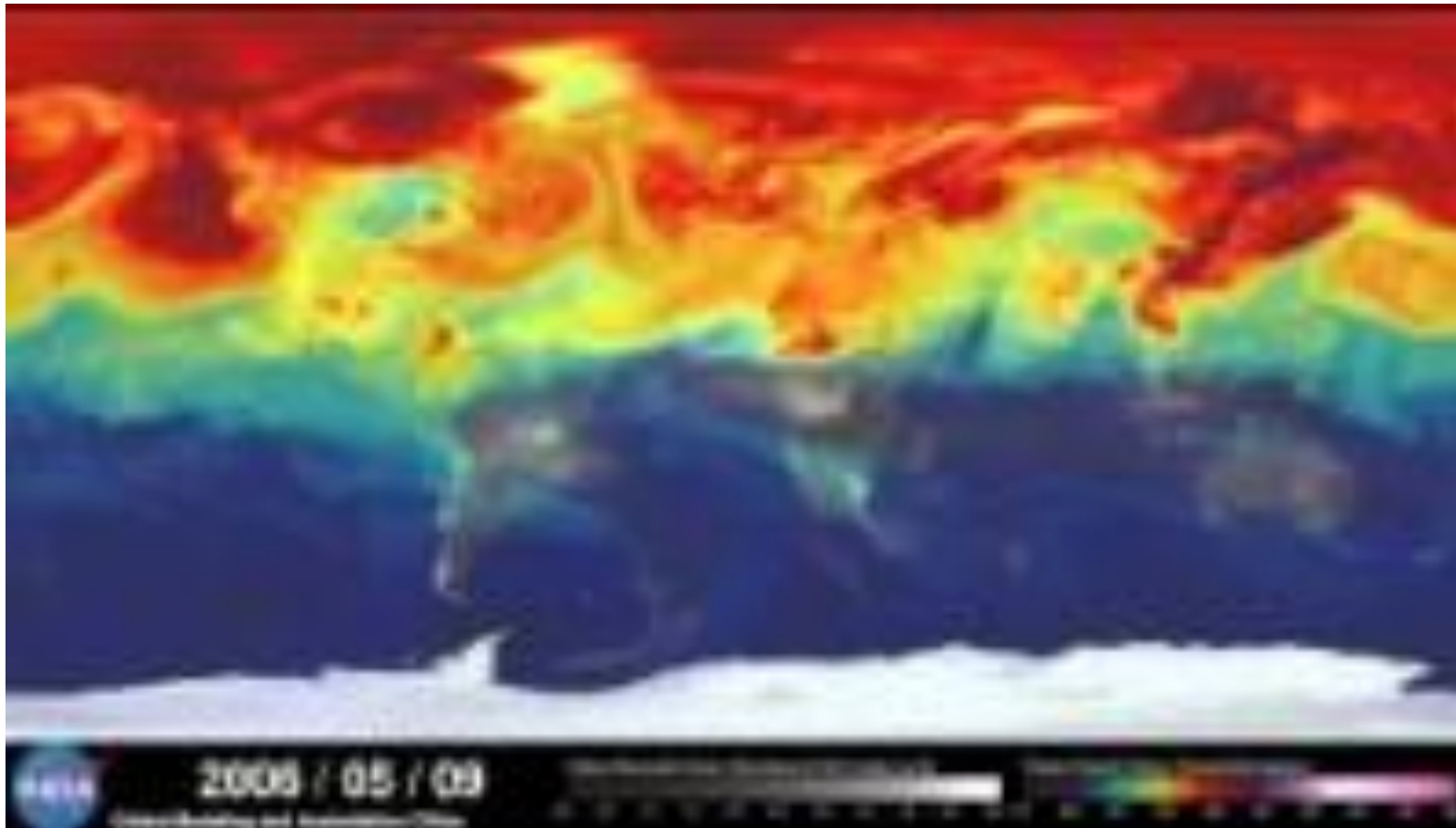
PARIS AGREEMENT: STATUS OF RATIFICATION



Paris Climate Agreement – All in it together.



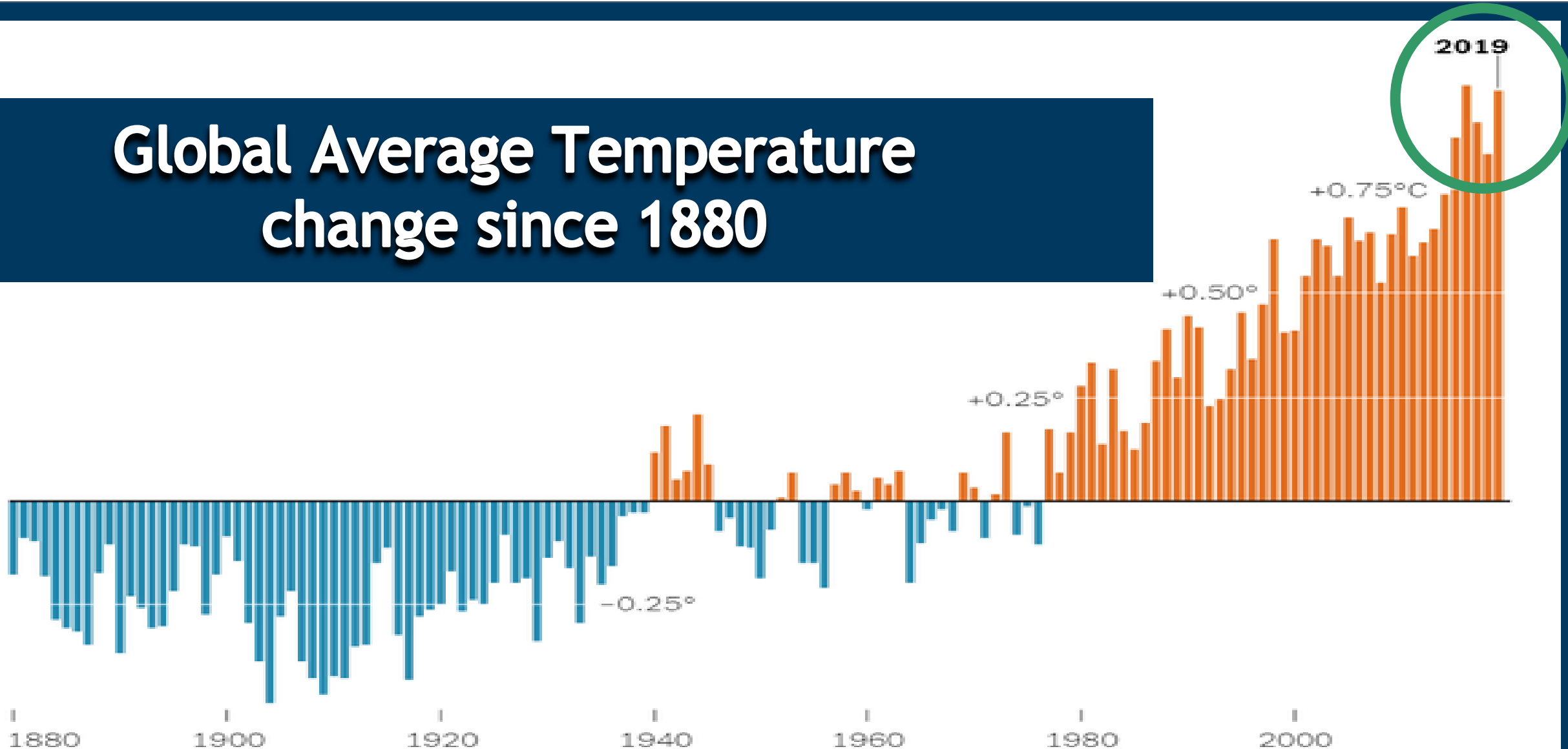
NASA - A Year in the life of CO₂



Where we stand - Your decisions matter



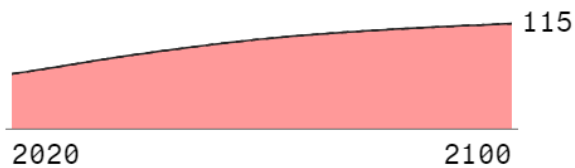
Global Average Temperature change since 1880



2020 Global Warming Simulator En-ROADS/Climate Interactive



Net Greenhouse Gas Emissions
Gigatons CO₂ equivalent



Without any intervention

+4.1°C

Temperature change from
preindustrial levels

**Starting
Point**



Build renewable power



Enact a carbon price



Make buildings and
industry more energy
efficient



Make transportation
more energy efficient



Electrify buildings and
industry



Electrify transportation



Curb deforestation



Regrow forests



Cut methane and other
pollution from
agriculture and industry



Mass-produce CO₂
removal technologies



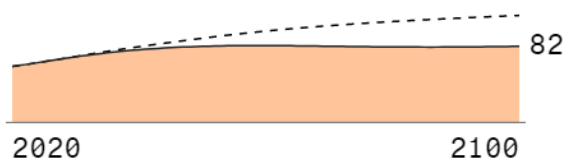
Choose all of these solutions

2020 Global Warming Simulator En-ROADS/Climate Interactive



*Let's say you
voted on
making
buildings
more energy
efficient.*

Net Greenhouse Gas Emissions
Gigatons CO₂ equivalent



With energy efficiency

+3.7°C

Temperature change from
preindustrial levels

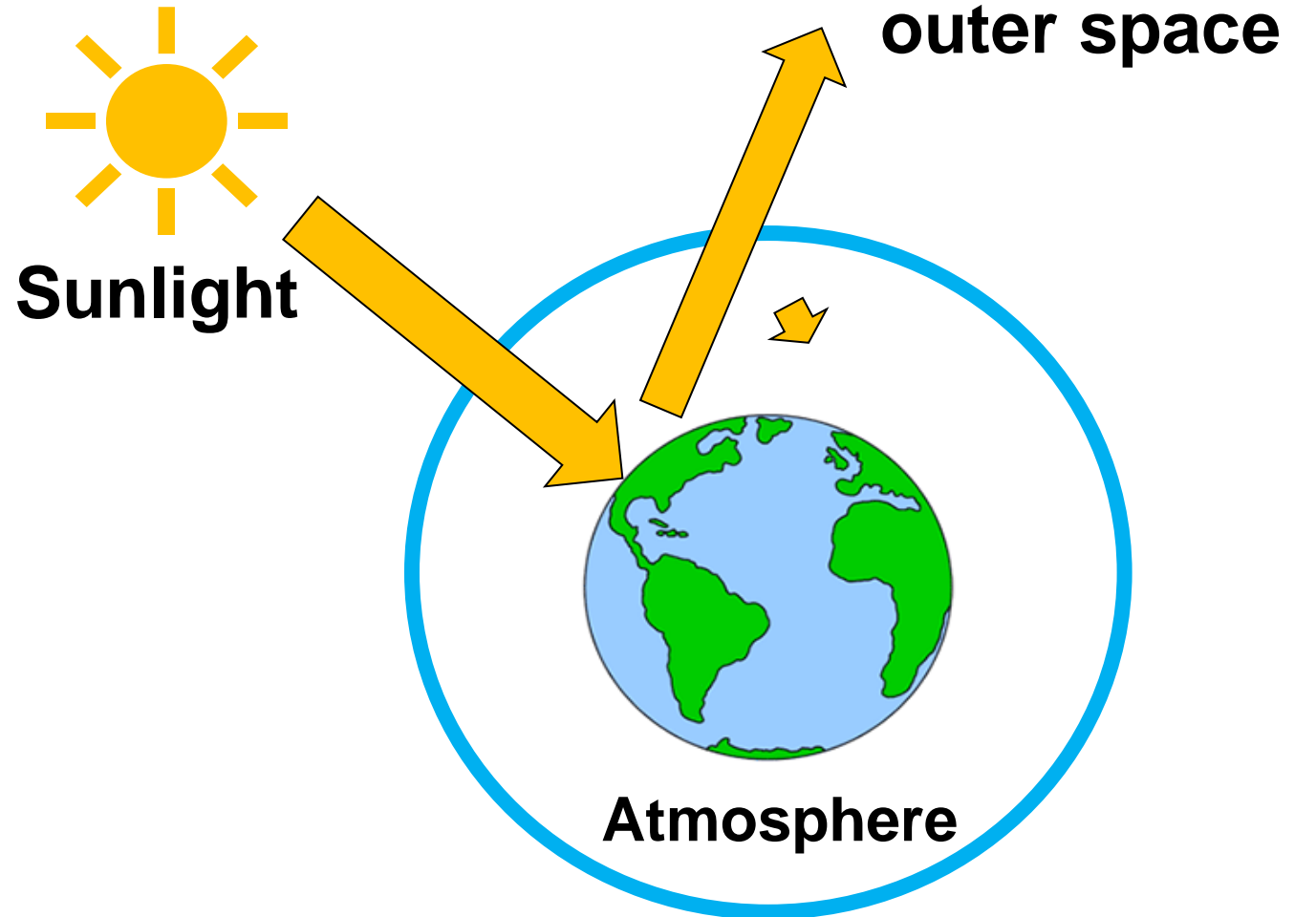
- Build renewable power
- Make buildings and industry more energy efficient
- Electrify buildings and industry
- Curb deforestation
- Cut methane and other pollution from agriculture and industry
- Enact a carbon price
- Make transportation more energy efficient
- Electrify transportation
- Regrow forests
- Mass-produce CO₂ removal technologies

Choose all of these solutions

Introduction - Why Greenhouse Gases?



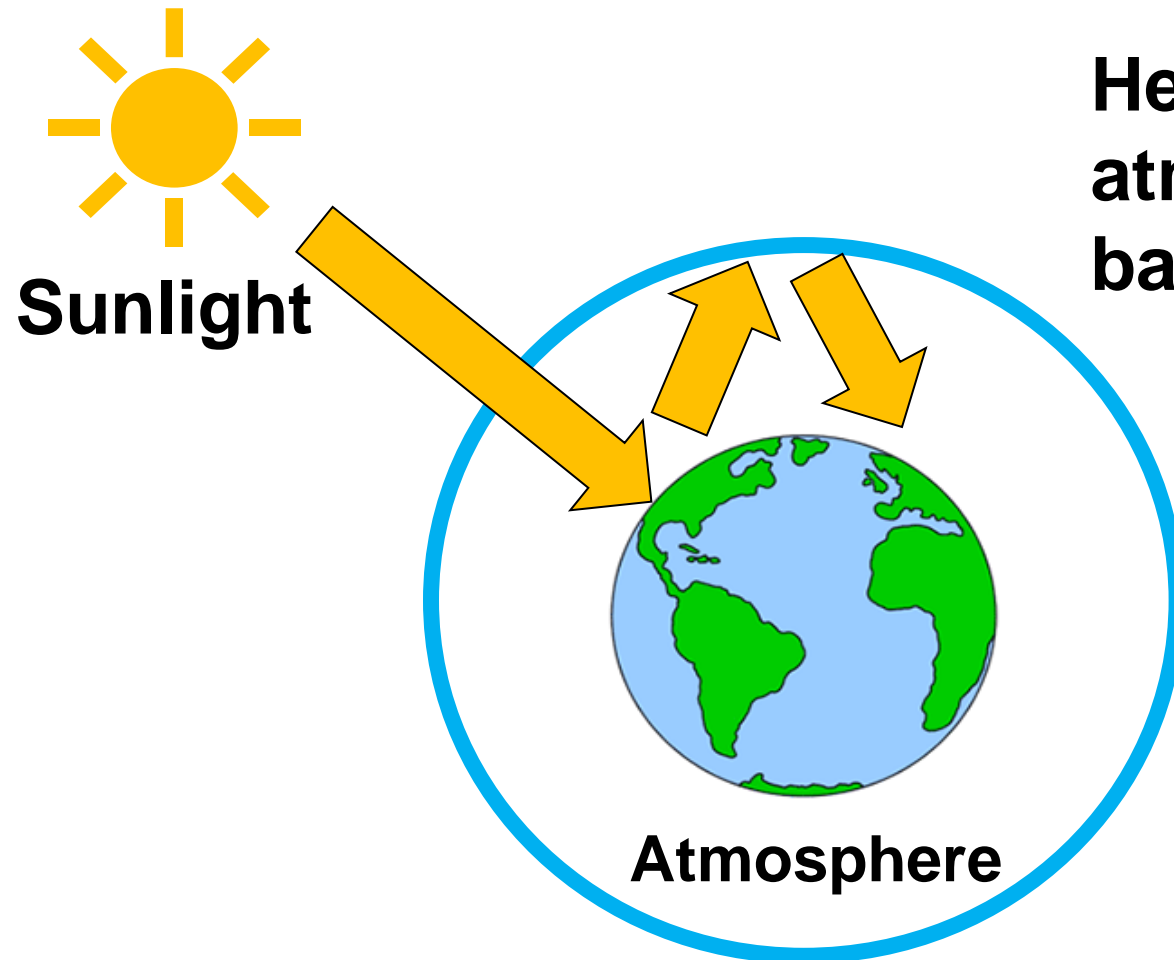
Greenhouse Effect



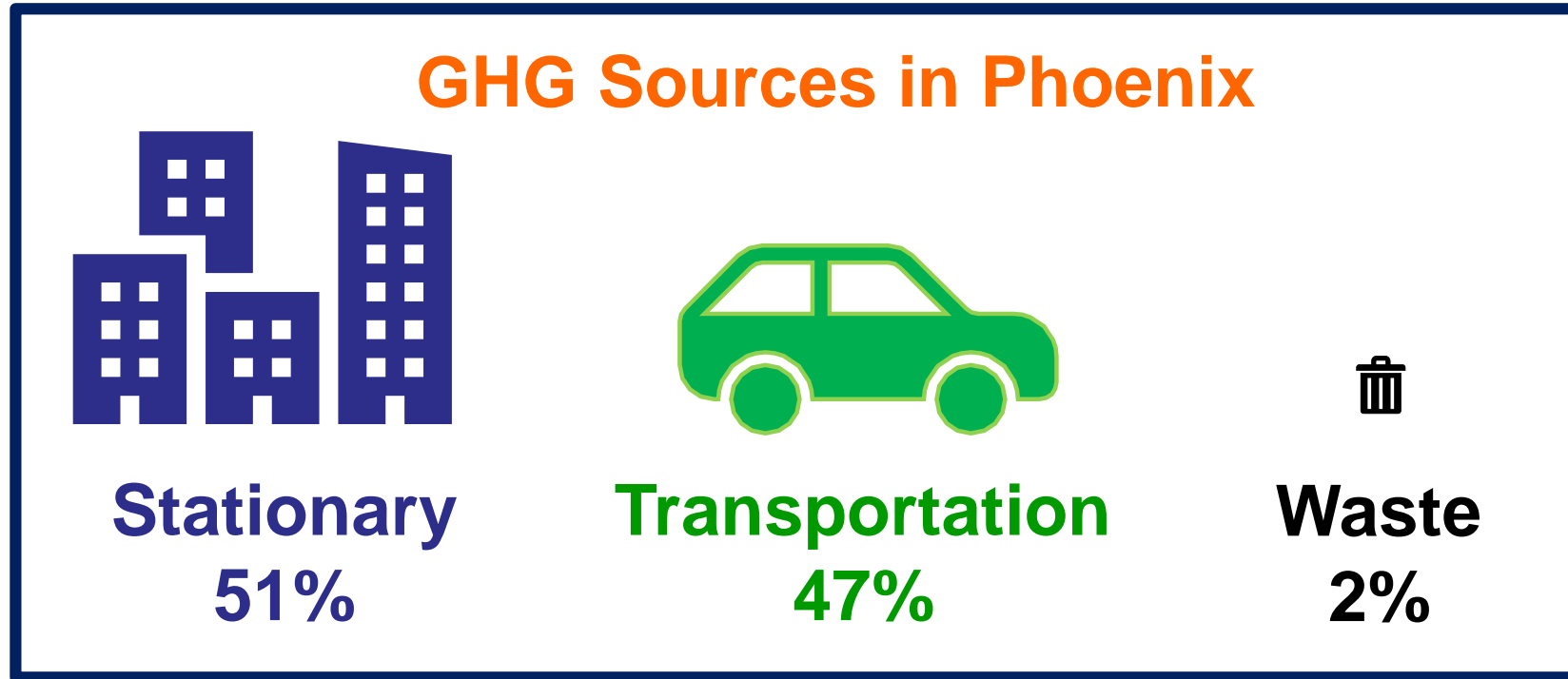
Introduction - Why Greenhouse Gases?



More GHGs in atmosphere means more heat for us



Heat stays in atmosphere and goes back to surface

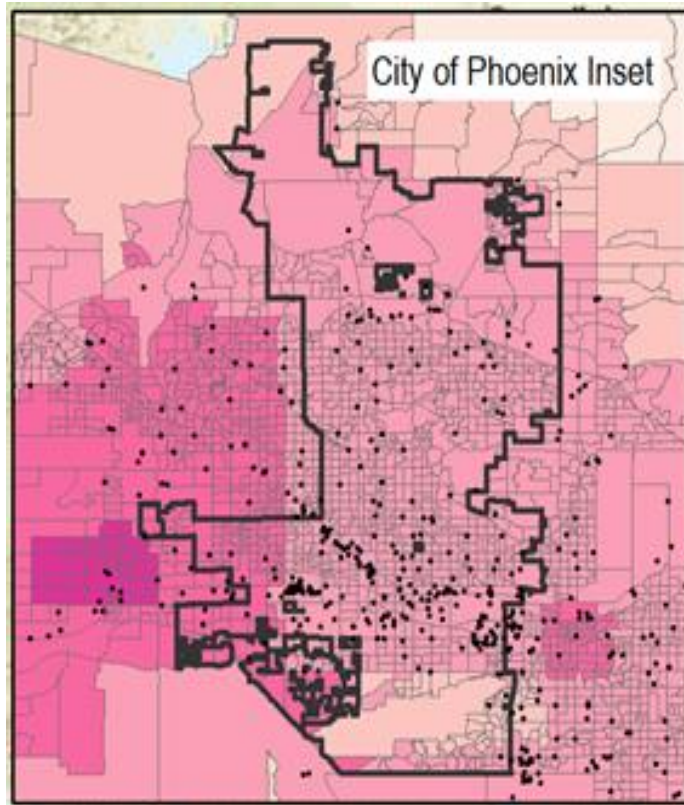


The largest sources of GHGs are from generation of electricity and gasoline fuel.

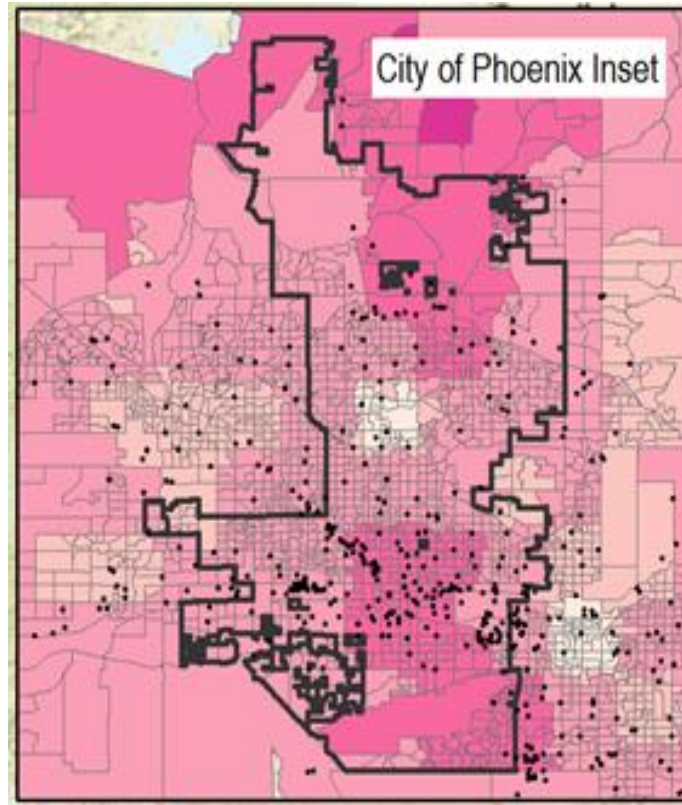
Introduction



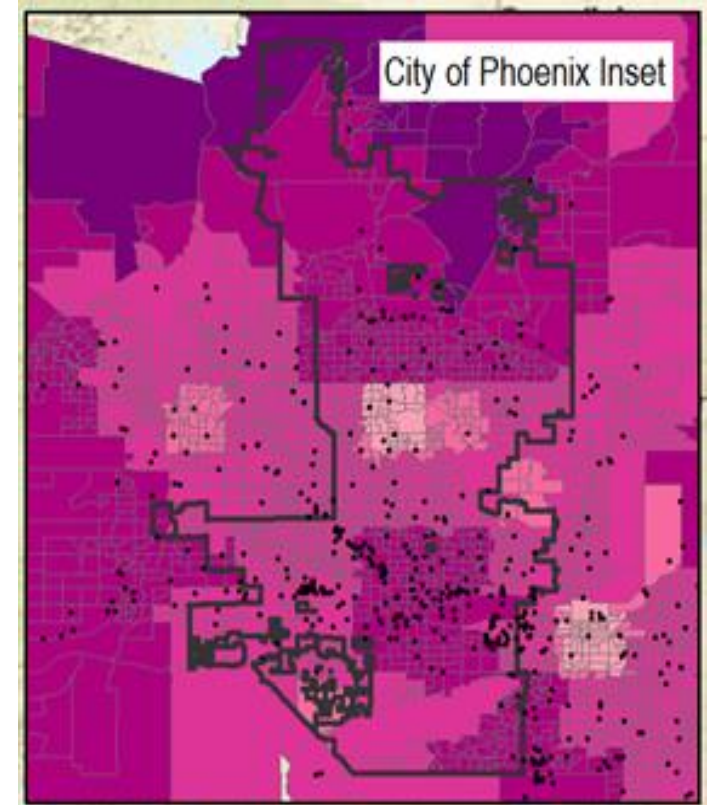
Extreme Heat: Maximum Summer Temperature (Darker colors signify higher temperatures)



**Historical Average over
1986-2005**



**Predicted:
Lower Emissions**

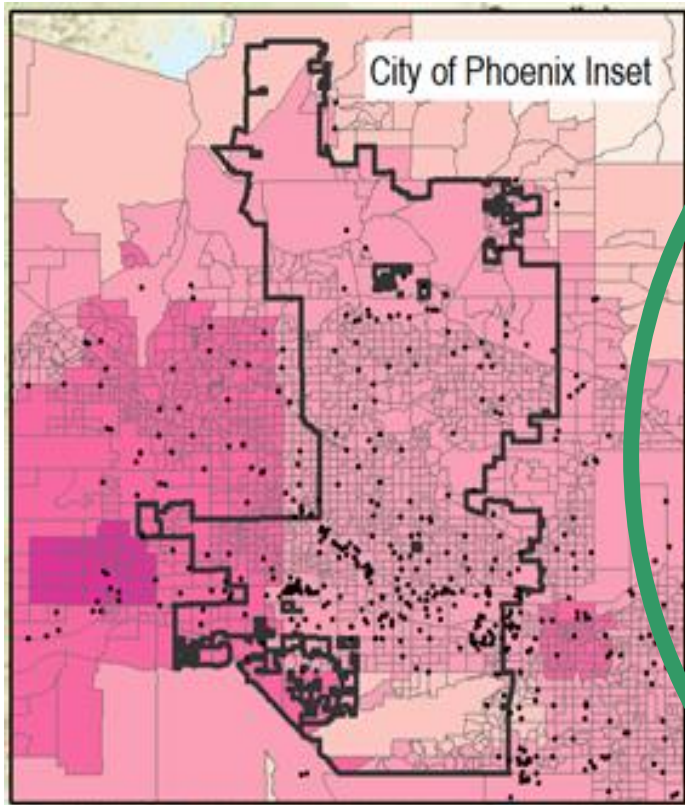


**Predicted:
Business as Usual**

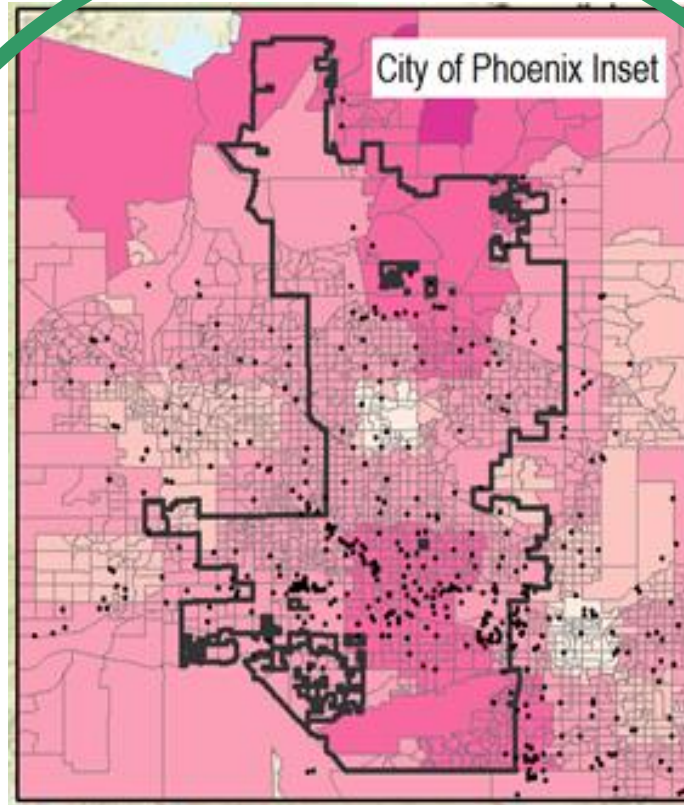
Introduction



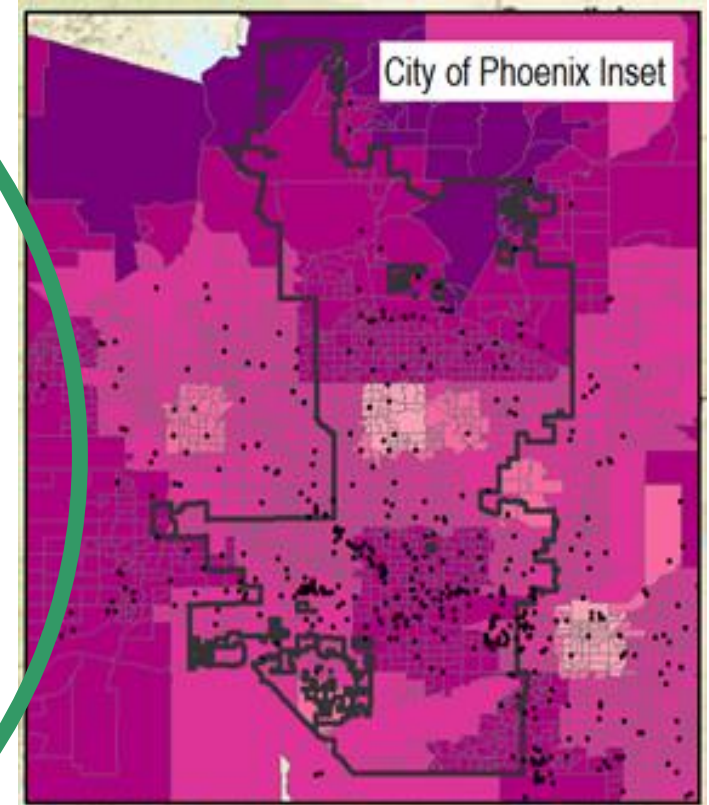
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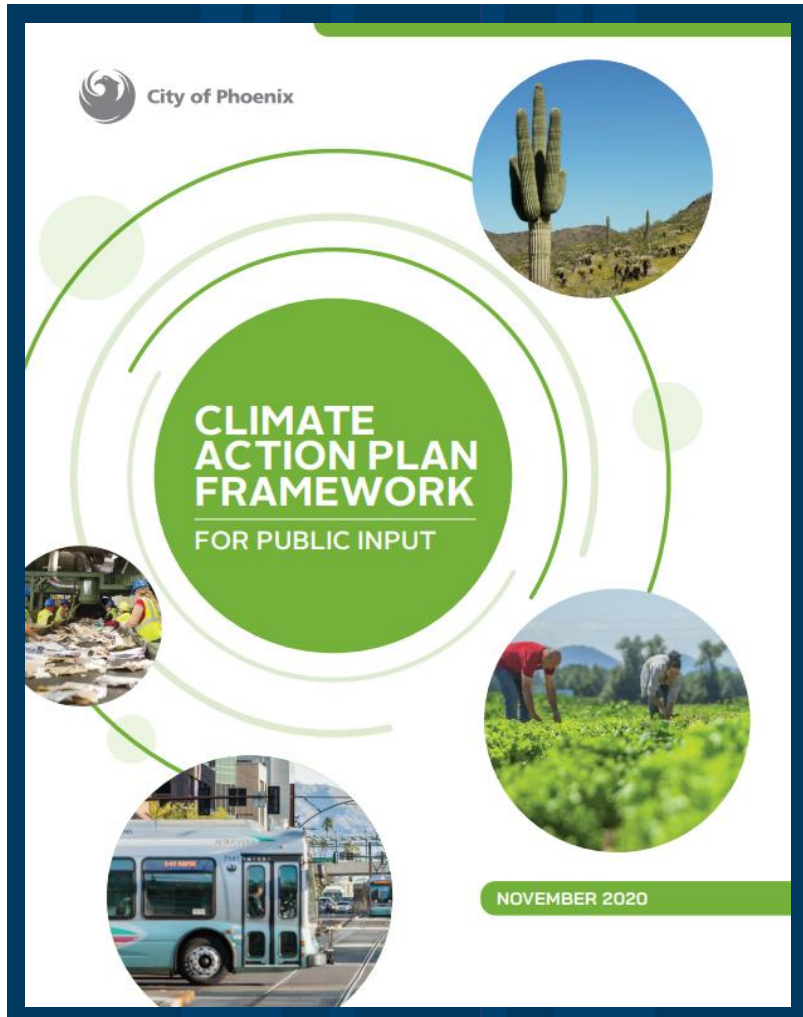


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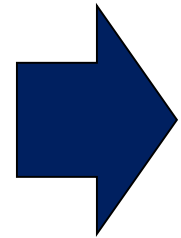
**Predicted:
Business as Usual**

Climate Action Plan Framework

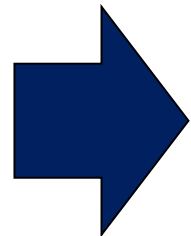


phoenix.gov/oep/climate

Climate Action Planning



Stationary Energy Sector
Transportation Sector
Waste Sector



Air Quality
Heat
Local Food Systems
Water

Stationary Energy Goals (Buildings)



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
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 – Key Achievement



Solar on 50 City Properties



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



Burton Barr Library: 148 KW



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

Stationary Energy – Youth Impact



Glendale Elementary School Solar Project - Solar4Students.org



School solar pavilion – photovoltaic-enhanced shade structure

Transportation Goals



2050 Goal:



Transit
in every Phoenix
neighborhood



90%
of residents
within 10-minute
walk of transit



40%
of commutes by
walking, biking,
transit & car-share

Goal 1

Implement **Complete Streets Policy**
and **Active Transportation**
Program to encourage multiple
modes of transportation.

Goal 2

Increase the use of
alternative fuels.

Goal 3

Increase the adoption and rollout
of **electric vehicle and electric-**
vehicle charging stations.

Goal 4

Reduce the **number of**
vehicle trips taken.

Transportation – Quickstart Example



Complete transition of the Public Transit fixed route fleet to 100% alternative fuel by 2020.



Diesel to natural gas.

Reduces GHGs and improves air quality.

Transportation – Youth Impact



Electric Buses

South Mountain High School

Students asked for
electric buses
– and got them!



Waste Goals



2050 Goal:



Zero Waste
through participation
in the circular economy



40%
Waste diversion
by 2020

Goal 1

Implement programs to increase the **reuse and recovery of waste materials** and promote social and economic value.

Goal 2

Reduce GHG emissions resulting from degradation of waste by increasing **landfill gas capture**.

Goal 3

Increase **waste-diversion participation by all residents and businesses**.

Goal 4

Transition to **green alternatives** from environmentally hazardous materials.

Goal 5

Expand **brownfield redevelopment** along the Rio Salado in Phoenix.

Goal 6

Reduce GHG emissions from water and wastewater treatment by **capturing biogas from treatment processes**.

Waste – Quickstart Example



Recycled Asphalt Pavement (RAP) pilot by 2025.

July 2019 – Phase 2 of ASU/City of Phoenix study to use recycled asphalt.

March 2020 – Recycled Asphalt Pavement Program launched.



10% Reduction in GHG per mile



Student Council Sustainability Officers Program

- **A UNIQUE FORM** ... of student engagement to promote sustainability and environmental awareness
- Schools **ADD** Sustainability Officer Positions to STUGO's
- Offers an avenue for students to participate and **LEAD** in civic and social issues that directly face local communities
- **SUSTAINABILITY OFFICERS (SOs)** ... gather supporters, implement projects and initiatives, green events, and educate and motivate the student body on sustainability

BIOSCIENCE STUDENT SUSTAINABILITY OFFICERS *FIRST* in Nation

Clarissa Smith, '15



William Witmer, '16





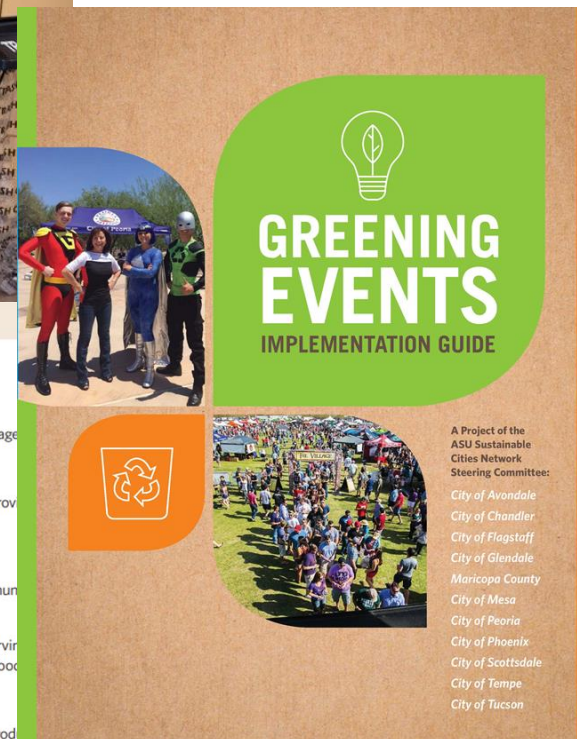
Greening Events Implementation Guide

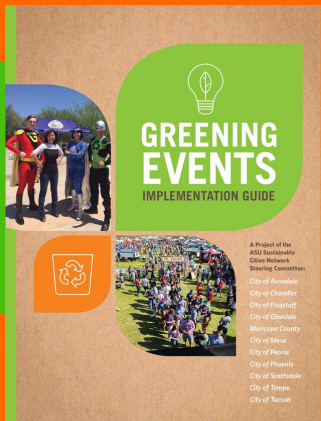
- Created in partnership with Phoenix & other SCN member cities
- Guide to help event planners plan more sustainable events
- Goals to reduce waste, increase sustainability knowledge and implementation, reduce an event's environmental impact, and increase local interest in hosting sustainable events



CATEGORY 3 :: FOOD & WATER

PLANNED	ACHIEVED	
<input type="checkbox"/>	<input type="checkbox"/>	FOOD AND MENU CHOICES
<input type="checkbox"/>	<input type="checkbox"/>	Make bulk water taps available
<input type="checkbox"/>	<input type="checkbox"/>	Encourage event attendees to bring their own refillable beverage
<input type="checkbox"/>	<input type="checkbox"/>	Provide vegetarian and vegan options
<input type="checkbox"/>	<input type="checkbox"/>	Print menus on recycled/environmentally friendly paper, or provide a screen or on a reusable white or chalk board
<input type="checkbox"/>	<input type="checkbox"/>	Use reusable, recyclable, or compostable serving trays
<input type="checkbox"/>	<input type="checkbox"/>	Establish the exact number of participants when confirming number of meals in order to avoid waste
<input type="checkbox"/>	<input type="checkbox"/>	Educate attendees about sustainable food practices when serving. This can be done by appropriate signage, menu notes, or by food service providers.
<input type="checkbox"/>	<input type="checkbox"/>	Use vendors that are committed to sustainability practices
<input type="checkbox"/>	<input type="checkbox"/>	Use Fair Trade, Direct Trade, Rainforest Alliance, or organic products
<input type="checkbox"/>	<input type="checkbox"/>	Use local food materials and ingredients
<input type="checkbox"/>	<input type="checkbox"/>	Use seasonal produce and materials
<input type="checkbox"/>	<input type="checkbox"/>	Choose sustainable seafood, free-range chicken, and/or grass-fed beef if serving non-vegetarian options
<input type="checkbox"/>	<input type="checkbox"/>	Ensure that caterers/food service providers are partnered with a local charity or food bank to collect leftover food





2020 Sustainability Challenge “The Green Games”

Phoenix Union High School District Winners!



1st

Place (\$2,500) - Franklin Police & Fire



2nd

Place (\$1500) - BioScience



3rd

Place (\$1000) - Cesar Chavez



Air Quality Goals



2050 Goal:



Clean Air
Out-performing
federal standards



Excellent or
good visibility on
90% of days

Goal 1

Decrease **ozone precursor emissions**, like nitrogen oxides and volatile organic compounds from municipal vehicles by 10% by 2025.

Goal 2

Decrease **emissions of dust/particulate matter** (PM-10 and PM-2.5).

Air Quality – Quickstart Example



Obtain a new Diesel Emissions Reduction Act grant by 2025.

January 2020 – \$1 million federal grant to replace **diesel-engine fleet** with compressed **natural gas**.

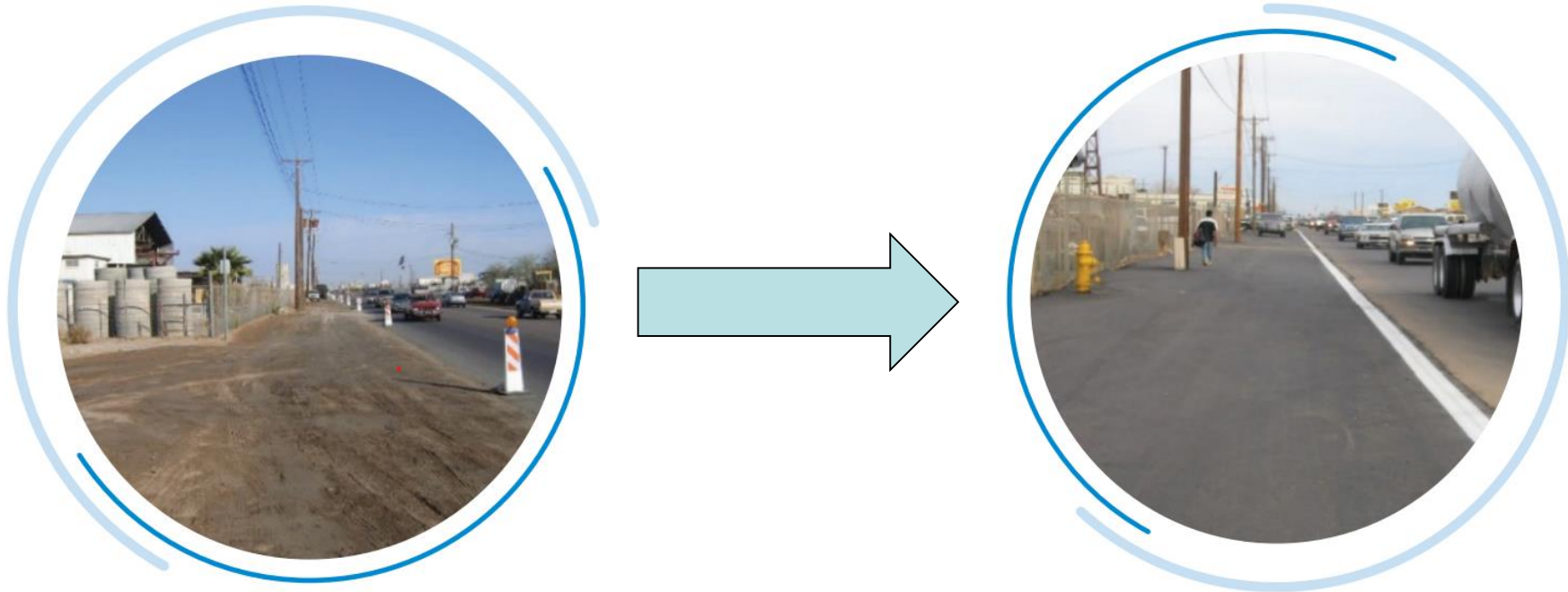


Air Quality – Key Achievement



Dust Reduction

Task Force reduced dust in targeted areas, made changes to city code, increased efforts on outreach and dust awareness.



Heat Goals



2050 Goal:



Everyone within a
**5-Minute
Walk**
of a park or pathway



25%
Tree and
shade canopy

Goal 1:

Create a **network of cool corridors** in vulnerable communities to facilitate movement from residents' homes to their places of employment, education and play.

Goal 2:

Increase **shade** provided by trees or constructed shade in parks, streets and right-of-way.

Goal 3:

Provide **resources and services** to residents to manage heat.

Goal 4:

Increase the use of high albedo, or **reflective, materials** in infrastructure projects.

Goal 5:

Develop **HeatReady certification** for cities.

Heat – Quickstart Example



Increase outreach about resources and services to residents to manage heat.



- Comprehensive program providing heat- and water-related information.
- phoenix.gov/summer



Heat – Key Achievement



Heat Respite Center

- Human Services - Heat Respite Center, Phoenix Convention Center
- Providers on site for case management, medical evaluations, HIV/Hepatitis C testing & flu shots.
- Lunch and dinner daily.
- May 29 – Sept 30, 2020 (27,000 guests)



Heat – Research Impact



Playground Temperatures

Work done by Jennifer Vanos, et al.

On a day at 107 °F

	In the Sun	In the Shade
Black Rubber Surface	189 °F	108 °F
Green Plastic Slide	161 °F	111 °F



Local Food Systems Goals



2050 Goal:



Goal 1

All people living in Phoenix should have enough to eat and have access to **affordable, healthy, local, and culturally appropriate food.**

Goal 2

Businesses that produce, process, distribute, and sell local and healthy food should be recognized as integral to the economy and encouraged to grow and thrive

Goal 3

Growing food in Phoenix and the region should be **easy and valued** for personal or business use.

Goal 4

Food-related waste should be **prevented, reused, or recycled** via sustainable food production practices that maintain a healthy environment.

Goal 5

Develop food policies and actions that address local and global challenges posed by climate change, urbanization, political and economic crises, population growth and other factors.

Local Food Systems – Quickstart Example



Convene local food producers with city staff, leaders, and elected officials to build trust and understanding by 2020.



Maricopa County
COMMUNITY FARMER ROUNDTABLE

- **Farmer Roundtable in October 2020 with Local First Arizona**
- **Steering Committee member for Coalition for Farmland Preservation**

Phoenix Food Facts

- **Food desert: poverty rate above 20% where more than 33% are more than 1 mile from fresh and healthy food.**
- **43 food deserts in Phoenix**
- **75% of food deserts in Maricopa County**
- **42% of the population in Phoenix is in a food desert**

Local Food Systems – Key Achievement



Maricopa County Food System Coalition (MarCo)

- **Voluntary community organization with mission of supporting and growing a food system that is healthy, equitable, sustainable, and thriving.**
- **Completed county's first comprehensive regional food assessment.**



Develop Consistent Messaging



Support the Adoption of
Policies and Regulations that
Strengthen the Community
Food System



Foster Urban Food Production



Reduce Food Loss and Recover
Food Waste

Local Food Systems – Community Impact



Spaces of Opportunity Farm and Garden



Water Goals



2050 Goal:



100-Year

Clean & reliable
supply of water

Goal 1:

Identify and implement **infrastructure projects** to ensure water security.

Goal 2:

Improve **conservation of water resources** by improving stormwater management, optimizing water use, conducting water audits, and utilizing wastewater.

Goal 3:

Increase outreach and provide programs to **residents and businesses** to reduce water use.

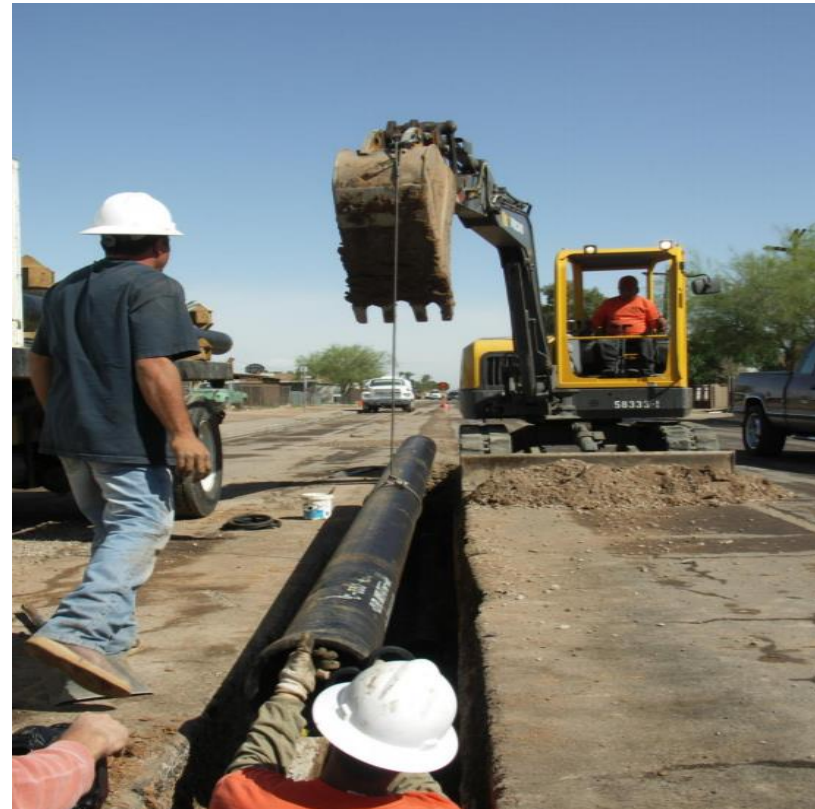
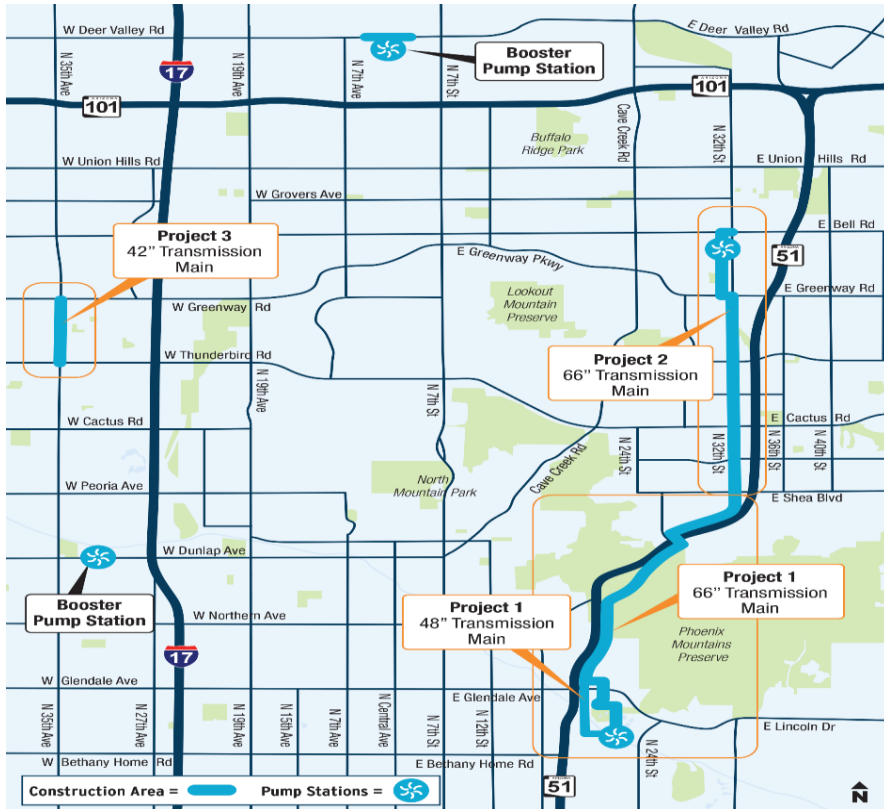
Goal 4:

Reduce GHG emissions from water and wastewater treatment by **capturing biogas** from treatment processes and increasing renewable sources of energy.

Water - Quickstart Action Example



Complete Drought Pipeline Project by 2025



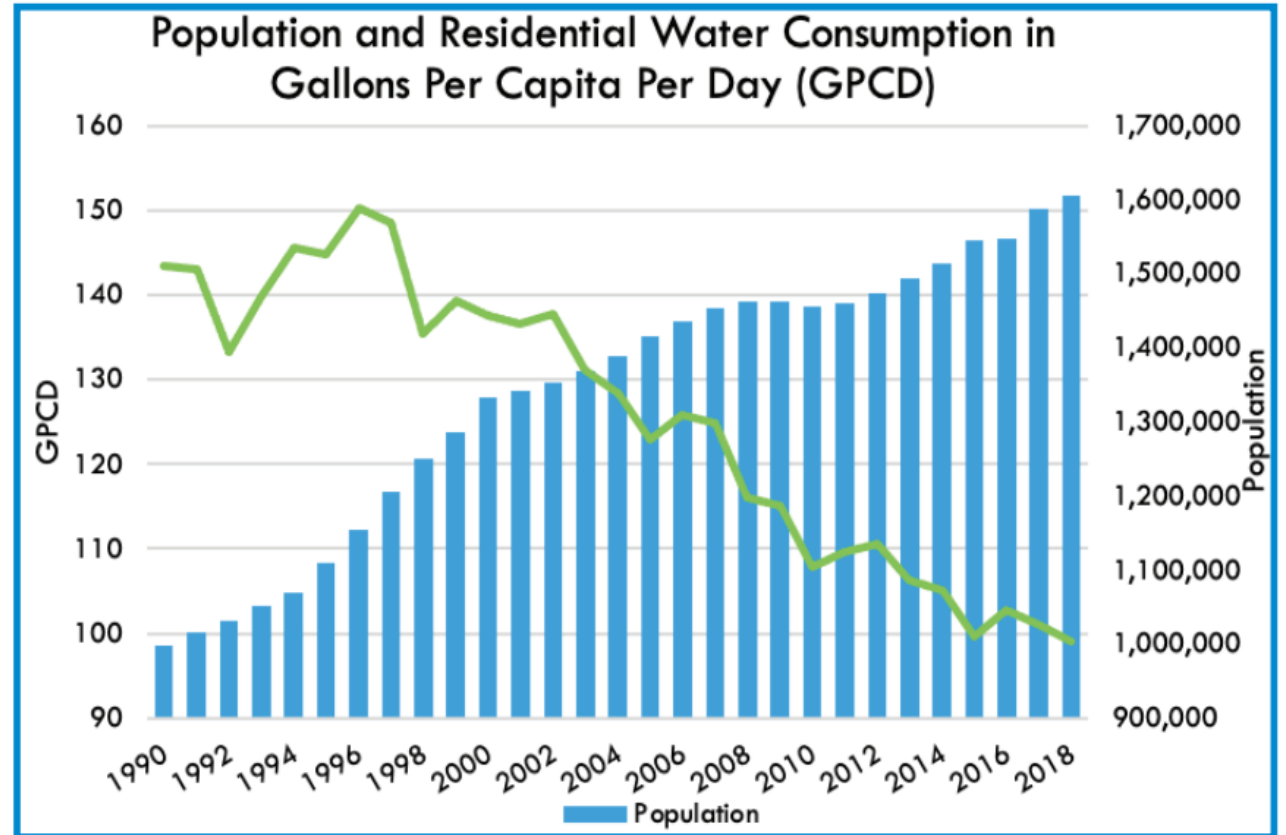
phoenix.gov/waterservices/droughtpipeline

Water - Key Achievement



PHX WATER SMART

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

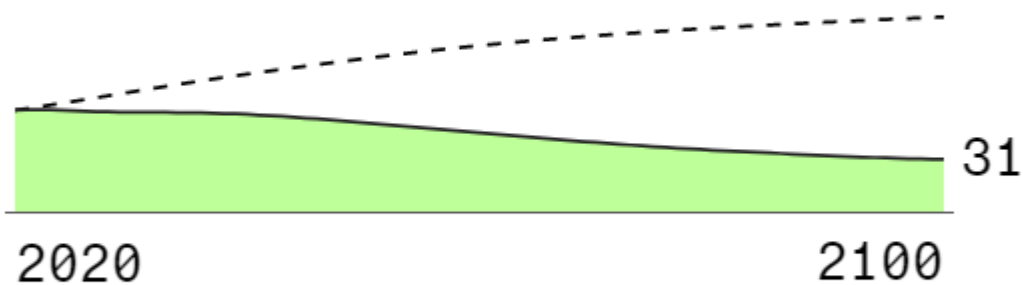


Where we stand - Your decisions matter



2020 Global Warming Simulator Results

Net Greenhouse Gas Emissions
Gigatons CO₂ equivalent



+2.6°C

Temperature change from
preindustrial levels

With renewable subsidies, energy efficiency, transport energy efficiency, buildings and industry electrification, transport electrification, reductions in deforestation, tree growth, reductions of methane and other emissions and carbon removal

How to use your voice



Find your Councilmember

<https://www.phoenix.gov/mayorcouncil/find-my-council-district>

Budget Hearings

<https://www.phoenix.gov/budget/fund>

Mayor & Council



The Phoenix City Council is made up of a mayor and eight councilmembers, elected by the people on a non-partisan ballot for four-year terms. Find information on this page to help you get in touch with your councilmember.

- [Use our online search to find your council member](#)
- [View a listing of all City Council staff](#)
- [View a list of City Council Subcommittees](#)
- [View City Council meetings and agendas](#)



Mayor Kate Gallego

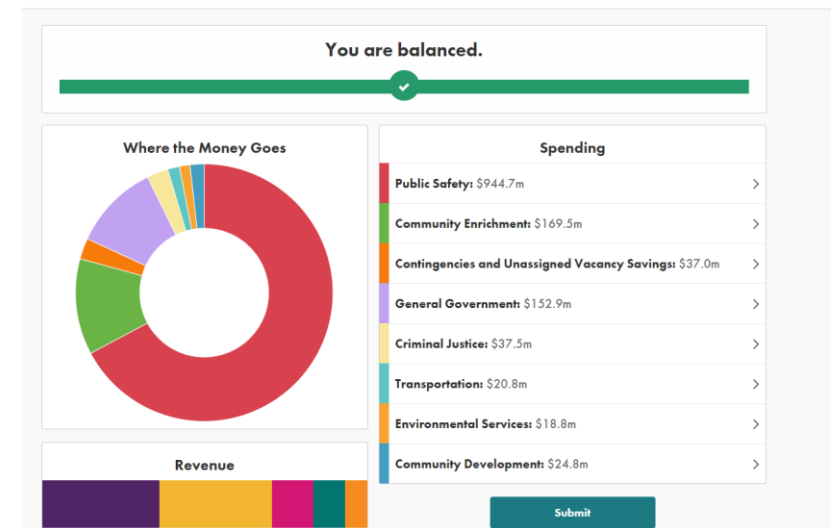
MAYOR'S HOME PAGE



EMAIL MAYOR GALLEGO



City of Phoenix 2020-21 General Fund Budget (by Category)



Next Steps



Public Engagement
Virtual Workshops & Topic-Driven Surveys

Spring 2021

Complete C40 Pathways Modeling

Spring 2021

Draft Plan Completed

Spring 2021

Draft Plan Public Comment Period

Summer 2021

Final Plan to City Council

Fall 2021

Raffle Winners Announced at 4 pm!

Thank you for your participation in the workshop!

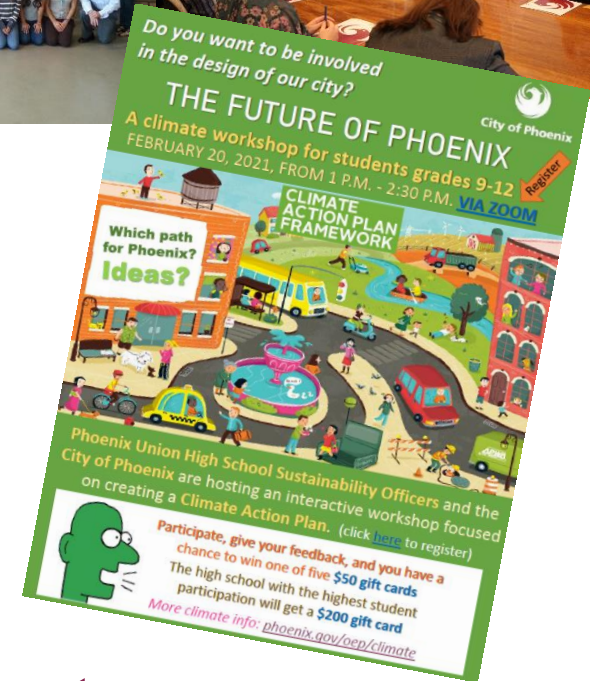
- **Five participants** will each win one \$50 Visa gift card.
- One \$200 Visa gift card to the **school with the most students registered for the workshop.**



**Winners will be announced today at
4 p.m. on our Twitter**



@phxenvironment



Comments & Questions



Climate Page, Surveys, Future Workshop Information

www.phoenix.gov/oep/climate

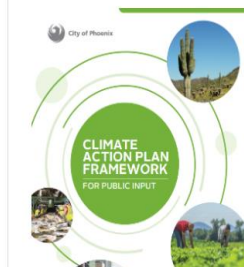
Public can submit questions to
climate@phoenix.gov



- About Us
- Air Quality
- Brownfields Land Recycling Program
- Climate Change
- Environmental Quality and Sustainability Commission
- Food Systems

Phoenix Climate Action Planning

Have a minute? Give us your feedback!
What climate action do you want by 2025?
[Let us know here!](#)



The Draft Climate Action Plan Framework is now available for public review and comments.

View the draft [here](#) or by clicking the photo.