CITY COUNCIL REPORT

Meeting Date: December 3, 2024
General Plan Element: *Environmental Planning*
General Plan Goal: *Expand the city's leadership in environmental stewardship & sustainability*

ACTION

Adopt Resolution No. 13308 approving the Scottsdale Community Sustainability Plan.

BACKGROUND

The City Council included adoption of a sustainability plan as part of the city's 2022 and 2024 Organization Strategic Plans, and it was identified as a part of the General Plan 2035 implementation. Work on the Community Sustainability Plan began in June 2021, with support of Arizona State University and with input from the Scottsdale Environmental Advisory Commission (SEAC) and other community members. City Council provided feedback and direction at multiple public meetings.

At its May 21, 2024, meeting, City Council directed staff to conduct at least two additional community outreach meetings. The city hosted two 90-minute interactive meetings in September 2024. In total, almost 70 people attended, sharing 200 comments about the content of the plan (Attachment 2).

In October 2024, the Scottsdale Environmental Advisory Commission (SEAC) voted to transmit a letter of recommendation to City Council (Attachment 3) to agendize adoption of the Community Sustainability Plan before December 31, 2024, and for specific clarifications to be made to the sustainability plan before adoption. As a result, a majority of council members provided feedback to agendize the Community Sustainability Plan for consideration and a possible vote at a City Council Meeting in December. To follow this direction, staff has prepared an updated draft of the plan (Attachment 1).

POSSIBLE ACTION

Adopt Resolution No. 13308 approving the Scottsdale Community Sustainability Plan.

RESPONSIBLE DEPARTMENT(S)

Office of Environmental Initiatives

Action Taken _____

BlueInk Bundle ID: Y4uddNTkje

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APPROVED BY

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11/21/24 10:22 MST

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Date

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11/21/24 10:41 MST

Erin Perreault, AICP, Director
Planning and Development Services
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Date

ATTACHMENTS

1. Resolution No. 13308 adopting the Scottsdale Community Sustainability Plan
   Exhibit A: "Scottsdale Community Sustainability Plan"
2. Summary of September 2024 Workshops
3. SEAC Recommendation Letter – Community Sustainability Plan (October 23, 2024)
4. Public Comments Received (May 22, 2024, to submission of this report)

BlueInk Bundle ID: Y4uddNTkje

RESOLUTION NO. 13308

A RESOLUTION OF THE COUNCIL OF THE CITY OF SCOTTSDALE, MARICOPA COUNTY, ARIZONA, APPROVING THE SCOTTSDALE COMMUNITY SUSTAINABILITY PLAN.

WHEREAS, the City Charter recognizes that providing for the preservation and enhancement of the environment of the City of Scottsdale is among the City's powers;

WHEREAS, the Scottsdale General Plan 2035, adopted by the Council and approved by Scottsdale voters, recognizes five core elements of sustainability and the environment – open space, environmental planning, conservation, water resources, and energy;

WHEREAS, through the City's 2022 and 2024 Organization Strategic Plans and as part of the Conserve and Preserve the Environment Strategic Goal, the Council supported developing and adopting the Scottsdale Community Sustainability Plan;

WHEREAS, the City Council provided input during multiple public meetings;

WHEREAS, the Community Sustainability Plan was developed and underwent extensive community outreach efforts through community meetings and surveys and was shaped by community input including the Scottsdale Environmental Advisory Commission and other City boards and commissions as well as subject matter experts; and

WHEREAS, after the extensive aforementioned input, the Scottsdale Community Sustainability Plan setting forth the City's aspirations for extreme heat, energy, air quality, water and waste was developed. A redlined version setting forth the proposed language of the plan is attached as **Exhibit A**.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Scottsdale, Maricopa County, Arizona, as follows:

Section 1. The City Council hereby approves and adopts the Scottsdale Community Sustainability Plan.

PASSED AND ADOPTED by the Council of the City of Scottsdale, Maricopa County, Arizona this _____ day of _____, 2024.

CITY OF SCOTTSDALE, an Arizona municipal corporation

ATTEST:

_____
David D. Ortega, Mayor

_____
Ben Lane, City Clerk

APPROVED AS TO FORM:

_____
Sherry R. Scott, City Attorney
By Karen Tyler, Senior Assistant City Attorney

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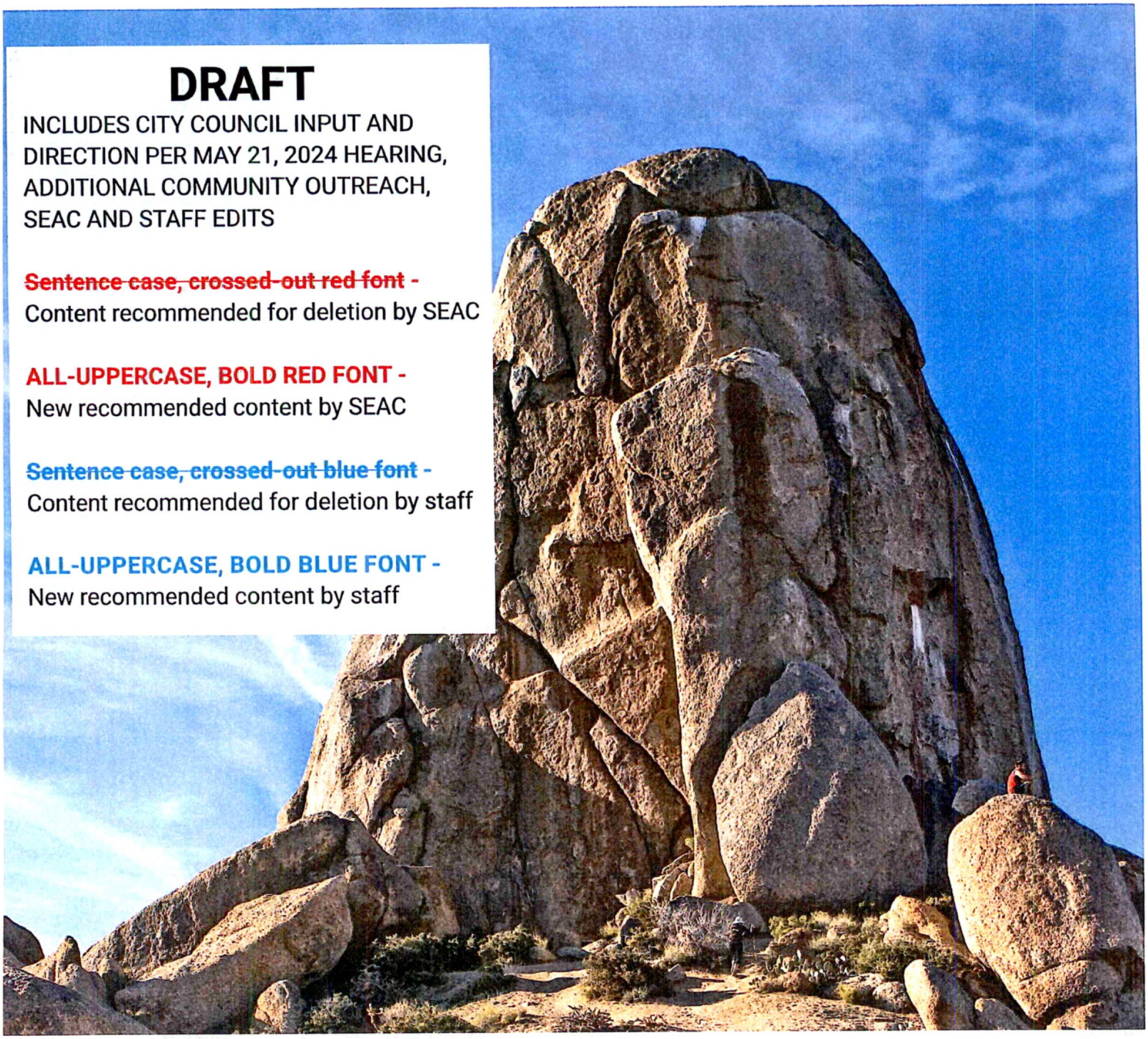
INCLUDES CITY COUNCIL INPUT AND DIRECTION PER MAY 21, 2024 HEARING, ADDITIONAL COMMUNITY OUTREACH, SEAC AND STAFF EDITS

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Content recommended for deletion by SEAC

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New recommended content by SEAC

~~Sentence case, crossed-out blue font~~ -
Content recommended for deletion by staff

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New recommended content by staff



CITY OF SCOTTSDALE

COMMUNITY SUSTAINABILITY PLAN

DRAFT

SCOTTSDALE COMMUNITY SUSTAINABILITY PLAN

TABLE OF CONTENTS

LETTER FROM MAYOR DAVID D. ORTEGA

PAGE 3

EXECUTIVE SUMMARY



PAGE 4

INTRODUCTION



PAGE 18

PRIORITIES

ENERGY  PAGE 40

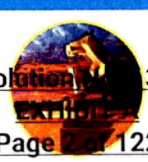
WATER  PAGE 56

BEYOND WASTE  PAGE 68

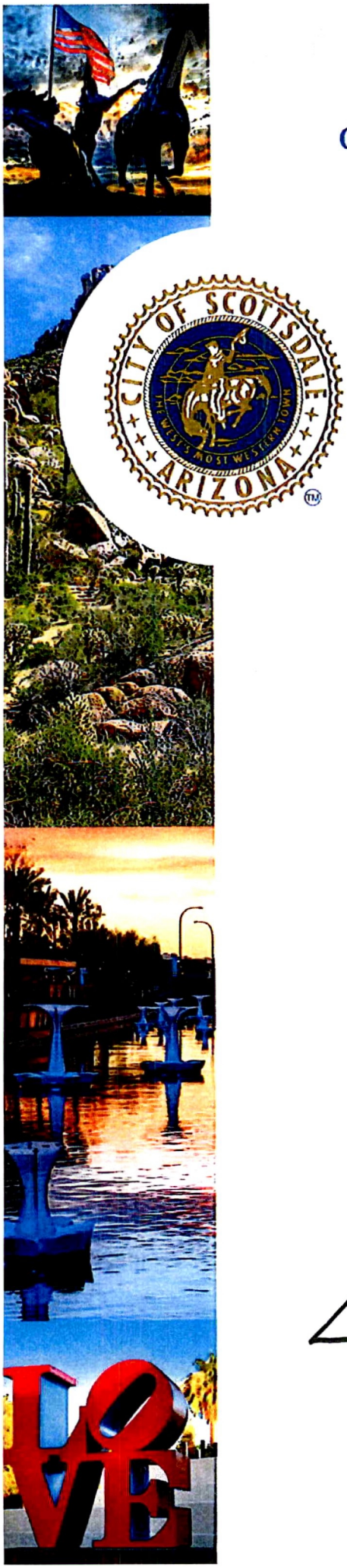
AIR QUALITY  PAGE 82

EXTREME HEAT  PAGE 94

GLOSSARY + APPENDICES + ACKNOWLEDGMENTS



PAGE 110



CITY OF SCOTTSDALE – OFFICE OF THE MAYOR

Dear Scottsdale,

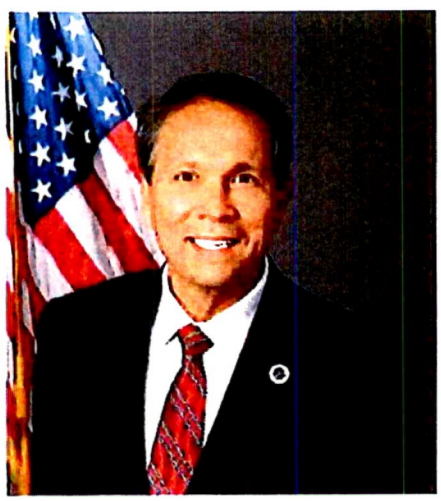
On behalf of the City Council, I am proud to share our Community Sustainability Plan. This plan builds on decades of sound resource management and leadership in the sustainability sector, in harmony with the Sonoran Desert environment.

Immediate and long-term priorities reflect key issues raised by residents and are described by measurable indicators to assess baseline factors and monitor the impact of our actions. Priorities of the plan focus on energy, water, waste, air quality and heat mitigation, and set meaningful targets to help gauge progress toward conservation, financial savings, and protection of the environment.

Scottsdale enjoys a thriving economy compatible with our beautiful natural environment, which are interconnected in many ways. These connections underscore the benefits of the aspirational goals we are adopting. This plan outlines how to achieve a sustainable future and stable ecosystem. Scottsdale is renowned for many attributes – quality of life, natural beauty, and world-class amenities. By embracing this Community Sustainability Plan, we can preserve these attributes for future generations.

I especially want to thank the members of the Scottsdale Environmental Advisory Commission for their thoughtfulness and expertise. Moreover, I call on all of us to monitor our progress and experience positive results in our everyday lives.

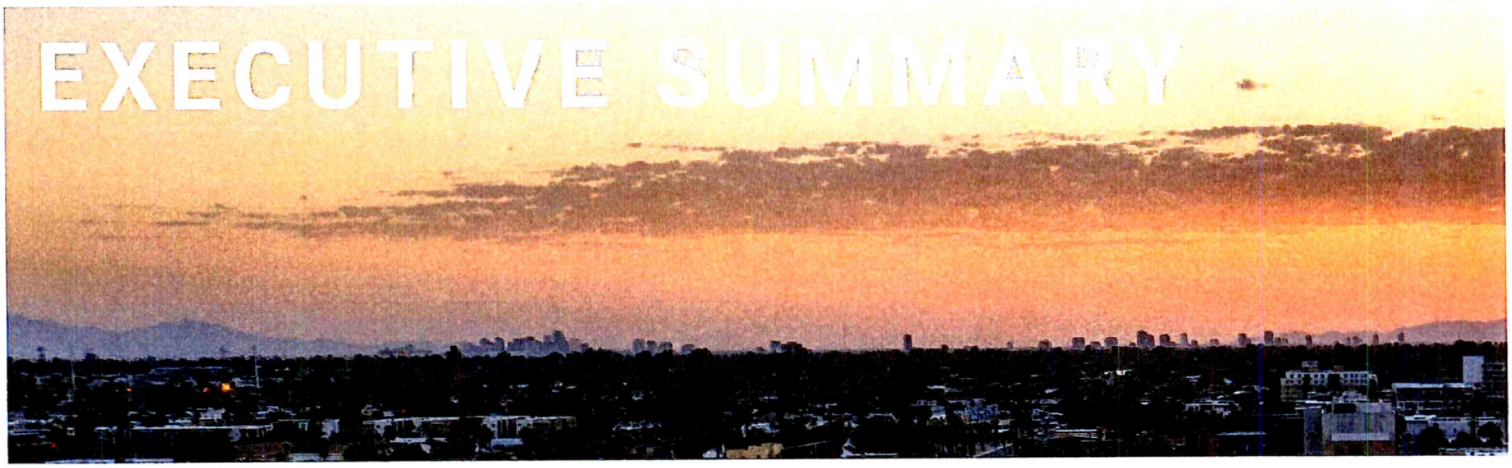
Yours truly,



David D. Ortega
Mayor of Scottsdale

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EXECUTIVE SUMMARY



The Scottsdale Community Sustainability Plan (the plan) helps us envision and realize our future as a sustainable, resilient and thriving community that embraces a comprehensive approach for achieving ambitious targets. As imagined by City Council and Scottsdale voters through the approval of the 2035 General Plan, this plan will enhance and expand the work already being done by city staff, residents and businesses. The plan provides a roadmap and specific action steps for achieving long-term targets and will require cohesive implementation by the City of Scottsdale, businesses, civic organizations and individual members of the community.

WHY A SUSTAINABILITY PLAN?

Scottsdale is well-known for livability, unparalleled leisure and world-class amenities. The diversity and natural beauty of Scottsdale's landscapes are among its defining features, and the city has long championed environmental stewardship while maintaining a high quality of life for residents, visitors and businesses.



As Scottsdale nears build-out, expanding our sustainability efforts ~~will be~~ **IS** even more important. The city understands that without thoughtful planning and stewardship, our environment and quality of life may be negatively impacted by long-standing practices and systemic trends. The plan's key elements ~~—energy, water, waste, air quality and extreme heat—~~ all improve our natural environment **AND ALSO BRING OTHER BENEFITS AND POSITIVE OUTCOMES.** ~~But the proposed solutions also bring other positive outcomes—including cost savings, health and safety improvements, equity and economic vitality.~~ **IT IS RESIDENT AND MARKET-DRIVEN, AND THERE ARE NUMEROUS EXAMPLES WHERE IMPORTANT WORK IS ALREADY BEING DONE, SO WE KNOW ACTIONS CAN BE COST-EFFECTIVE. THE STRATEGIES AND ACTIONS WILL ENCOURAGE – BUT NOT REQUIRE – RESIDENTS, ORGANIZATIONS AND BUSINESSES TO TAKE STEPS THAT REDUCE WATER AND WASTE COSTS, COOL OUR CITY AND PROVIDE BETTER HEALTH OUTCOMES. THESE IMPROVEMENTS ARE WHAT WILL BE REMEMBERED ABOUT THE PLAN.**





SUSTAINABILITY
A SCOTTSDALE GUIDING PRINCIPLE

Over the years, Scottsdale has proactively found creative solutions to environmental challenges and committed to make life better for residents and visitors. The city responded to flooding problems by building the Indian Bend Wash Greenbelt, a series of parks and amenities covering 11 miles in the center of the city, which was also the first non-structural flood control solution in the country.

Over 30,000 acres of desert habitat has been permanently preserved through the Scottsdale McDowell Sonoran Preserve. Meaningful desert open space – whether actively or passively managed – is a fundamental part of Scottsdale's character and is created and maintained with the support of residents, for their benefit and for benefit of the environment. The city uses zoning and other requirements to guide development in desert and mountain areas, through policies like the Environmentally Sensitive Lands Overlay District (ESL). The ESL ordinance requires a percentage of each property be permanently preserved as Natural Area Open Space and that specific environmental features be protected through land use dedications and easements.

Scottsdale pioneered total wastewater reuse and water banking through advanced purification systems, recycling and storing water and reducing reliance on surface water. The Scottsdale Water Campus is home to the Advanced Water Treatment facility, one of the most sophisticated recycled water facilities in the world and the third permanent facility in the nation permitted as a pilot program for Advanced **RECYCLED PURIFIED** Water ~~purification~~. The AWT is one of the largest potable water purification facilities in the world and can treat up to 20 million gallons of recycled water a day.

Launched in 1998, Scottsdale's first-in-the-state Green Building Program encourages a whole-systems approach through building design and construction to minimize environmental impacts, reduce energy use and improve occupant health. In 2005, City Council adopted a LEED Gold requirement or higher for all public buildings, leading to the construction of the first LEED Platinum certified fire station in the country – Scottsdale Fire Station 602. In 2022, Scottsdale became the first in the state and one of only a few cities nationwide to adopt mandatory 'green' building code requirements by mandating compliance with the International Green Construction Code (IgCC).

SCIENCE & ECONOMICS OF SUSTAINABILITY

The science behind sustainability efforts is compelling. NASA's records and analysis confirm that the climate is warming faster than any time in the past 10,000 years. The use of fossil fuels emits heat-trapping pollution into the atmosphere forming a thick blanket around the Earth, causing our planet to overheat and creating irreversible damage. Models estimate that temperatures may increase another 4.5 to 8 degrees Fahrenheit by 2100,[1] but other changes in our climate are occurring much faster and can already be seen. NASA has compiled datasets that show warming oceans, rising sea levels and more extreme weather events, among a long list of impacts. Extreme heat acts **AS** a threat multiplier, worsening air quality and making our climate more arid.

Temperatures Valleywide in July 2023 made it the hottest month ever recorded in a U.S. city — a result of natural variability, the urban heat island effect and climate change.[2] This new record continues a trend of increasing average temperatures going back over a century of data. But averages only tell some of the story, since the number and length of heat waves has also been increasing.[3] The cumulative effect of multiple days of extreme daytime highs also ~~means that~~ **MAKES** nighttime temperatures ~~were~~ uncomfortably high, combining to create a deadly weather phenomenon.

DAILY AIR QUALITY INDEX (AQI) VALUES: OZONE
PHOENIX-MESA-SCOTTSDALE

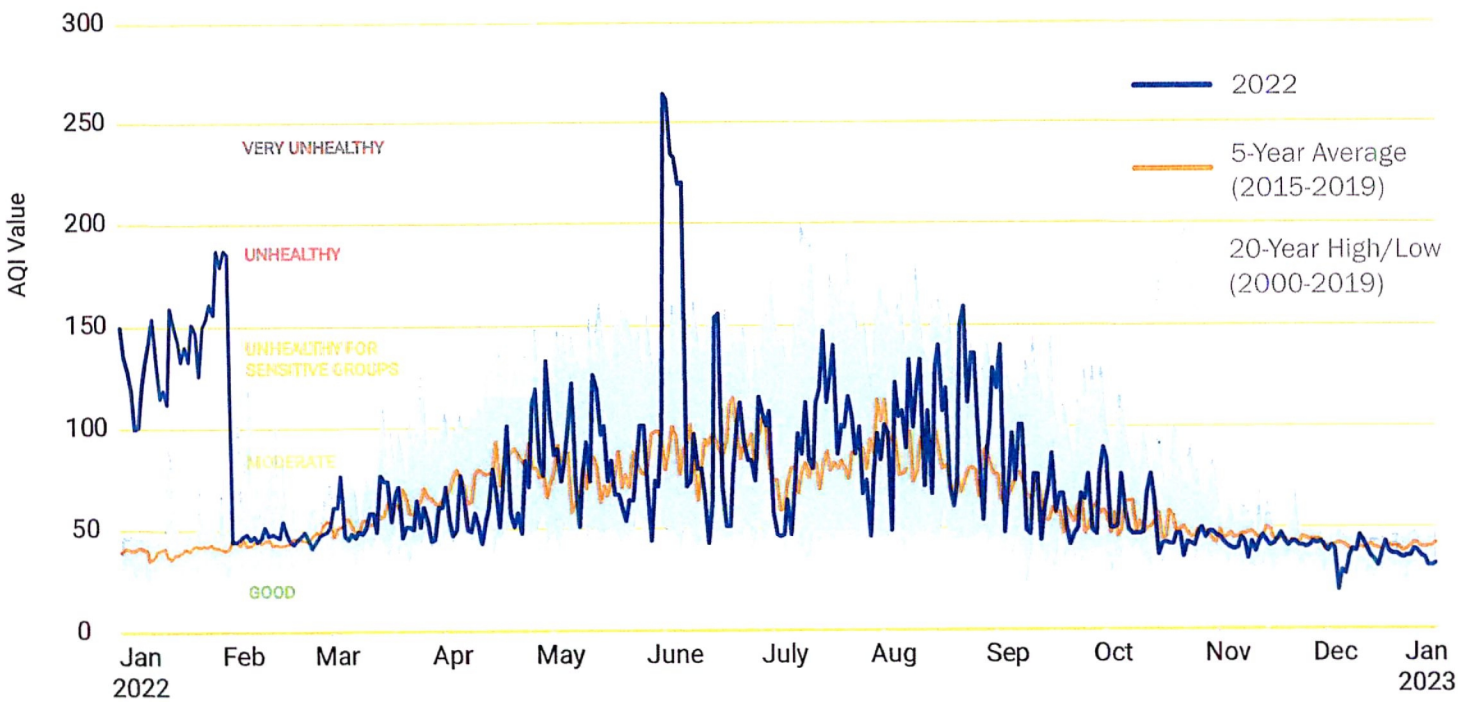
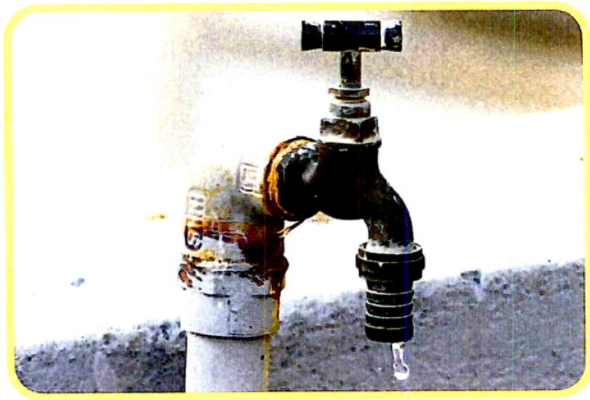
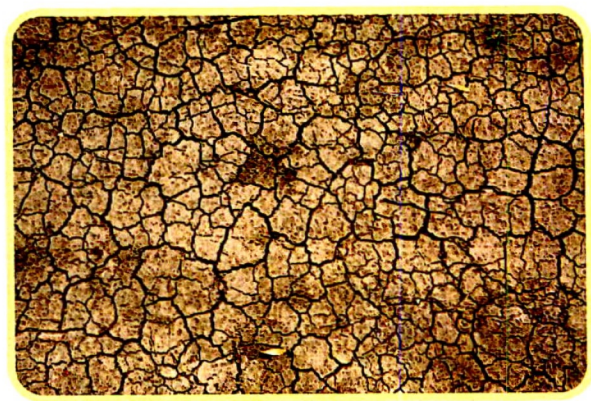


Figure 1. *Source: Air Data - Daily Air Quality Tracker*

The desert southwest is also experiencing one of its worst droughts in 1,200 years. Insufficient rainfall and snowpacks have lowered lake levels, endangered water supplies and impacted soil moisture and vegetation. The over-allocation of Colorado River water supplies, coupled with trends of a hotter and drier climate, make protecting water resources essential – and more difficult.



Scientific data helps us understand how our air quality is changing and the resulting health impacts. The region's two biggest concerns are ozone and particulate matter, as these exceed federal health-based standards most frequently **(FIGURE 1)**. The causes of these pollutants are complex, especially given how far ozone, dust and smoke can travel in the air. Regional air quality has fluctuated in recent years, in part reflecting the influence of extremely hot summers on the number of unhealthy days. In 2022, almost 1 in 3 days exceeded federal air quality standards – 30% or 106 days. In 2020 and 2021, the air quality was in the 'very unhealthy' range for more than two months.



Just as the science of sustainability motivates us to take action, the economics of sustainability help us understand how to get started, guiding the efficient use of resources and the long-term response to climate change. The concept of the 'triple bottom line' means that financial, social and environmental performance should influence decision-making, highlighting how our ecosystem fuels the economy.

Safeguarding a sustainable future for Scottsdale will require investments, both by the city government and by residents and businesses. Innovation and other factors have been driving down the costs of technology like photovoltaic systems (down 80% since 2010), and rebates and grants can also lower upfront costs. Similarly, the prices of renewable energy, electric vehicles and batteries have also dropped.

Failing to act also has costs, highlighting the relationship between a healthy economy and the environment. Extreme heat, poor air quality and drought can affect the economy in a range of ways: health impacts, loss of business when people stay indoors or cut visits short and utility bills squeezing disposable income.

A case-by-case comparison of costs to benefits – including the cost of doing nothing -- will identify projects that make financial sense. For example, reducing energy and water use often yields favorable cost-benefit ratios, meaning that the cumulative savings from lowered use can exceed the costs in a short period of time.

Support for sustainability in Scottsdale is driven by many factors, including the economic benefits of action. As a city that thrives on innovation, collaboration and sustainable growth, Scottsdale already fosters a business-friendly climate that generates some of the world's most successful companies and entrepreneurs. The beauty and sustainability of the region's natural environment is integral to its economic vitality, with tourism alone having an estimated annual economic impact of $2.5 billion.[4]

A greener future can also be one where residents, tourists and businesses continue to prosper. To sustain our economy, it is essential that we take actions to ensure that our ecosystem is healthy.

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FRAMEWORK

To turn this plan into action, Scottsdale has established five priority areas: **Energy**, **Water**, **BEYOND Waste**, **Air Quality** and **Extreme Heat**. This framework — which grew from the goals and policies for sustainability set in the 2035 General Plan — supports the protection of the Sonoran Desert ecosystem and will help attract residents and visitors, providing economic benefits and ensuring a high quality of life.

The plan is an aspirational document and not a mandate, so there are no penalties if targets are not met. The indicators and baseline data for each priority show "where we are" and are tied to targets that ~~are~~ **REFLECT** "where we want to be." The work builds on existing plans, looking beyond what the city is doing and providing policy direction where efforts are newer or are now more urgent.

These five priority areas sometimes overlap in important ways, so the plan structure facilitates collaboration and reinforces the connections between topics. Tackling the challenges of energy and water consumption and waste generation provide benefits like cost savings, improved health and reduced pollution. These steps also improve air quality and address extreme heat. For example, fewer greenhouse gas emissions mean less polluted air and lower temperatures, which in turn results in less energy needed to cool buildings. Adding desert-adapted trees filters pollutants from the air and provides shade.

Rising temperatures compound a myriad of other interrelated problems, including the drought as hotter temperatures further shrink water supplies. Hotter temperatures increase the frequency and destructiveness of wildfires and draw more moisture from the ground generating intense and frequent haboobs (dust storms). Air quality is degraded as wildfires and haboobs significantly increase concentrations of particulate matter and other pollutants, and heat directly increases the production rate of ground-level ozone. Exposure to extreme heat and air pollution also compounds health impacts.

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ENERGY

Maximize the use of renewable energy resources, energy efficiency, and responses to climate challenges.

WATER

Conserve, protect and deliver quality drinking water safely and reliably to the community, now and into the future.

BEYOND WASTE

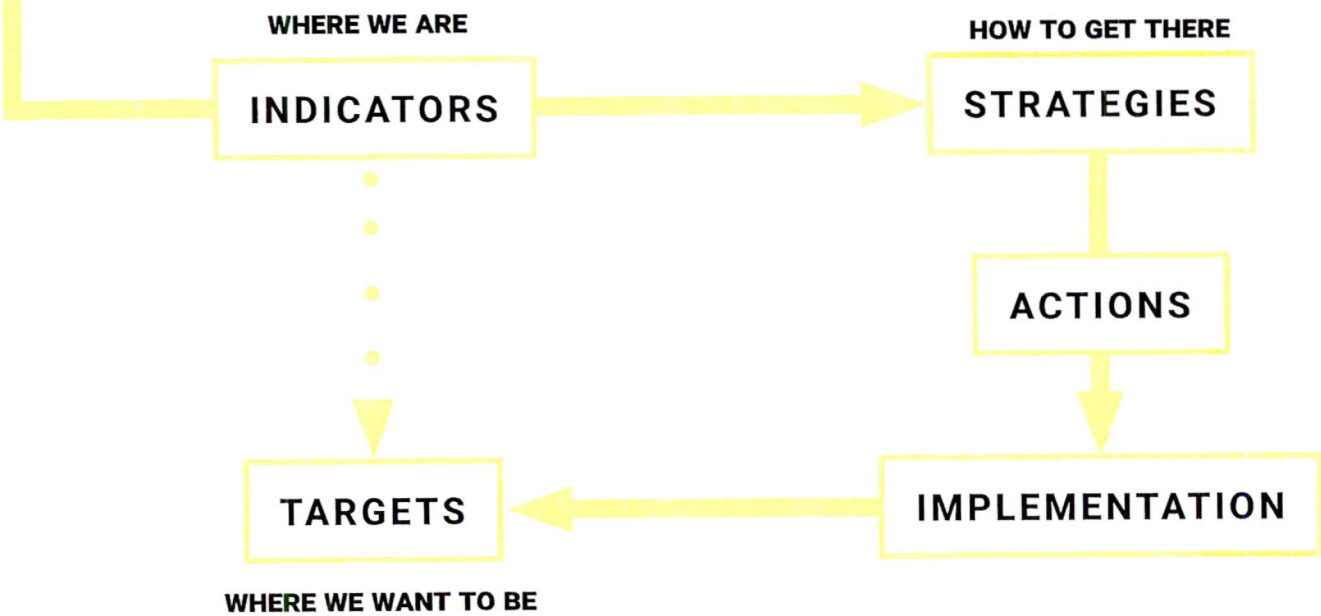
Develop a circular economy approach for materials management and effective citywide diversion of all waste streams.

AIR QUALITY

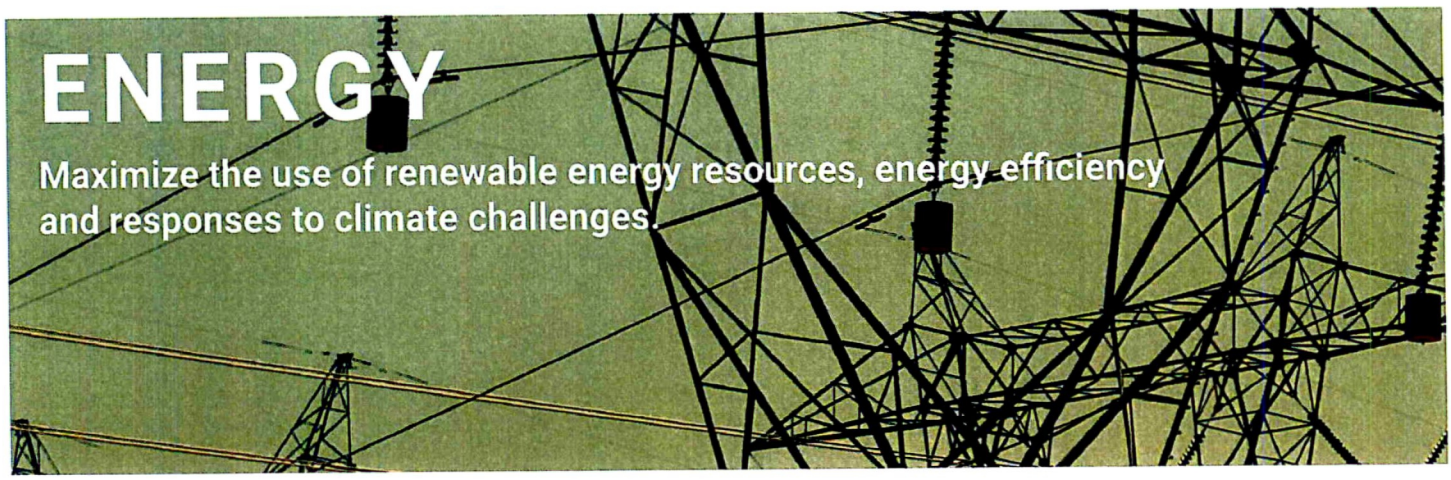
Reduce contaminants and pollutants to improve air quality and protect community health.

EXTREME HEAT

Ensure that the community prevents, is prepared for, responds to and recovers from extreme heat.



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Residents and businesses rely on electricity and other energy sources every day to operate computers, cooling appliances and lighting. Much of this energy is provided by regulated utilities and comes from burning fossil fuels like coal or natural gas for electricity, heat and transportation. Using less energy yields cleaner air and health benefits, supports green jobs and generates cost savings. Taking additional steps to use more clean or renewable energy further protects the environment by reducing pollutants and greenhouse gases associated with burning fossil fuels.

ENERGY TARGETS

- Reduce citywide electricity use per square foot by 15% by 2035 (from 2022 levels)
- Reduce municipal electricity use by 15% by 2035 (from 2022 levels) through efficiency measures
- Increase distributed solar capacity citywide to 180 MW by 2030 and to 500 MW by 2040
- Increase municipal solar capacity to 5 MW by 2030
- Reduce citywide greenhouse gas emissions by 45% by 2035 and 90% by 2050 (from 2022 levels)
- Reduce municipal greenhouse gas emissions by 45% by 2035 and 90% by 2050 (from 2022 levels)
- Reduce the average energy burden to 6% or less for all households by 2035
- Increase the percentage of green buildings to 10% of the total by 2035

ENERGY STRATEGIES

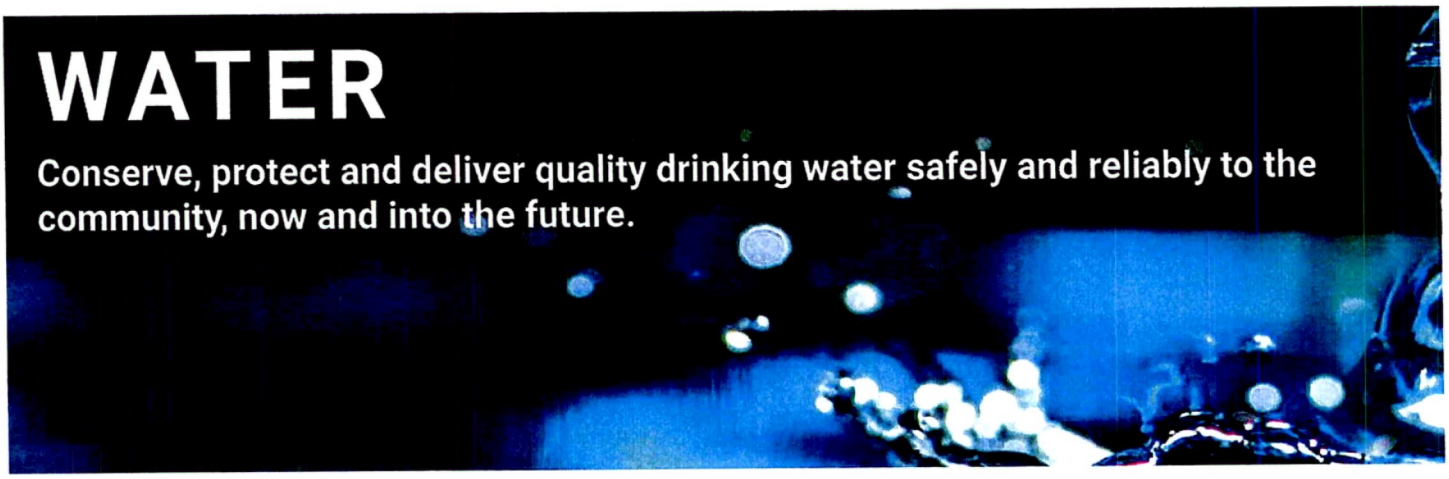
NRG 1 Reduce energy use and greenhouse gas emissions.

NRG 2 Improve municipal energy performance.

NRG 3 Reduce energy impacts of the built environment through sustainable building practices and policies.

WATER

Conserve, protect and deliver quality drinking water safely and reliably to the community, now and into the future.



Providing quality drinking water and ensuring adequate water supplies has been a long-standing priority in Scottsdale. As reflected in the recently adopted "Sustainable Water Management Principles," Scottsdale Water thinks and acts strategically with its water resources – from supply, quality, and conservation to recycling and recharge. Staff administers several residential and commercial incentive rebate programs, offers residential outdoor efficiency checks; **AND** a commercial audit program, manages ordinance compliance like water waste complaints, and offers water efficiency educational opportunities. Demand for these services has been growing since the activation of Stage 1 of the city's Drought Management Plan.

WATER TARGETS

- Reduce residential water use (gallons per capita per day) to 170 by 2033
- Reduce municipal potable water use by 5% by 2027 (from 2022 levels)
- Reduce irrigation water use for HOA properties by 10% by 2033 (from 2022 levels)
- Reduce commercial water use by 10% by 2033 (from 2022 levels)
- Increase return flow percentage by 10% by 2033
- Maximize annual water banking
- Maintain treated groundwater deliveries to Safe Yield levels

WATER STRATEGIES

WTR 1 Ensure water system resiliency.

WTR 2 Reduce municipal water use.

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Managing waste better and more efficiently benefits everyone. Recycling or reusing goods reduces the reliance on finite natural resources and yields cost savings by buying less and avoiding landfill fees. Solid Waste trucks will drive fewer miles on city streets, litter is reduced~~, jobs can be created~~ and fewer landfills need to be built and maintained. Because of these benefits, achieving 'zero waste' has become a common long-term target for municipalities and organizations. Sustainable materials management (SMM) goes beyond diversion to maximize environmental benefits and extend the life cycle of products and materials by keeping them in circulation as long as possible. This approach looks at extraction of resources, design, production and use of products, as well as end-of-life management and disposal. One application of SMM is the creation of a circular economy~~, which "reduces material use, redesigns materials and products to be less resource intensive, and recaptures 'waste' as a resource to manufacture new materials and products."~~.

BEYOND WASTE TARGETS

- Reduce landfill refuse per single-family household by 25% by 2030 and 90% by 2040 (from 2022 levels)
- Reduce landfill refuse citywide by 90% by 2040
- Reduce municipal landfill refuse by 35% by 2030 and 90% by 2040 (from 2024 levels)
  (excludes municipal green landscaping debris hauled under city contract)
- Achieve a 35% diversion rate by 2030 (single-family households)
- Achieve a 90% diversion rate by 2040 (citywide)
- Achieve a 35% diversion rate by 2030 and a 90% diversion rate by 2040 (municipal ~~waste~~)
- Increase the percentage of Solid Waste Services commercial accounts that recycle to 40% by 2030
- Achieve a **BRUSH AND BULK** diversion rate ~~from the brush and bulk waste stream~~ of 50% by 2030 and 90% by 2040
- Divert 15,000 tons annually of citywide organic waste from the landfill by 2030 and 30,000 tons annually by 2040 *(excludes brush and bulk and municipal green landscaping debris hauled under city contract)*
- Maintain a recycling contamination rate below 10% by 2025 and below 5% by 2045

BEYOND WASTE STRATEGIES

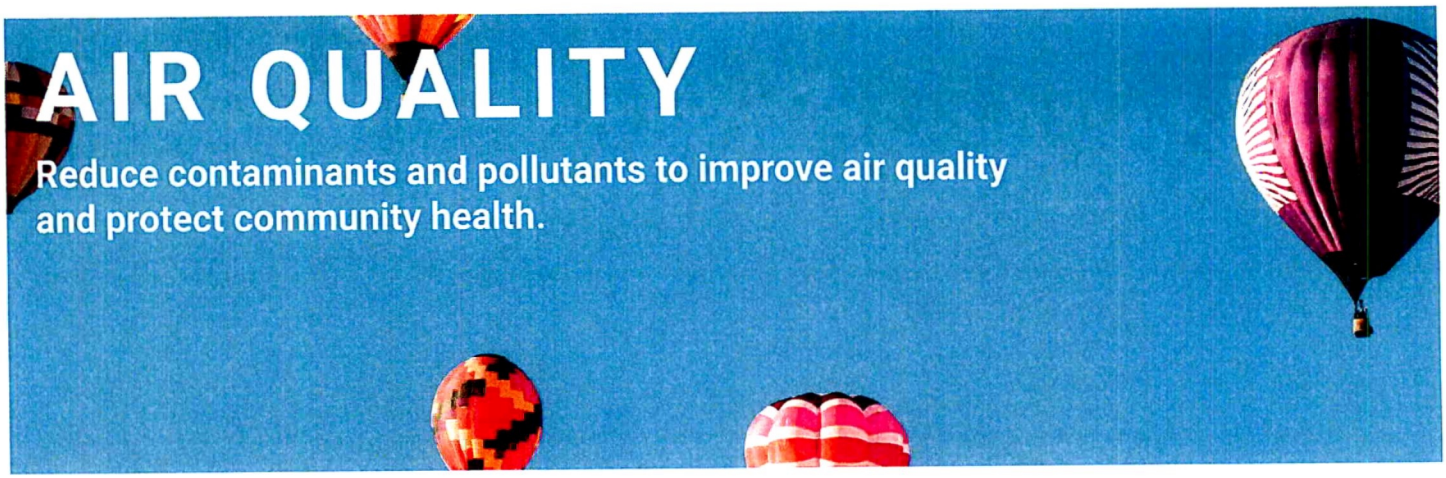
WST 1 Increase diversion rates.

WST 2 Strengthen local markets for recycled content, recyclable and reusable materials.

WST 3 Expand opportunities for diverting organic waste from the landfill.

WST 4 Reduce waste generation.

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AIR QUALITY

Reduce contaminants and pollutants to improve air quality and protect community health.

Like many metropolitan areas, Scottsdale has been working for years to improve air quality. The region's two biggest concerns are ozone and particulate matter (PM), as these exceed federal health-based standards most frequently. The causes of these pollutants are complex, given the number of sources and how far both can travel in the air. ~~Particulate matter, classified as small (PM-2.5) or large (PM-10), usually occurs as blowing dust or smoke from fires or fireworks. Ground-level ozone is created when nitrogen oxides, volatile organic compounds, and sunlight react, making ozone primarily a summer issue.~~ **MOST FINE PARTICULATES (PM-2.5) FORM WHEN POLLUTANT GASES EMITTED BY GASOLINE AND DIESEL ENGINES, POWER PLANTS AND INDUSTRIAL PROCESSES REACT IN THE ATMOSPHERE. FINE PARTICULATES ARE ALSO EMITTED DIRECTLY FROM VEHICLES, SMOKESTACKS, FIRES AND FIREWORKS. COARSE PARTICLES (PM-10) SOURCES INCLUDE ROAD DUST KICKED UP BY TRAFFIC, CONSTRUCTION AND DEMOLITION, BLOWING DUST, INDUSTRIAL PROCESSES, AGRICULTURAL OPERATIONS AND BIOMASS BURNING. GROUND-LEVEL OZONE IS CREATED WHEN NITROGEN OXIDES, VOLATILE ORGANIC COMPOUNDS, AND SUNLIGHT REACT. BECAUSE OF SUNLIGHT'S ROLE IN OZONE FORMATION, OZONE LEVELS EXCEED FEDERAL HEALTH STANDARDS MORE OFTEN IN SPRING THROUGH FALL WHEN LONGER DAYS PROVIDE MORE HOURS OF SUNLIGHT.**

AIR QUALITY TARGETS

- Reduce unhealthy air days in Scottsdale by 2030
- Reduce illnesses for pollution-related health events (per 100,000 population) by 2030
- Reduce municipal fleet fuel use by 10% by 2030 and 40% by 2050 (from 2023 levels)
- Increase **THE** number of publicly available charging ports four-fold by 2027 and ten-fold by 2030 (from 2023 levels)

AIR QUALITY STRATEGIES

AQ 1 Clean Scottsdale's air.

AQ 2 Support adoption of electric and other alternative fuel vehicles.

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EXTREME HEAT

Ensure that the community prevents, is prepared for, responds to and recovers from extreme heat.

Temperatures in 2023 set records for extreme heat: regionally, for the hottest July and the most heat-related fatalities, and globally, for the hottest year ever. Located in the Sonoran Desert, Scottsdale and other Valley cities are experiencing a trend of increasing average temperatures going back over a century of data. But averages only tell some of the story, since the number and length of heat waves has also been increasing.[5] The cumulative effect of multiple days of extreme daytime highs also makes nighttime temperatures uncomfortably high, combining to create a deadly weather phenomenon.

These long and hot summers impact human health, quality of life and economic vitality. Increased heat results in added energy use and higher air conditioning **COSTS**. Staying indoors during extreme heat is not always an option, and the impact of people deferring work, shopping or other activities can have a negative impact on the economy.

EXTREME HEAT TARGETS

- Reduce average July day- and night-time air temperatures by 2030
- Reduce average surface temperatures by 2030 in the Greater Airpark, Old Town and McDowell Road/ Scottsdale Road growth areas
- Reduce illnesses for heat-related health events (per 100,000 population) by 2030
- Increase tree and shrub canopy to 20% by 2030 and 25% by 2040

EXTREME HEAT STRATEGIES

HT 1 Expand heat relief communication and education.

HT 2 Protect people from the health effects of extreme heat.

HT 3 Identify urban design improvements including structured shade and built environment.

HT 4 Plant more trees and implement other nature-based solutions.

IMPLEMENTATION

The city of Scottsdale will take the lead on implementing the Community Sustainability Plan and be a catalyst for further action by the private sector, non-profits and community members. Achieving sustainability for Scottsdale requires a common vision and engagement from the whole community to prioritize effective solutions. Implementation of the plan will be strategic and strive to maximize the benefits for all Scottsdale residents and visitors. The plan is designed to be a living, working document that will focus our resources and collective action where it will be most impactful.

The city will take important steps to ensure continuous evaluation and improvement:

1. Produce an annual report that includes ~~a section chronicling city achievements and data~~ **UPDATES ON IMPLEMENTATION OF ACTIONS, PROGRESS TOWARD ACHIEVING SUSTAINABILITY TARGETS INCLUDING DATA ON THE INDICATORS AND A SECTION SPECIFICALLY CHRONICLING MUNICIPAL ACHIEVEMENTS AND DATA.**
2. Formally update the plan every three years.
3. **TRACK OPERATING AND CAPITAL SPENDING ON SUSTAINABILITY-RELATED WORK AND OPERATIONAL SAVINGS AND PROJECT REBATES.**
4. **CONTINUE REGULAR COMMUNITY DIALOGUES.**

Implementing some of the plan's 15 strategies and ~~93~~ **95** actions will begin immediately, while others will start later or evolve and be revised over time. Implementation will require that specific project plans be developed for each action, identifying costs, personnel needs, barriers and milestones.

An implementation table for each priority shares four elements for each action:

Time Horizon For Completion: Quick Win,* 1-3 years, 3-10 years or Ongoing

Lead Agencies & Partners: Additional partners will likely be added during project development

Costs: Costs are estimated and may change during project development or implementation
$ -- **Low** ($0 - $50,000)
$$ -- **Moderate** ($50,001 - $250,000)
$$$ -- **High** (Over $250,000)

Benefits:

Environmental (air quality, carbon emissions, waste reduction, drought relief)

Economic ($ savings, attracting businesses and tourism)

Social (health & safety, quality of life, equity, resiliency)

* After initial implementation, "quick wins" may transition to "ongoing" programs.

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WHAT CAN YOU DO?

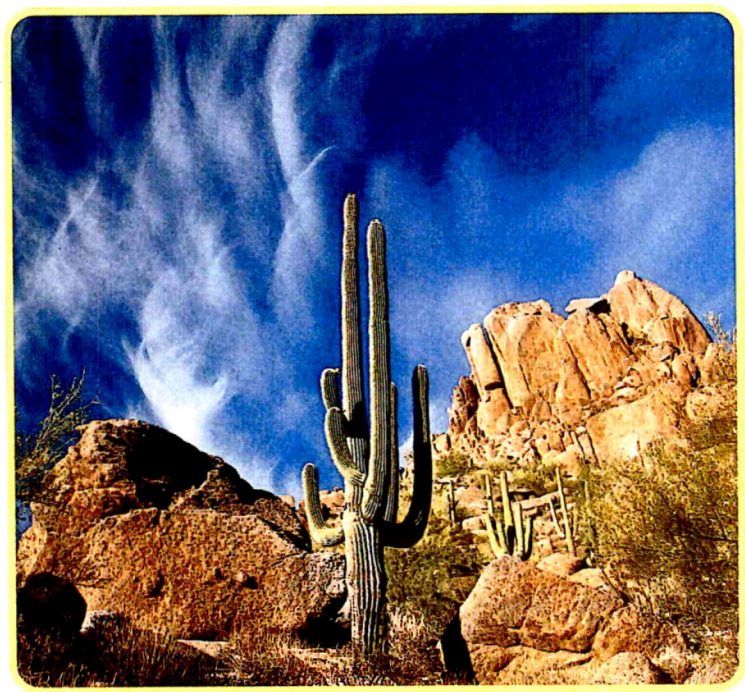
The city of Scottsdale hopes that residents, businesses and non-profits are also motivated to improve the world around them. Work with us and support one of the actions in the plan or be innovative and start your own project! Here are some places to get started:

The plan provides specific actions for achieving long-term goals and will require efforts by city government and members of the community. In each section, the "What Can You Do?" graphics will include more interesting tips and suggestions — check them out!

The CoolClimate Network offers a simple tool to help you understand your personal environmental impact. They even have a version for businesses. Use the calculators to see what kinds of changes you can make to your travel, buildings and shopping and make a pledge to act.

Engage your family, neighbors and co-workers about sustainability. Ask them questions about what concerns them the most and tell them what you're doing to make an impact. Conversations about the environment can help people connect over shared values.

Scottsdale may not be a large city, but our position as a respected tourist destination in a unique desert environment has always shaped our commitment to being good environmental stewards. This is not the end of our planning but rather a starting point for a continued sustainability journey — join us!



ENDNOTES

1 "Is it too late to prevent climate change?" NASA Global Climate Change.

2 "Phoenix just posted the hottest month ever observed in a U.S. city," Washington Post.

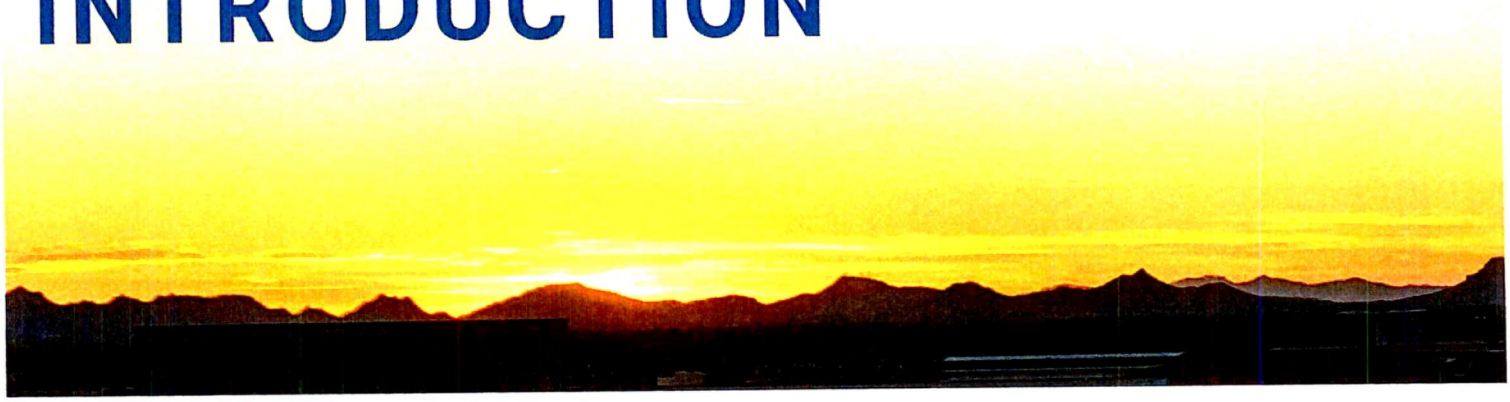
3 "Arizona Then and Now: Summer heat," *Arizona Republic*, 07/28/2016.

4 Scottsdale Tourism Study - Visitor Statistics," City of Scottsdale, September 2022.

5 "Arizona Then and Now: Summer heat," *Arizona Republic*, 07/28/2016.

NOTE: LINKS UPDATED

INTRODUCTION



WHY A SUSTAINABILITY PLAN?

Scottsdale is well-known for livability, unparalleled leisure and world-class amenities. The diversity and natural beauty of Scottsdale's landscapes are among its defining features, and the city has long championed environmental stewardship while maintaining a high quality of life for residents, visitors and businesses. The public consistently agrees the "overall quality of natural environment in Scottsdale" is essential or very important.[1]

> *"Sustainability is a condition of living that enables the present generation to enjoy social wellbeing, a vibrant economy and a healthy environment, without compromising the ability of future generations to enjoy the same."*
>
> - Scottsdale General Plan 2035, page 280

As Scottsdale nears build-out, expanding our sustainability efforts is even more important. The city understands that without thoughtful planning and stewardship, our environment and quality of life may be negatively impacted by long-standing practices and systemic trends — including drought**, AND** extreme heat~~, air pollution and economic and social inequities~~. The worsening impacts of climate change compel further sustainability action by Scottsdale.

The benefits of planning for sustainability in Scottsdale are numerous. The plan's key elements – energy, water, waste, air quality and extreme heat – all improve our natural environment **AND ALSO BRING OTHER BENEFITS AND POSITIVE OUTCOMES.** ~~But the proposed solutions also bring other positive outcomes — including cost savings, health and safety improvements, equity and economic vitality.~~ **THE PLAN IS STRUCTURED TO ENSURE THE INVESTMENTS MAXIMIZE THESE BENEFITS. IT IS RESIDENT AND MARKET-DRIVEN, AND THERE ARE NUMEROUS EXAMPLES WHERE IMPORTANT WORK IS ALREADY BEING DONE, SO WE KNOW ACTIONS CAN BE COST-EFFECTIVE.**

THE STRATEGIES AND ACTIONS WILL ENCOURAGE – BUT NOT REQUIRE – RESIDENTS, ORGANIZATIONS AND BUSINESSES TO TAKE STEPS THAT REDUCE WATER AND WASTE COSTS,



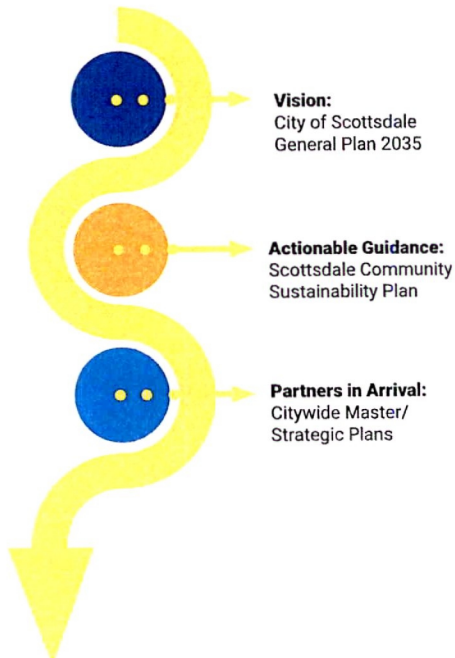
COOL OUR CITY AND PROVIDE BETTER HEALTH OUTCOMES. THESE IMPROVEMENTS ARE WHAT WILL BE REMEMBERED ABOUT THE PLAN. AFTER ALL, CURRENT USERS OF THE GREENBELT ARE MORE LIKELY TO BE THINKING ABOUT THE BEAUTY OF THEIR SURROUNDINGS AND NOT ABOUT THE INITIAL INVESTMENT DECADES IN THE PAST.

The city will need to work in partnership with residents and businesses to succeed. The plan builds on Scottsdale's legacy of effective, resident-centered governance and sound economic management. The plan provides a roadmap and specific action steps for achieving long-term goals and will require cohesive implementation by the City of Scottsdale, businesses, civic organizations and individual members of the community.

With this plan, Scottsdale embraces a comprehensive approach to achieving ambitious targets ~~and commits to being held accountable for those actions~~ **THAT WILL YIELD IMPORTANT BENEFITS FOR OUR CITY**. This Community Sustainability Plan – as imagined by City Council and Scottsdale voters through the approval of the 2035 General Plan – enhances and expands the work already being done by city staff, residents and businesses. Starting from the 'vision' of the General Plan, the plan complements others already in place to achieve targets and implement new programs.

Scottsdale may not be a large city, but our position as a respected tourist destination in a unique desert environment has always shaped our commitment to being good environmental stewards. This is not the end of our planning but rather a starting point for a continued sustainability journey -- join us!

ROADMAP



"Sustainability can be summarized as our stewardship of natural capital for future generations, going well beyond economic and environmental development to embrace health care, urbanization, energy, materials, agriculture, business practices, social services and government... Sustainability is a concept with as much transformative potential as justice, liberty, and equality."

- Dr. Michael Crow, President, Arizona State University

SUSTAINABILITY
A SCOTTSDALE GUIDING PRINCIPLE

Scottsdale's sustainability journey goes back decades and has fortified the city's legacy as a place of innovation. "Seek Sustainability" was one of the guiding principles of CityShape 2020. And Scottsdale's commitment to environmental stewardship was again reaffirmed in the General Plan 2035, which identifies five core elements of sustainability and the environment – Open Space, Environmental Planning, Conservation, Water Resources and Energy. As part of a commitment to livability and quality of life, Scottsdale prioritizes services and facilities for residents, including 43 parks, four public libraries and eight resource centers.

"Keep Scottsdale safe, wild & beautiful. Maintain Scottsdale's small town feel."

"100% supportive of a Sustainability Plan for City of Scottsdale"

- Resident feedback on the draft Sustainability Plan

Over the years, Scottsdale has proactively found creative solutions to environmental challenges and committed to make life better for residents and visitors. The city responded to flooding problems by building the Indian Bend Wash Greenbelt, a series of parks and amenities covering 11 miles in the center of the city, which was also the first non-structural flood control solution in the country.

Over 30,000 acres of desert habitat have been permanently preserved through the Scottsdale McDowell Sonoran Preserve. Currently, 37% of Scottsdale's footprint is open space (public and private including the Preserve). Meaningful desert open space – whether actively or passively managed – is a fundamental part of Scottsdale's character and is created and maintained with the support of residents, for their benefit and for the benefit of the environment.





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The city uses zoning and other requirements to guide development in desert and mountain areas, through policies like the Environmentally Sensitive Lands Overlay District (ESL). The ESL ordinance requires a percentage of each property be permanently preserved as Natural Area Open Space and that specific environmental features be protected through land use dedications and easements. Character Area Plans, like those for Desert Foothills and Dynamite Foothills, support these goals.



Scottsdale pioneered total wastewater reuse and water banking through advanced purification systems, recycling and storing water and reducing reliance on non-renewable surface water. The Scottsdale Water Campus is home to the Advanced Water Treatment Facility (AWT), one of the most sophisticated recycled water facilities in the world and the third permanent facility in the nation permitted as a pilot program for Advanced Recycled Purified Water (ARPW). The AWT is one of the largest potable water purification facilities in the world and can treat up to 20 million gallons of recycled water a day.



Launched in 1998, Scottsdale's first-in-the-state Green Building Program encourages a whole-systems approach through building design and construction to minimize environmental impacts, reduce energy use and improve occupant health. In 2005, City Council adopted a LEED[2] Gold requirement or higher for all public buildings, leading to the construction of the first LEED Platinum certified fire station in the country – Scottsdale Fire Station 602. In 2022, Scottsdale became the first in the state and one of only a few cities nationwide to adopt mandatory 'green' building code requirements by mandating compliance with the International Green Construction Code (IgCC).



Achieving these large and difficult milestones has not kept the city from undertaking other projects and initiatives that reflect Scottsdale's forward-thinking approach to desert living. The city's Xeriscape Garden serves as an inspiration to residents and developers, demonstrating just how beautiful a water-wise, natural desert landscape can be. The community science programs offered by the McDowell Sonoran Conservancy protect biodiversity, mitigate invasive plants and restore ecological balance. The Scottsdale Public Library even 'checks out' seeds and citizen science kits to make hands-on learning accessible to all.

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Additionally, municipal operations model good stewardship practices for the whole city. The city partners with utilities to reduce our use of electricity on high-demand days and has installed solar panels at the North Corporation Yard complex. Solar installation will cover parking lots with solar panels. LED installations continue throughout our facilities and low-consumption fixtures, flush valves, showerheads, metering faucets, cooling tower controllers and bottle fillers are used to conserve water.

Other practices also model municipal leadership:

- Responding to a call to reduce water use by 5% between 2021 and 2022, the city saved 38 million gallons through conservation and turf removal, exceeding its goal ~~with a 6% overall reduction~~.
- Parks & Recreation increased their efforts, with use dropping to 25% below the allotment from the Arizona Department of Water Resources. Specifically in 2022, the city converted over 140,000 square feet of non-functional/non-recreational turf to xeriscape, saving more than 5.3 million gallons of water annually.
- The city also saved almost 4 million gallons of water from 40 city-maintained sites through irrigation controllers that shut off watering during summer monsoon rain events.
- The 2023 State of the City Address was a zero waste function, achieving 93% diversion from the landfill.



THE SCIENCE OF SUSTAINABILITY

The science behind sustainability efforts is compelling. NASA's records and analysis confirm that the climate is warming and warming faster than any time in the past 10,000 years. Average temperatures are up two degrees Fahrenheit, mostly in the last 40 years, and driven by emissions of carbon dioxide and other human activities.[3] Most of these emissions result from burning fossil fuels for electricity, heat and transportation. The result is an amplification of the natural greenhouse gas effect (which is essential for the Earth to be habitable), resulting in more heat trapped in the atmosphere (Figure 1).

Models estimate that temperatures may increase another 4.5 to 8 degrees Fahrenheit by 2100,[4] but other changes in our climate are occurring much faster and can already be seen. NASA has compiled datasets that show warming oceans, rising sea levels and more extreme weather events, among a long list of impacts. Extreme heat acts **AS** a threat multiplier, worsening air quality and making our climate more arid.

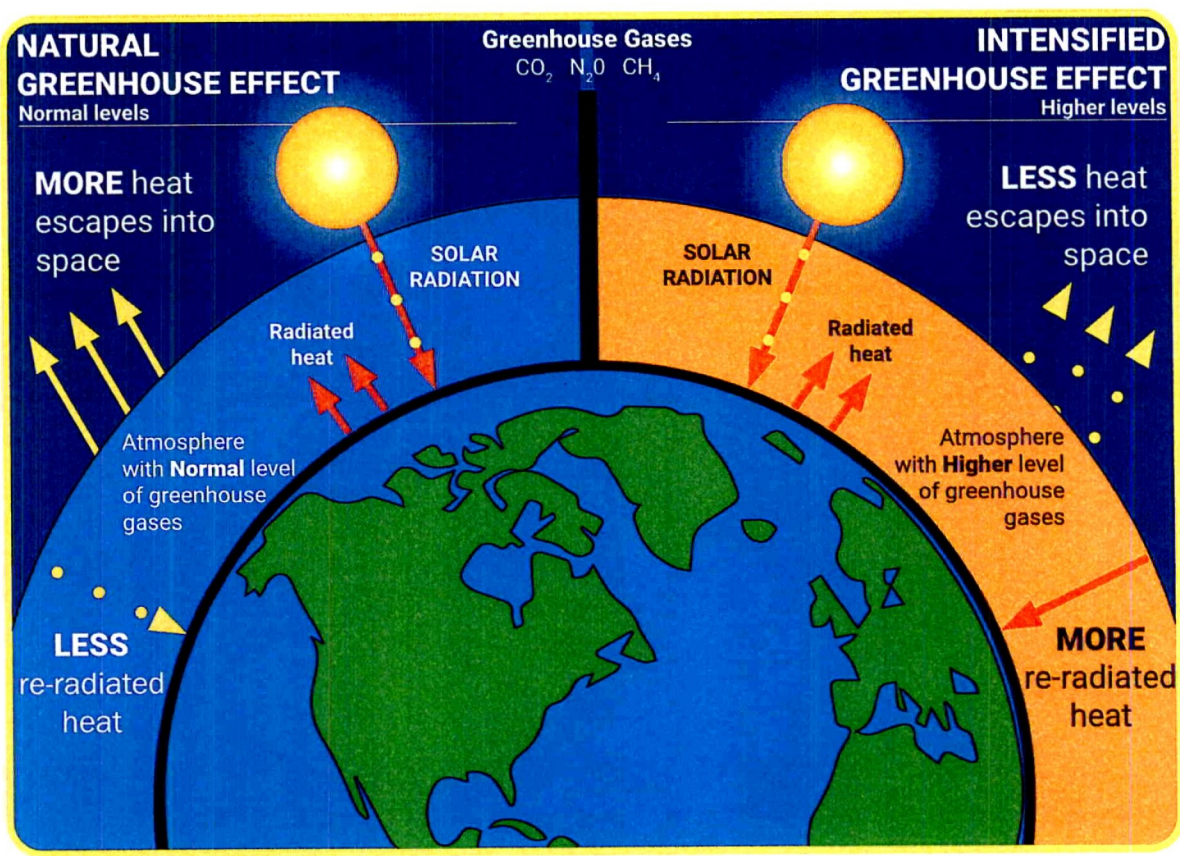


Figure 1. ~~*Source: National Park Service*~~ *Adapted from: National Park Service*

"The implications of the science around climate change are alarmingly clear. The link between greenhouse gases and climate change is now well established, and scientists are gaining a greater understanding of what the Earth might look like if it were to warm by 1.5°C, 2°C [2.7°F, 3.6°F], or more."

- Deloitte, "Act Now: Future Scenarios and the Case for Equitable Climate Action"

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Temperatures Valleywide in July 2023 made it the hottest month ever recorded in a U.S. city — a result of natural variability, the urban heat island effect and climate change.[5] This new record continues a trend of increasing average temperatures going back over a century of data (Figure 2). But averages only tell some of the story, since the number and length of heat waves has also been increasing.[6] The cumulative effect of multiple days of extreme daytime highs makes nighttime temperatures uncomfortably high, combining to create a deadly weather phenomenon.

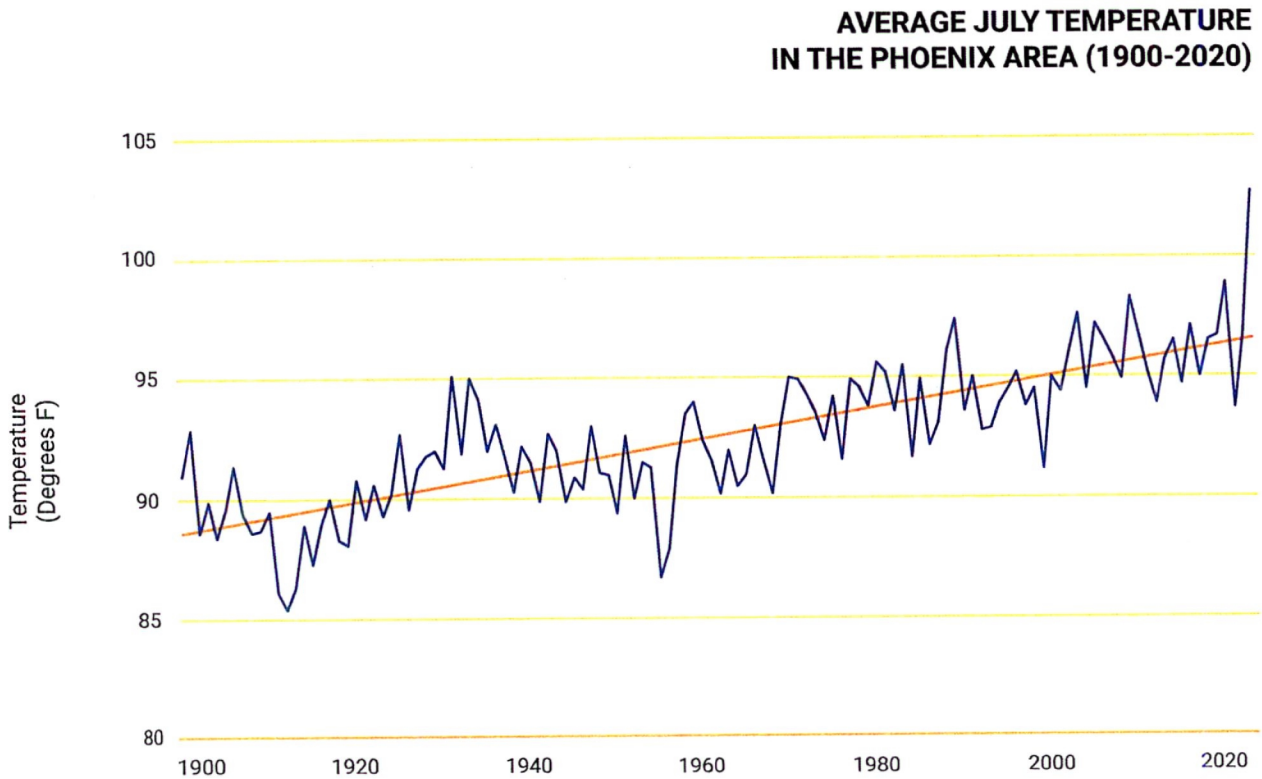


Figure 2. Source: National Weather Service NOWData, Phoenix Area, Monthly Summarized

The desert southwest is also experiencing one of its worst droughts in 1,200 years. Insufficient rainfall and snowpacks have lowered lake levels, endangered water supplies and impacted soil moisture and vegetation. The Arizona Department of Water Resources monitors drought conditions using precipitation and streamflow data, compares annual data to a 40-year historical record and publishes weekly reports on the status and level of the drought. Similarly, both Scottsdale and the Central Arizona Project assess the impacts of the drought on predicted water supply and react accordingly. The over-allocation of Colorado River water supplies, coupled with trends of a hotter and drier climate, make protecting water resources essential — and more difficult.

Scientific data helps us understand how our air quality is changing and the resulting health impacts. The region's two biggest concerns are ozone and particulate matter (PM), as these exceed federal health-based standards most frequently **(FIGURE 3)**. The causes of these pollutants are complex, especially given how far ozone, dust and smoke can travel in the air. Regional air quality has fluctuated in recent years, in part reflecting the influence of extremely hot summers on the number of unhealthy days. In 2022, almost 1 in 3 days exceeded federal air quality standards – 30% or 106 days. In 2020 and 2021, the air quality was in the 'very unhealthy' range for more than two months.

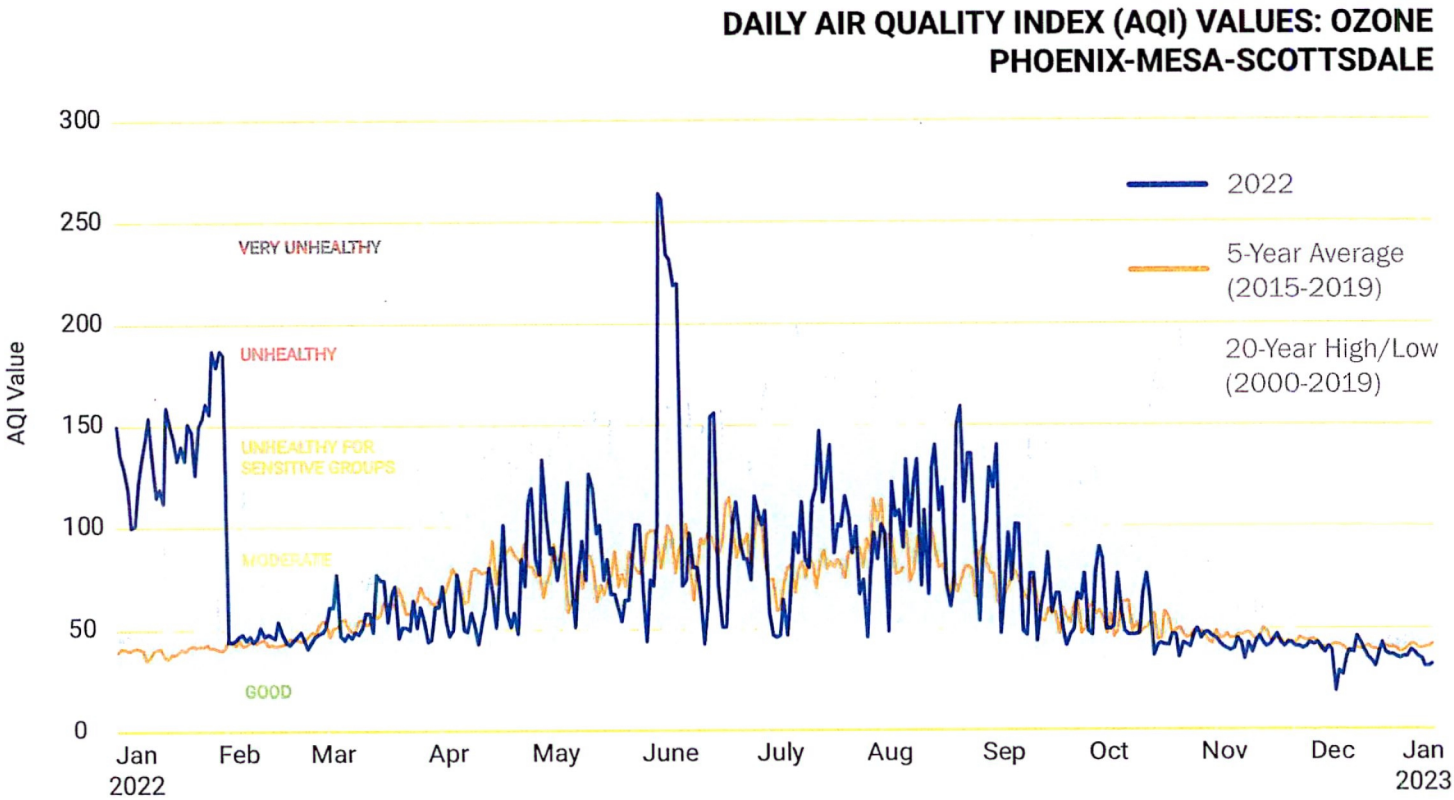


Figure 3. *Source: Air Data - Daily Air Quality Tracker*

Now is the time to act. NASA reports that 97 percent of climate scientists "agree that humans are causing global warming and climate change,"[7] and 7 out of 10 people locally agree that global warming is happening.[8] To preserve Scottsdale as a highly livable city that is environmentally and economically healthy, we are responding with mitigation and resiliency solutions to these challenges.

> *"Climate change will impact water prices, food prices, housing prices...energy prices, it will impact our quality of life, our health, our jobs and economy."*
>
> - Resident feedback on the draft Sustainability Plan

THE ECONOMICS OF SUSTAINABILITY

Just as the science of sustainability motivates us to take action, the economics of sustainability help us understand how to get started, guiding the efficient use of resources and the long-term response to climate change. The concept of the 'triple bottom line' means that financial, social and environmental performance should influence decision-making, highlighting how our ecosystem fuels the economy.

Safeguarding a sustainable future for Scottsdale will require investments, both by the city government and by residents and businesses. Innovation and other factors have been driving down the costs of technology like photovoltaic systems (down 80% since 2010), and rebates and grants can also lower upfront costs. Similarly, the prices of renewable energy, electric vehicles and batteries have also dropped.

A case-by-case comparison of costs to benefits -- including the cost of doing nothing -- will identify projects that make financial sense. Reducing energy and water use often yields favorable cost-benefit ratios, meaning that the cumulative savings from lowered use can exceed the costs in a short period of time. Benefits to consumers can be quantified – like reduced utility bills and maintenance costs when utilizing longer-lasting lightbulbs – or be more subjective as when occupants are more comfortable. A seminal work by McKinsey identified numerous negative-cost options for improving energy efficiency in buildings and appliances, which are recommended as quick wins.[9] Negative-cost options generate savings on an investment over their life cycle.

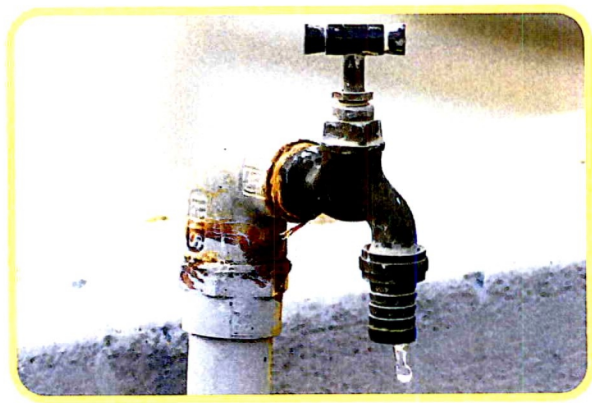
Another way to assess the economics of policies or projects is through life cycle analysis, by analyzing the costs and benefits of an item from production to end-of-life disposal. For solid waste, this involves different calculations for different efforts. Reusing items can save money by deferring expenditures. For recycling, there are tradeoffs like the environmental cost of mining for bauxite versus the collection and recycling costs of aluminum. Overall, the region-specific costs of transportation and maintenance of landfills should also influence sound decision-making.

Similarly, the utility staff in Gilbert commissioned a report to examine the overall impact on rates of reducing water demand. This analysis of avoided costs quantified the impacts of conservation over 20 years and found that water rates are 5.8% lower than they would have been without the per capita reductions. The conclusion was that by conserving water, customers avoided the higher costs of building new infrastructure to deliver and treat additional water supplies.[10]

Macerich [which owns and operates Scottsdale Fashion Square and Kierland Commons] "aims to set the bar for sustainability in the real estate industry by operating properties with purpose that "walk the walk" in stewarding resources for the shopping centers' guests, investors, tenants, industry partners, employees, communities and the planet."

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Failing to act also has costs, highlighting the relationship between a healthy economy and the environment. Extreme heat, poor air quality and drought can affect the economy in a range of ways: health impacts, loss of business when people stay indoors or cut visits short and utility bills squeezing disposable income.



A recent study by The Nature Conservancy (TNC) evaluated the impacts of extreme heat in the Phoenix area across five indicators of human and economic wellbeing: mortality, morbidity, labor productivity, roadway infrastructure and energy demand. On the low end of the estimated range, the economic consequences of inaction would average $1.9 billion between 2020 and 2059. The largest source of these costs was heat-related mortality ($898 million) and labor productivity losses ($855 million).[11]



The TNC study also analyzed the return on investment for two solutions – adopting cool roofs for 100% of buildings in the area and increasing the urban tree canopy to 25% by 2050. For each, the accumulated benefits were estimated to exceed the upfront costs by 4:1 or higher, even without including benefits like reduction in air pollution or reduced stormwater runoff.[12]

Another study in the journal Science evaluated the economy-wide impacts of different future warming scenarios and found that Maricopa County would see a 5-10% drop in gross domestic product by the end of the century (Figure 4).[13] **THE SAME STUDY ESTIMATES MARICOPA COUNTY WILL SEE A 15-20% INCREASE IN ENERGY COSTS.** The Atlantic Council similarly examined broad economic impacts and calculated that losses from decreased labor productivity would exceed $5 million per year by 2050 in Maricopa County and that occupational injuries due to human heat stress could be as high as 20,000 per year.[14]

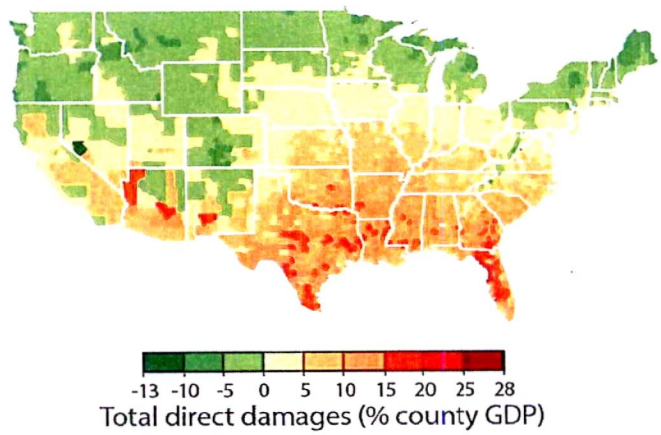


Figure 4. Source: "Estimating economic damage from climate change in the United States," Science, Hsiang et al, June 2017

- *33 percent of companies list improving operational efficiency and lowering costs as a top reason for addressing sustainability*
- *94 percent say their companies have integrated sustainability into strategic planning*
- *53 percent say company performance on sustainability is at least somewhat important to attracting and retaining employees*

- McKinsey & Company survey

Support for sustainability in Scottsdale is driven by many factors, including the economic benefits of action. As a city that thrives on innovation, collaboration and sustainable growth, Scottsdale already fosters a business-friendly climate that generates some of the world's most successful companies and entrepreneurs. The beauty and sustainability of the region's natural environment is integral to its economic vitality, with tourism alone having an estimated annual economic impact of $2.5 billion.[15] A recent study found that 64% of visitors to Scottsdale cited 'beautiful scenery' as a key factor in deciding to visit.[16] Poor air quality and extreme heat can have a chilling effect on tourism by influencing potential visitors to choose alternative vacation and conference destinations.

As individual projects are identified to move the city closer to its goals, an analysis of costs and benefits will be used to set priorities. A greener future can also be one where residents, tourists and businesses continue to prosper. To sustain our economy, it is essential we take actions to ensure that our ecosystem is healthy.

"The rapidly escalating costs of continuing greenhouse gas emissions continue to outpace the costs of mitigation (future citizens considered), and we bear responsibility to plan and implement aggressive mitigation."

- Resident feedback on the draft Sustainability Plan

OUR COMMUNITY VALUES

Scottsdale established Community Values to guide implementation of the goals of the 2035 General Plan. The Community Sustainability Plan reflects these values as it stewards the natural environment, protects human health and advances the social and economic well-being of the community for the present and future generations.



Respect Character and Culture

Enhance and protect Scottsdale's unique features, neighborhood identity, character, livability, southwestern heritage, and tourism through appropriate land uses and high standards for design. Create vibrant and attractive places that accommodate a variety of ages and incomes and support the arts and multicultural traditions.



Conserve and Preserve the Environment

Lead the region in the stewardship and sustainable management of the Sonoran Desert environment and conservation of natural resources and open spaces for the visual, physical, and personal enrichment of everyone.



Collaborate and Engage

Promote strong, visionary leadership that is transparent, responsive, and efficient; collaborates regionally; respects and honors our community values; recognizes the benefit of interactive community involvement and volunteerism; and embraces citizens as active partners in decisions that affect their neighborhoods and city.



Foster Well-Being

Promote a culture of lifelong physical and mental health, safety, and well-being for residents, visitors, employers, and employees. Foster social connectivity across cultural and generational boundaries by cultivating a welcoming environment; respecting human dignity; and recognizing and embracing citywide and regional diversity.



Connect the Community

Connect all community members within the city and to the region by striving for cost-effective, adaptable, innovative, safe, and efficient mobility options. Connectivity and mobility involve more than getting people from here to there, connectivity and mobility influence the form and comfort of urban communities.



Revitalize Responsibly

Vigorously evaluate the short- and long-term impacts of development and redevelopment decisions to ensure that public and private investment work collaboratively to support and maintain the unique features and local identity that make Scottsdale special, and contribute positively to the community's physical, fiscal, and economic needs and high quality of life.



Advance Innovation and Prosperity

Embrace a diverse and innovative economy to sustain our high quality of life through a variety of businesses, health and research institutions, and educational, technological, tourism and cultural elements.

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HOW THE PLAN WAS DEVELOPED

The Scottsdale Community Sustainability Plan is an important part of the city's commitment to a more sustainable future as it implements creative solutions to solving environmental challenges. The City Council included adoption of a sustainability plan as part of the city's 2022 and 2024 organization strategic plans, and the plan was identified as part of the General Plan 2035 implementation.

GETTING STARTED

Work on the plan began in June 2021, with support of the Rob and Melani Walton Sustainability Solution Service (ASU) and with input from the Scottsdale Environmental Advisory Commission (SEAC) and other community members. ASU researchers interviewed city personnel, researched best practices and frameworks and collected ideas about possible actions at community meetings, resulting in an initial draft plan.

CITY COUNCIL DIRECTION

Beyond driving the creation of the sustainability plan, City Council feedback at five Work Study Sessions resulted in a sharp focus on the priorities, a push to develop baseline metrics and set numeric targets, and the need to include the costs and benefits of action. The discussion at these sessions included a range of specific input on topics and requested the use of narratives to tell a story about why sustainability is important.

SCOTTSDALE ENVIRONMENTAL ADVISORY COMMISSION (SEAC)

SEAC has been involved in the plan development from the beginning, sharing their valuable expertise and reviewing plan drafts. Input from this seven-member public body has shaped the plan framework and message, ensured the plan reflects the character of Scottsdale and set our sights high to achieve aspirational targets.

COMMUNITY ENGAGEMENT

The city has ~~been committed to~~ **CONDUCTED** a broad public input process with outreach to residents, boards and commissions, businesses and other stakeholders for their feedback. Staff and subject matter experts have provided their guidance and ideas along the way. ~~Two sets of community meetings were held in May and October 2022 in conjunction with a public questionnaire to elicit feedback on an early draft and on overall priorities. As interim drafts were posted online and discussed at public meetings, additional input was gathered and incorporated into the plan. A final draft was posted for public review before City Council adoption.~~

THERE HAVE BEEN THREE SETS OF COMMUNITY MEETINGS, AT DIFFERENT STAGES OF THE PLAN DEVELOPMENT, PLUS A PUBLIC QUESTIONNAIRE. IN MAY 2022, AROUND 50 WORKSHOP PARTICIPANTS WERE ASKED TO BRAINSTORM AND SUGGEST POSSIBLE ACTIONS. THEY WERE THEN INVITED TO SORT THEM BY TOPIC, PLACING THEM ON SHEETS OF PAPER POSTED AROUND THE ROOM. IN TOTAL, AT LEAST 450 POSSIBLE ACTIONS WERE IDENTIFIED. THE OCTOBER 2022 WORKSHOPS WERE DESIGNED TO SOLICIT INPUT ON PRIORITIES, AND 40 ATTENDEES SHARED 260 COMMENTS ABOUT POSSIBLE STRATEGIES AND ACTIONS FOR THE PLAN.

A SURVEY WAS USED TO GET ADDITIONAL FEEDBACK FROM COMMUNITY MEMBERS WHO WERE UNABLE TO ATTEND THE OCTOBER WORKSHOPS. RESPONDENTS WERE ASKED TO RATE THE IMPORTANCE OF A LIST OF STRATEGIES AND TO SELECT THE TEN STRATEGIES THAT WERE MOST IMPORTANT OR THAT REFLECT THEIR PRIORITIES FOR SCOTTSDALE. THERE WERE ALMOST 300 RESPONSES TO THE SURVEY, WITH OVER 220 INDIVIDUAL COMMENTS.

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THE CITY ALSO HOSTED TWO 90-MINUTE INTERACTIVE MEETINGS IN SEPTEMBER 2024. THE WORKSHOPS WERE WIDELY PUBLICIZED ON SOCIAL MEDIA AND VIA EMAIL AND CITY NEWSLETTERS. IN TOTAL, ALMOST 70 PEOPLE ATTENDED, SHARING 200 COMMENTS ABOUT WHAT SHOULD BE INCLUDED IN THE PLAN. OVERALL, ATTENDEES SHARED POSITIVE AND EXTREMELY HELPFUL FEEDBACK. SUPPORT WAS ESPECIALLY HIGH FOR PLANTING MORE TREES, DIVERTING MORE WASTE, ADDING SOLAR AND CONSERVING WATER.

As interim drafts were posted online and discussed at public meetings, additional input was gathered and incorporated into the plan. THE COMMENTS SHARED AT CITY COUNCIL AND SEAC MEETINGS ARE INCLUDED IN THE POSTED DOCUMENTS FOR THOSE MEETINGS.

See Acknowledgments for more information on city departments and Boards and Commissions that contributed to the plan.





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FRAMEWORK & PRIORITIES

FOR A SUSTAINABLE, RESILIENT & THRIVING SCOTTSDALE

To turn this plan into action, Scottsdale has established five priority areas for becoming a sustainable, resilient, and thriving community: **Energy**, **Water**, **BEYOND Waste**, **Air Quality** and **Extreme Heat**. This framework — which grew from the goals and policies for sustainability set in the 2035 General plan (see Appendix A for a detailed list) — supports the protection of the Sonoran Desert ecosystem and will help attract residents and visitors, providing economic benefits and ensuring a high quality of life.

This Plan is an aspirational document and not a mandate, so there are no penalties if targets are not met. The indicators and baseline data for each priority show "where we are" and are tied to targets that ~~are~~ **REFLECT** "where we want to be." The work builds on existing plans (see Appendix B), looking beyond what the city is doing and providing policy direction where efforts are newer or are now more urgent.

These five priority areas sometimes overlap in important ways, **s**o the plan structure facilitates collaboration and reinforces the connections between the topics. Tackling the challenges of energy and water consumption and waste generation provide benefits like cost savings, improved health and reduced pollution. These steps also improve air quality and address extreme heat. For example, fewer greenhouse gas emissions mean less polluted air and lower temperatures, which in turn results in less energy needed to cool buildings. Adding desert-adapted trees filters pollutants from the air and provides shade.

Strategies are goal-oriented and provide general guidance to help us address the Priority. They are carried out through specific Actions.

Indicators allow baselines to be determined and progress to be measured. Indicators link Priorities and **Targets** – defining **where we are today** and **where we would like to be in the future**.

Actions provide specific direction to achieve the Targets.

Implementation sections for each Priority detail when work will be accomplished and who will lead the efforts.

In total, the 15 strategies and more than ~~93~~ **95** actions in this plan reflect a comprehensive action plan for Scottsdale. Some are extensions of programs and initiatives that are already well-developed, while others are completely new and need to be started from scratch.

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ENERGY

Maximize the use of renewable energy resources, energy efficiency and responses to climate challenges.

WATER

Conserve, protect and deliver quality drinking water safely and reliably to the community, now and into the future.

BEYOND WASTE

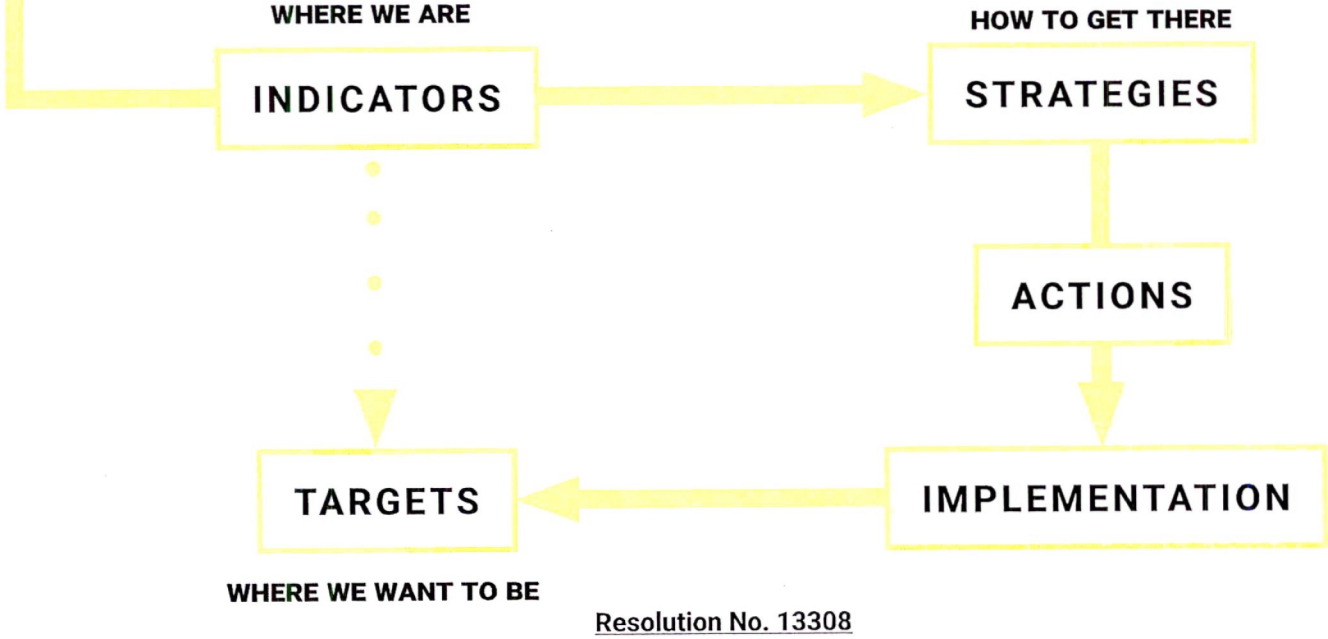
Develop a circular economy approach for materials management and effective citywide diversion of all waste streams.

AIR QUALITY

Reduce contaminants and pollutants to improve air quality and protect community health.

EXTREME HEAT

Ensure that the community prevents, is prepared for, responds to and recovers from extreme heat.



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WHAT HAPPENS NEXT

IMPLEMENTATION

The city of Scottsdale will take the lead implementing the Community Sustainability Plan and be a catalyst for further action by the private sector, non-profits and community members. Achieving sustainability for Scottsdale requires a common vision and engagement from the whole community to prioritize effective solutions. Implementation of the plan will be strategic and strive to maximize the benefits for all Scottsdale residents and visitors. The plan is designed to be a living, working document that focuses our resources and collective action where it will be most impactful.

Implementing some of the plan's 15 strategies and ~~93~~ **95** actions will begin immediately, while others will start later or evolve and be revised over time. Implementation will require that specific project plans be developed for each action, identifying costs, personnel needs, barriers and milestones. Timelines for completion of programs will vary, and the City Council may fund or not fund programs at any time. The city will seek funding for priority projects and identify possible City Code updates to address key strategies.

An implementation table for each priority shares four elements for each action:

Time Horizon for Completion: Quick Win,* 1-3 years, 3-10 years or Ongoing

Lead Agencies & Partners: Additional partners will likely be added during project development

Costs: Costs are estimated and may change during project development or implementation
- $ -- **Low** ($0 - $50,000)
- $$ -- **Moderate** ($50,001 - $250,000)
- $$$ -- **High** (Over $250,000)

Benefits:

- Environmental (air quality, carbon emissions, waste reduction, drought relief)
- Economic ($ savings, attracting businesses and tourism)
- Social (health & safety, quality of life, equity, resiliency)

City staff will also work to address capacity-building and cross-cutting efforts. Efforts are underway to identify staff and community champions for sustainability, increase awareness of sustainability solutions and expand community engagement. An employee Green Team is also working on specific projects to improve internal operations.

Implementation of the sustainability plan will focus on accountability and will be accomplished with a high level of transparency and stakeholder participation.

* After initial implementation, "quick wins" may transition to "ongoing" programs.

ADMINISTRATION

There will be ~~three~~ **FOUR** important ways the city administers the plan to ensure continuous evaluation and improvement:

1. Produce an annual report that includes updates on implementation of actions, progress toward ~~sustainability~~ **ACHIEVING** targets including data on the indicators and a section specifically chronicling municipal achievements and data. The reports will be presented annually to City Council and the Scottsdale Environmental Advisory Commission and will discuss possible amendments to the plan.

2. Formally update the plan every three years, providing an opportunity to include new strategies and actions and amend existing ones as well as update targets to reflect new opportunities and progress made.

3. Track operating and capital spending on sustainability-related work and operational savings and project rebates in partnership with the City Treasurer.

4. **CONTINUE REGULAR COMMUNITY DIALOGUES.**

SCHEDULE OF ANNUAL REPORTS & PLAN UPDATES

YEAR 0	YEARS 1 & 2	YEAR 3	YEARS 4 & 5	YEAR 6
Adoption	Annual Reports	Annual Report	Annual Reports	Annual Report
		Plan Update		Plan Update



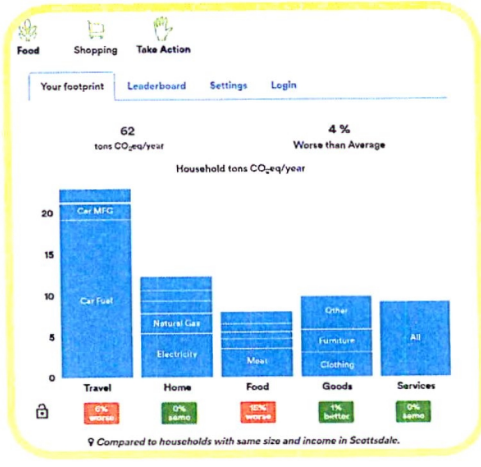
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WHAT CAN YOU DO?

The city of Scottsdale hopes that residents, businesses and non-profits are also motivated to improve the world around them.

Work with us and support one of the actions in the plan or be innovative and start your own project! Here are some places to get started:

WHAT IS MY IMPACT?
The CoolClimate Network offers a simple tool to help you understand your personal environmental impact. They even have a version for businesses. Use the calculators to see what kinds of changes you can make to your travel, buildings and shopping and make a pledge to act.



TALK ABOUT IT!
Engage your family, neighbors and co-workers about sustainability. Ask them questions about what concerns them the most and tell them what you're doing to make an impact. Conversations about the environment can help people connect over shared values.

LEARN MORE ABOUT WHAT SCOTTSDALE IS DOING
Go to ScottsdaleAZ.gov and search "sustainability" to find out more about the latest initiatives and how you can be part of the solution.

SUGGESTIONS FROM THE COMMUNITY

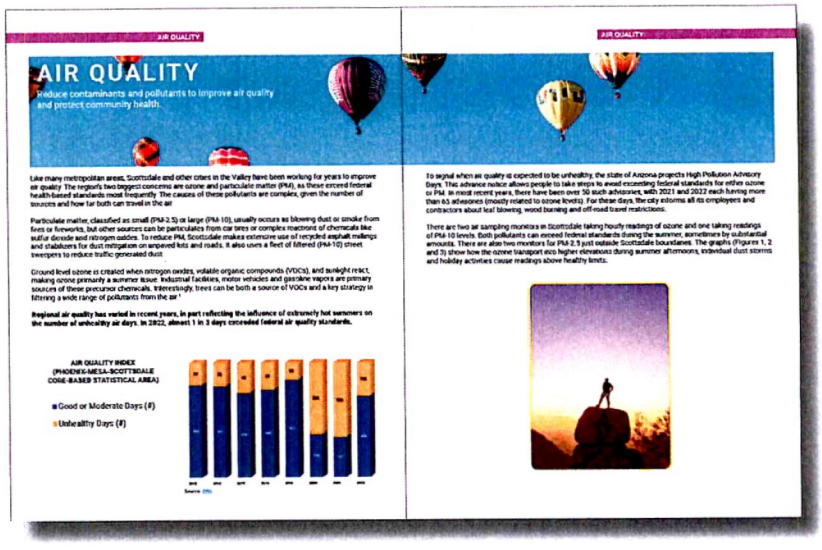
- Support farmers' markets
- Plant trees
- Use light colored roofs
- Replace non-porous pavement with porous pavement to absorb water
- Carpool or use alternative forms of transportation to get around the city
- Don't water lawns in the afternoon when most of the water will evaporate
- Install pool motor timers and variable speed pumps for pools
- Don't heat pools all winter long
- Donate to your favorite cause
- Volunteer in your neighborhood or for a city project

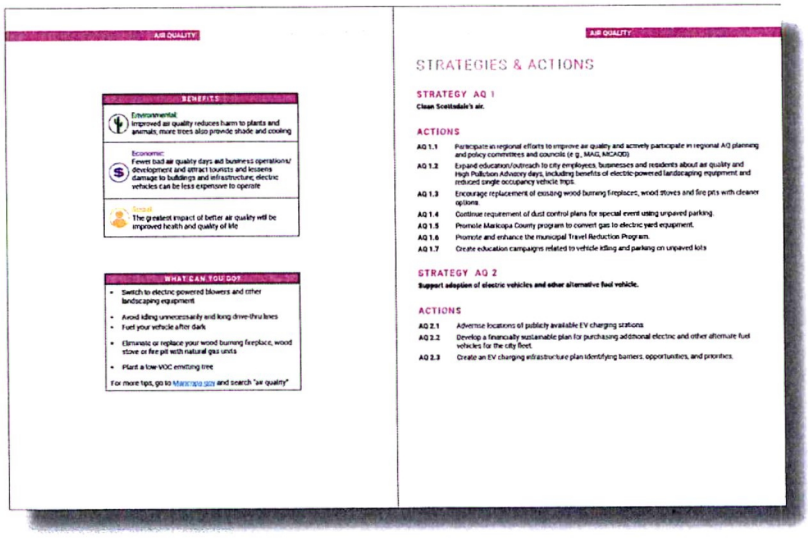
OTHER RESOURCES

Tips from ASU
Sustainable travel tips
Eco-tourism in the desert
Sustainable books to read
Ways to reduce food waste
Hiking in the desert
Sustainability health tips
Another good list of simple tips
Sustainable fashion tips

READ THE PLAN

The plan provides specific actions for achieving long-term goals and will require efforts by city government and members of the community. In each section, the "What Can You Do?" graphics will include more interesting tips and suggestions – check them out!





"Do all the good you can. By all the means you can. In all the ways you can. In all the places you can. At all the times you can. To all the people you can. As long as ever you can."

- Anonymous

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ENDNOTES

1 "The National Community Survey: Scottsdale, AZ Report of Results 2023," p. 10; "essential" or "very important" responses = 85% in 2023.

2 Leadership in Energy and Environmental Design

3 "How Do We Know Climate Change is Real?" NASA Global Climate Change: Evidence.

4 "Is it too late to prevent climate change?" NASA Global Climate Change.

5 "Phoenix just posted the hottest month ever observed in a U.S. city," Washington Post.

6 "Arizona Then and Now: Summer heat," *Arizona Republic*, 07/28/2016..

7 "Do scientists agree on climate change?" NASA Global Climate Change, Questions.

8 "Yale Climate Opinion Maps 2023," December 13, 2023; Estimated % of adults who think global warming is happening for Congressional District 1 = 73%.

9 "Reducing US greenhouse gas emissions: How much at what cost?" McKinsey, December 1, 2007.

10 "Water Conservation Keeps Rates Low in Gilbert, Arizona," Alliance for Water Efficiency, June 2017.

11 TNC, 2021: Economic Assessment of Heat in the Phoenix Metro Area [deBoer, A. Schwimmer, E, McGregor, A. Adibi, S. Kapoor, A. Duong, S. Love, J. Bonham-Carter, C. Lindquist, J.] In Phoenix, AZ.

12 TNC, 2021: Economic Assessment of Heat in the Phoenix Metro Area [deBoer, A. Schwimmer, E, McGregor, A. Adibi, S. Kapoor, A. Duong, S. Love, J. Bonham-Carter, C. Lindquist, J.] In Phoenix, AZ.

13 "Estimating economic damage from climate change in the United States," Science, Hsiang et al, June 2017.

14 "Extreme heat: The economic and social consequences for the United States," Adrienne Arsht-Rockefeller Foundation Resilience Center, Atlantic Council, August 31, 2021.

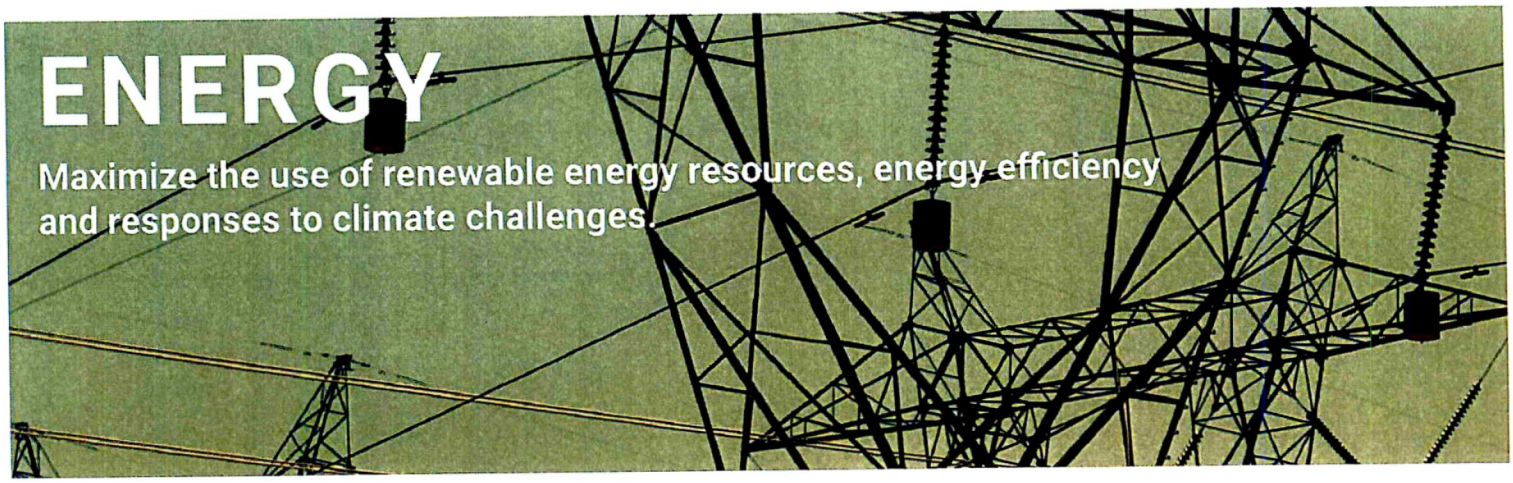
15 "Scottsdale Tourism Study - Visitor Statistics," City of Scottsdale, September 2022.

16 "Longwoods Advertising Effectiveness Report," City of Scottsdale, May 2023.

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ENERGY

Maximize the use of renewable energy resources, energy efficiency and responses to climate challenges.

Residents and businesses rely on electricity and other energy sources every day to operate computers, cooling appliances and lighting. Much of this energy is provided by regulated utilities and comes from burning fossil fuels like coal or natural gas for electricity, heat and transportation.

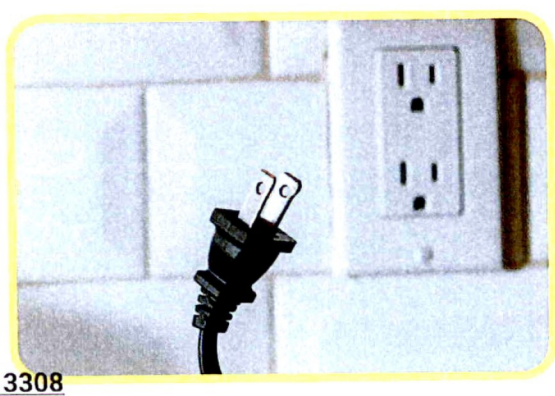
Using less energy yields cleaner air and health benefits, supports green jobs and generates cost savings. For example, efficient appliances and heating/cooling equipment can reduce the utility bill for the average household by $500 per year. Taking additional steps to use more clean or renewable energy further protects the environment by reducing pollutants and greenhouse gases.

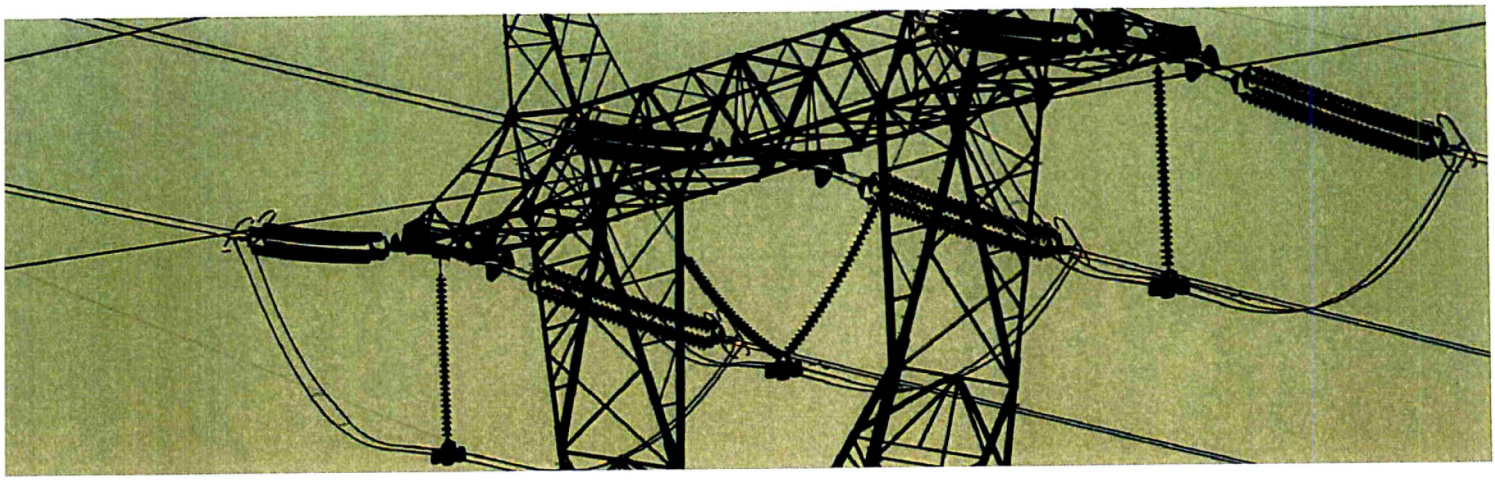
The use of fossil fuels emits heat-trapping pollution into the atmosphere forming a thick blanket around the Earth, causing our planet to overheat and creating irreversible damage. NASA's records and analysis confirm that the climate is warming and warming faster than any time in the past 10,000 years. Average temperatures are up two degrees Fahrenheit, mostly in the last 40 years, and driven by emissions of carbon dioxide and other human activities.[1] The result is an amplification of the natural greenhouse gas effect (which is essential for the Earth to be habitable) resulting in more heat trapped in the atmosphere.

Models estimate that temperatures may increase another 4.5 to 8 degrees Fahrenheit by 2100,[2] but other changes in our climate are occurring much faster and can already be seen. NASA has compiled datasets that show warming oceans, rising sea levels and more extreme weather events, among a long list of impacts. Temperature increases also act as a threat multiplier, worsening air quality and making our climate more arid.

The Fifth National Climate Assessment documents how greenhouse gas emissions have been falling nationwide, but not fast or far enough. As a result, water resources in the Southwest region will continue to be threatened by a drier and hotter climate. The extreme heat also reduces crop yields, increases wildfire risk and impacts human and ecosystem health.[3]







Two important ways to transition to fossil-free energy involve installing more renewable energy like wind or solar and improving the efficiency of buildings and transportation.

Arizona is ranked 5th in the nation for the total capacity of solar energy,[4] and Scottsdale's potential rooftop capacity is over 2,000 megawatts (MW).[5] Current installations of distributed solar in the city are over 90 MW, generating enough electricity to power more than 14,000 homes for an entire year.

Energy efficiency – reducing the amount of energy needed to provide products and services – is a proven way to move toward a cleaner environment and to save money. The features of a building can significantly impact finances, operational costs, health, safety and comfort. For example, adding insulation to a building or upgrading windows keeps a house cooler and lowers energy bills. Arizona ranks in the middle tier when graded against other states on a range of factors related to adoption of energy efficient policies and practices.[6] Scottsdale's residents used 3.9 million megawatt hours (MWh) of electricity in 2022, which is 50% more per capita than the amount used in Phoenix.

The City of Scottsdale has begun to address energy efficiency through impactful and cost-efficient initiatives. Scottsdale's first-in-the-state Green Building Program encourages a whole-systems approach through design and construction to minimize environmental impacts and reduce the energy consumption of buildings while contributing to occupant health. The program led to the construction of the first LEED Platinum certified fire station in the country – Scottsdale Fire Station 602. We are auditing more than 50 buildings, participate in demand response programs and offer Residential and Commercial Solar Guidelines. It is notable that the treatment and transport of water represents a large portion of municipal electricity use.



The city gathered a large amount of data to understand better how energy is used in Scottsdale, focused on the years between 2018 and 2022. As part of the process to develop an inventory of greenhouse gas emissions, trends in the use of electricity and natural gas were analyzed, and a basic forecast model was developed to guide policy choices.

Citywide, electricity purchased from utilities has remained fairly constant since 2018, but would have been 4% higher without the solar installations on houses and businesses. For 2022, total energy use equaled 16,232 kilowatt hours (kWh) per capita and 9.2 kWh per square foot of building space. **The amount of solar energy installed on homes and businesses – commonly called distributed solar – has almost doubled since 2018 (up 90%) driven mostly by the residential sector.** In 2022, over 90 megawatts (MW) of distributed solar systems were installed in the city (78 MW residential and 12 MW commercial) including 350 kilowatts on municipal property.

CITYWIDE ELECTRICITY USE
(THOUSANDS MEGAWATT HOURS - MWh)

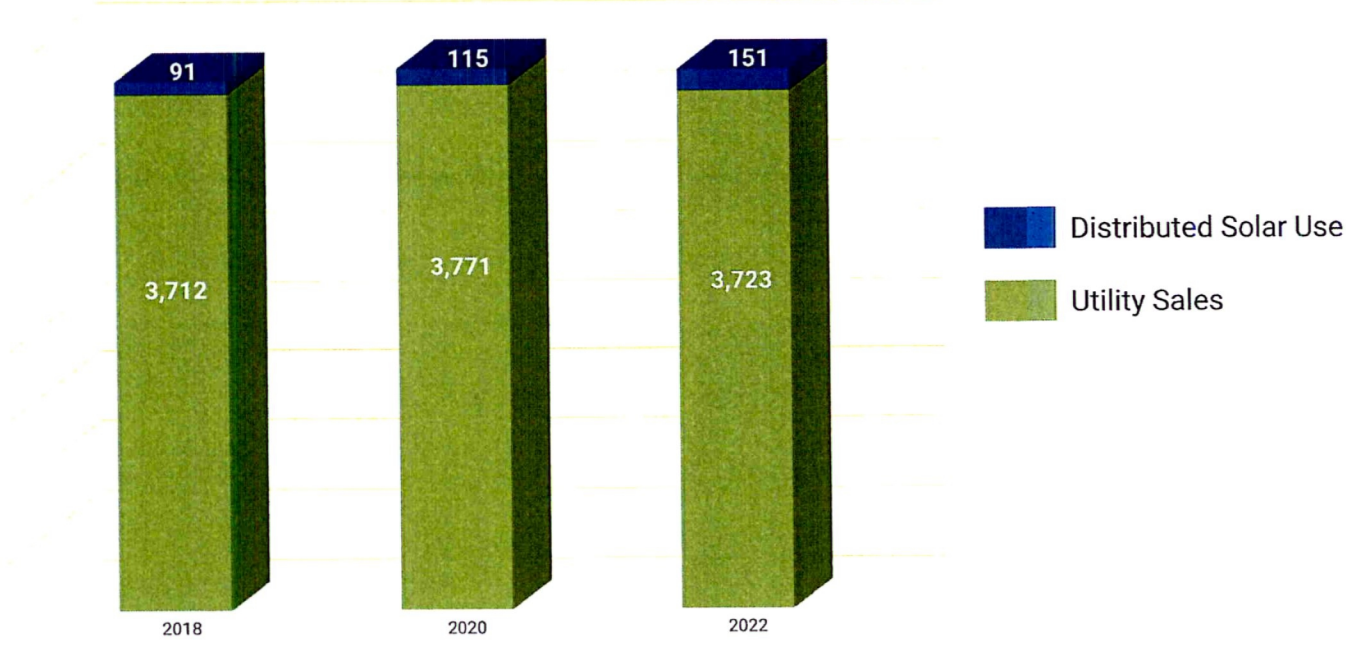


Figure 1. Source: 2022 Greenhouse Gas Emissions Inventory

INDICATOR

Citywide electricity use (2022 = 3,874,290 megawatt hours or 9.2 kWh/ft^2)

TARGET

Reduce citywide electricity use per square foot by 15% by 2035 (from 2022 levels)

DISTRIBUTED SOLAR CAPACITY (MEGAWATTS)

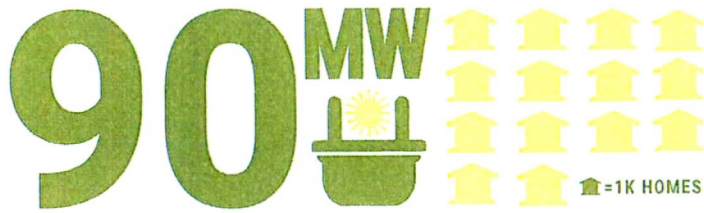


Figure 2. Source: 2022 Greenhouse Gas Emissions Inventory

INDICATOR

Distributed solar capacity (2022 = 90.1 megawatts citywide; 350 kilowatts municipal)

TARGET

- Increase distributed solar capacity citywide to 180 MW by 2030 and to 500 MW by 2040
- Increase municipal solar capacity to 5 MW by 2030

In the same timeframe, municipal electricity use dropped slightly driven by energy efficiency improvements and increased numbers of staff working from home. In 2022, municipal natural gas use rose by 15% to 675,004 therms, due to new or repaired facilities coming online. **Citywide natural gas use rose slightly (up 2.6%) to 49,779,824 therms.**

INDICATOR

Municipal electricity use (2022 = 280,021 megawatt hours)

TARGET

Reduce municipal electricity use by 15% by 2035 (from 2022 levels) through efficiency measures

Between 2018 and 2022, citywide greenhouse gas emissions decreased by 7% to 3,078,925 MT CO_2e.* ~~The majority~~ **MOST** of these emissions were the result of electricity use (49%), with transportation (41%) also being an important contributor. Other sources include natural gas (9%), solid waste and wastewater (1.4%) and refrigerant loss (0.2%).

GHG emissions have decreased over a period of population and economic growth for a variety of reasons: different sources of electricity (as utilities have switched to natural gas and solar), increased energy efficiency in buildings and increased solar installations on homes and businesses. It is possible that emissions may rebound given the post-pandemic economic recovery.

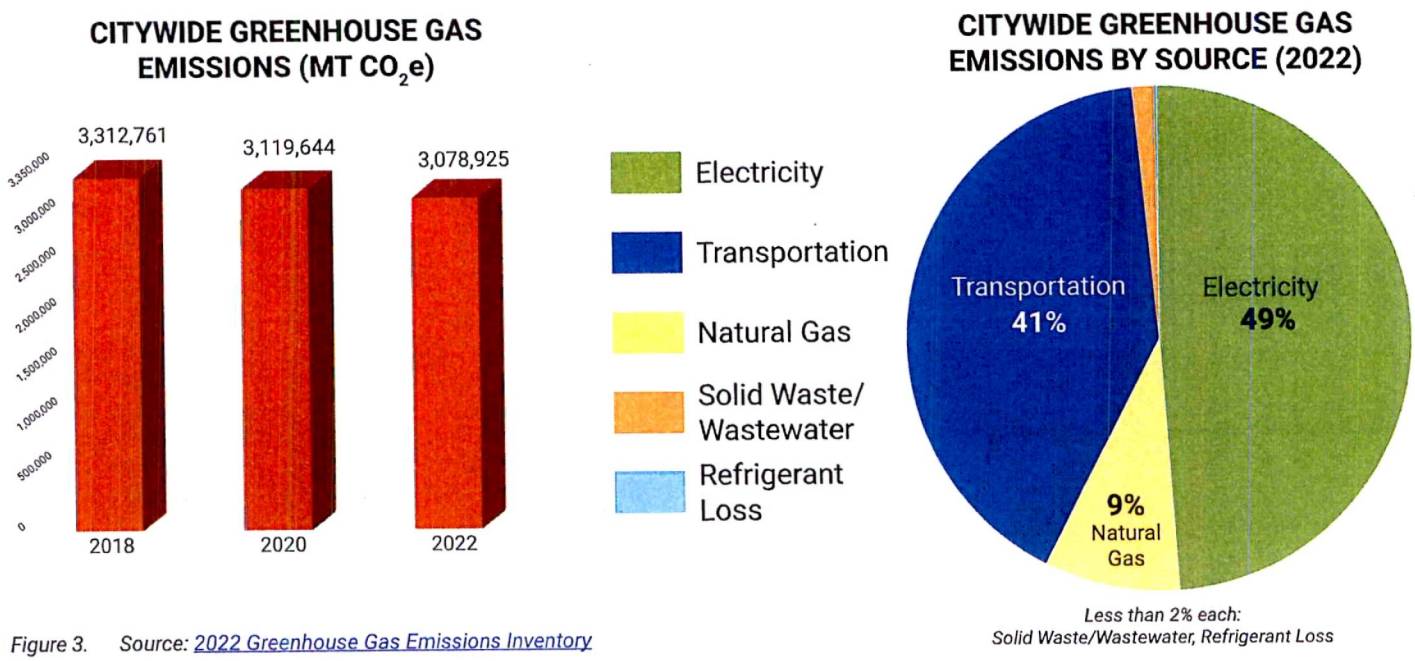


Figure 3. Source: 2022 Greenhouse Gas Emissions Inventory

INDICATOR

Citywide greenhouse gas emissions
(2022 = 3,078,925 metric tons CO_2 equivalent)

TARGET

Reduce citywide greenhouse gas emissions by 45% by 2035 and 90% by 2050 (from 2022 levels)

* Scottsdale's citywide GHG emissions inventory was conducted in accordance with the GHG Protocol for Cities BASIC level reporting requirements. The municipal operations GHG emissions inventory was conducted according to the Local Government Operations Protocol. Both protocols are the international standard for conducting citywide and municipal operations GHG emissions inventories, respectively. The "2022 Greenhouse Gas Emissions Inventory" documents in more detail how emissions were calculated, which sources are included in the BASIC level reporting and how the forecasting model was created.

During the same time period, emissions from Scottsdale's municipal operations decreased roughly 11% to 181,584 MT CO_2e (or 6% of the citywide total).* Because the city's emissions are mostly driven by electricity use in buildings (62%), 2020 emissions were markedly lower during pandemic-related shutdowns but also reflect efforts to improve the energy efficiency of our buildings. Waste-related emissions (23%) play a larger role than citywide, due to municipal collection of residential waste and treatment of water. Other sources of emissions are transportation (8%), natural gas (2%), refrigerant loss (3%) and transmission and distribution (T&D) losses (2%).

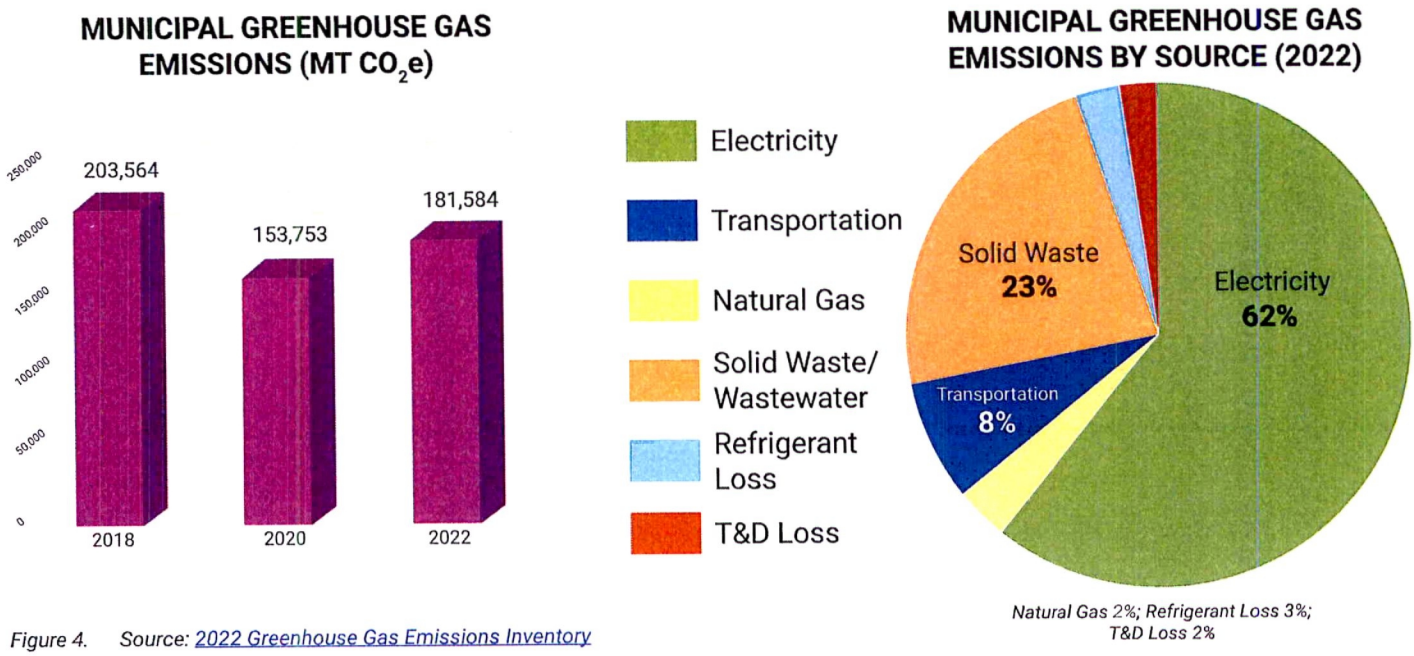


Figure 4. *Source: 2022 Greenhouse Gas Emissions Inventory*

INDICATOR	TARGET
Municipal greenhouse gas emissions (2022 = 181,584 metric tons CO_2 equivalent)	Reduce municipal greenhouse gas emissions by 45% by 2035 and 90% by 2050 (from 2022 levels)

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As part of the process to estimate the inventory of greenhouse gas emissions, Scottsdale also developed a forecasting model to analyze current trends at the community, state and national levels and use this information to estimate future community-level GHG emissions in Scottsdale. The model builds on the inventory and uses other sources of trend data to help estimate future energy pathways. To maintain simplicity and clarity, the model concentrates on the most significant sources of citywide emissions.

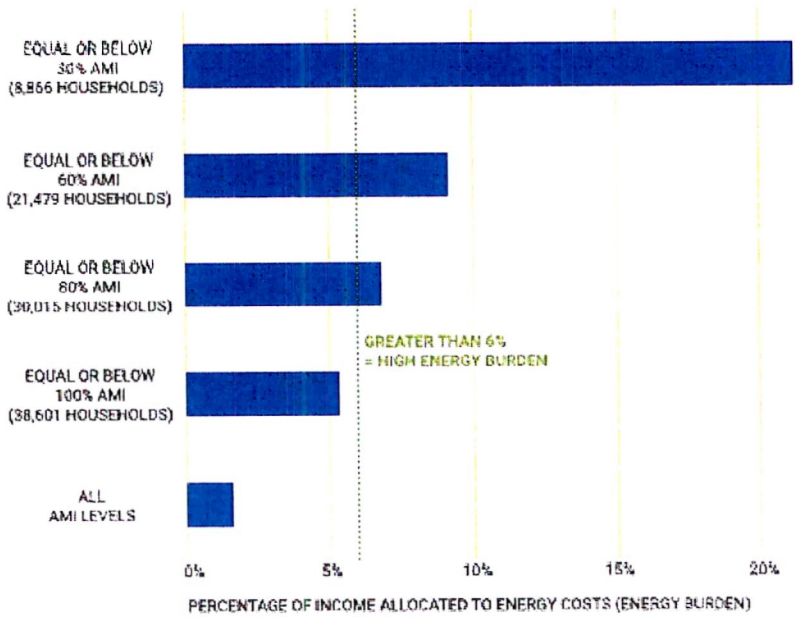
Given the inherently unpredictable nature of technological advancements, policy changes and a myriad of other factors that influence future conditions, the model's results should be viewed as directional indicators rather than absolute certainties, more offering a compass than a map. The future is uncertain, and the model's results need to be interpreted with this in mind. The forecast model looked at five scenarios: baseline, accelerated renewable energy development, increased energy efficiency, electric vehicle growth and all-of-the-above.

For each scenario, assumptions were made about key variables like advances in vehicle technology or predicted changes in the electrical grid. Model projections were then calculated out to year 2050, showing possible pathways to guide strategic planning. The baseline scenario is used as a point of comparison for the impact of interventions in the other four policy scenarios. One insight from the model is that electric vehicle growth can have a high impact on reducing emissions below the baseline scenario.



While the city has pursued energy efficiency in facilities and operations, such efforts may not be easy for all residents. Energy burden is the percentage of household income spent on energy expenses. A household's energy burden is considered high if it is above 6% and severe if above 10%. **The average energy burden for all households in Scottsdale is 2%. However, households making 80% or less than the area median income (AMI) have an average energy burden above 6%, with that number rising to 21% for households 30% and below of the AMI.** As one way to address this problem, the Scottsdale Community Assistance Office oversees Housing Rehabilitation Programs that remodel older homes to be more energy efficient and make repairs for the health and safety of income qualified residents.

2016 ENERGY BURDEN BY % OF AREA MEDIAN INCOME (AMI)



INDICATOR

Average energy burden by income bracket (2016 = 21% for households 30% and below of area median income)

TARGET

Reduce the average energy burden to 6% or less for all households by 2035

Figure 5. Source: Office of State & Community Energy Programs LEAD Tool; data accessed August 2023

The number of green buildings – those that comply with IgCC, LEED, Scottsdale Green Building Program or Green Housing Rehabilitation Program ~~guidelines~~ – has been steadily increasing and is expected to rise more quickly with the adoption of mandatory green construction codes. Currently, just under 2% of all buildings have met a green building standard.

INDICATOR

Number of green buildings (2022 = ~~1,577~~ **1,586** out of 96,703 or 2% of total)

TARGET

Increase the percentage of green buildings to 10% of the total by 2035

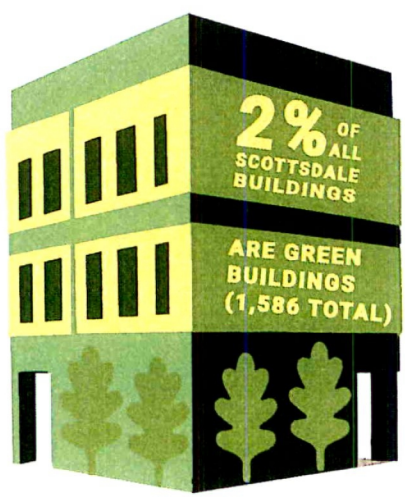


Figure 6. Sources: City of Scottsdale, FEMA

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BENEFITS
Environmental: Improved air quality and lower greenhouse gas emissions; mitigation of the impacts of increased temperatures and extreme weather
Economic: Reducing energy use and installation of solar lowers costs for households and businesses and increases investment in clean energy businesses
Social: Lowered energy burden for low-income households; improved indoor air quality; increased resiliency to power outages

WHAT CAN YOU DO?
▪ Install a photovoltaic system on your roof or over a parking lot ▪ Conduct an energy audit of your building or use the APS 'energy analyzer' or SRP's 'energy manager' ▪ Clean or replace all HVAC filters regularly ▪ Investigate utility rebates and tax incentives for energy efficient equipment ▪ Purchase Energy Star appliances ▪ As light bulbs burn out, replace them with LED bulbs. For more tips, visit the U.S. Department of Energy or go to Scottsdaleaz.gov and search "green building"

STRATEGIES & ACTIONS

STRATEGY NRG 1

Reduce energy use and greenhouse gas emissions.

ACTIONS

NRG 1.1 Promote energy efficiency improvements for existing residential and commercial properties especially for lower income households; educate property owners on utility and other incentives.

NRG 1.2 Develop guidance on ways to reduce utility bills.

NRG 1.3 Provide education for homeowners about solar financing options.

NRG 1.4 Consider free solar permits for residential installations.

NRG 1.5 Increase participation in state weatherization program.

NRG 1.6 Update greenhouse gas inventory at least every three years and expand to include refrigerant emissions; estimate impact of strategies and actions on emissions.

NRG 1.7 Publicly report on greenhouse gas emissions and reduction strategies.

NRG 1.8 Educate the public on the impacts of climate change and mitigation strategies.

NRG 1.9 Increase awareness of 811 and other ways to reduce accidental leaks or releases from natural gas lines.

STRATEGY NRG 2

Improve municipal energy performance.

ACTIONS

NRG 2.1 Employ an energy management system for municipal buildings and track energy use.

NRG 2.2 Increase the number of large city-owned buildings connected to the energy management system.

NRG 2.3 Conduct energy audits and assessments for all municipal buildings.

NRG 2.4 Continue to convert streetlight systems, park lighting and other civic lighting to LED technology.

NRG 2.5 Dedicate staff resources to managing energy programs.

NRG 2.6 Develop a master plan for solar development on city-owned properties, including battery and other storage capacity.

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NRG 2.7 Share information on savings achieved through municipal solar installations.

NRG 2.8 Evaluate joining utility green power programs, establishing city-utility partnership agreements and/or the use of microgrids.

NRG 2.9 Continue to participate in utility demand response programs; identify other opportunities to contribute to grid resiliency.

NRG 2.10 Join EPA Green Power Partnership.

NRG 2.11 Expand municipal on-site renewable energy generation and storage capacity, focusing on large users and critical facilities.

STRATEGY NRG 3

Reduce energy impacts of the built environment through sustainable building practices and policies.

ACTIONS

NRG 3.1 Adopt and implement energy and green construction codes that advance efficient construction practices to address affordability and regional characteristics.

NRG 3.2 Support code requirements for new residential construction to install solar systems or be 'solar ready.'

NRG 3.3 Strengthen enforcement of all building codes.

NRG 3.4 Encourage installation of solar panels when a new roof or deep retrofit occurs.

NRG 3.5 Continue LEED Gold requirement for new civic structures.

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ACTION		TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
STRATEGY NRG 1 **Reduce energy use and greenhouse gas emissions.**					
NRG 1.1	Promote energy efficiency improvements for existing residential and commercial properties.	Quick win	**Lead**: OEI **Partners**: Utilities, residents, businesses	$	Cost savings Lower emissions/ energy burden
NRG 1.2	Develop guidance on ways to reduce utility bills.	1-3 years	**Lead**: OEI **Partners**: Utilities, residents, businesses	$	Cost savings Lower emissions/ energy burden Resiliency
NRG 1.3	Provide education for homeowners about solar financing options.	1-3 years	**Lead**: OEI	$	Cost savings Lower emissions Resiliency
NRG 1.4	Consider free solar permits for residential installations.	1-3 years	**Lead**: OEI, Plan Review	$	Cost savings Lower emissions
NRG 1.5	Increase participation in state weatherization program.	1-3 years	**Lead**: Community Services **Partners**: OEI, State of Arizona, residents	$-$$$	Cost savings Lower emissions/ energy burden Resiliency
NRG 1.6	Update greenhouse gas inventory at least every three years.	3-10 years	**Lead**: OEI	$$	Lower emissions
NRG 1.7	Publicly report on greenhouse gas emissions and reduction strategies.	1-3 years	**Lead**: OEI	$	Lower emissions
NRG 1.8	Educate the public on the impacts of climate change and mitigation strategies.	Quick win	**Lead**: OEI **Partners**: Residents, businesses	$	Lower emissions
NRG 1.9	Increase awareness of ways to reduce accidental leaks or releases from natural gas lines.	1-3 years	**Lead**: OEI	$	Lower emissions

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ACTION		TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
STRATEGY NRG 2 Improve municipal energy performance.					
NRG 2.1	Employ an energy management system and track energy use.	3-10 years	**Lead**: Facilities	$$-$$$	Municipal savings Lower emissions
NRG 2.2	Increase the number of large city-owned buildings connected to the energy management system.	1-3 years	**Lead**: Facilities	$$-$$$	Municipal savings Lower emissions
NRG 2.3	Conduct energy audits and assessments for all municipal buildings.	1-3 years	**Lead**: Facilities	$$-$$$	Municipal savings Lower emissions
NRG 2.4	Continue to convert lighting to LED technology.	Ongoing	**Lead**: Facilities, Transportation & Streets	$$-$$$	Municipal savings Lower emissions
NRG 2.5	Dedicate staff resources to managing energy programs.	3-10 years	**Lead**: Facilities	$$	Municipal savings Lower emissions
NRG 2.6	Develop a master plan for solar development on city-owned properties, including battery and other storage capacity.	1-3 years	**Lead**: Facilities	$$-$$$	Municipal savings Lower emissions Resiliency
NRG 2.7	Share information on savings achieved through municipal solar installations.	1-3 years	**Lead**: Facilities	$	Municipal savings Lower emissions Resiliency
NRG 2.8	Evaluate joining utility green power programs, establishing city-utility partnership agreements and/or the use of microgrids.	1-3 years	**Lead**: OEI **Partners**: Utilities	$	Municipal savings Lower emissions Resiliency
NRG 2.9	Continue to participate in utility demand response programs.	Ongoing	**Lead**: Facilities, Water	$	Municipal savings Lower emissions Resiliency

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ACTION		TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
NRG 2.10	Join EPA Green Power Partnership.	1-3 years	**Lead**: OEI	$	Lower emissions
NRG 2.11	Expand municipal on-site renewable energy generation.	3-10 years	Lead: Facilities Partners: OEI, Water	$$$+	Municipal savings Lower emissions Resiliency
STRATEGY NRG 3 Reduce energy impacts of the built environment through sustainable building practices and policies.					
NRG 3.1	Adopt and implement energy and green construction codes that advance efficient construction practices.	Ongoing	**Lead**: OEI, Plan Review	$	Cost savings Local jobs
NRG 3.2	Support code requirements for new residential construction to install solar systems.	1-3 years	**Lead**: OEI, Plan Review	$	Cost savings Local jobs Resiliency
NRG 3.3	Strengthen enforcement of all building codes.	Ongoing	**Lead**: OEI, Plan Review	$	Cost savings Local jobs
NRG 3.4	Encourage installation of solar panels when a new roof or deep retrofit occurs.	1-3 years	**Lead**: OEI, Plan Review	$	Cost savings Local jobs Resiliency
NRG 3.5	Continue LEED Gold requirement for new civic structures.	Ongoing	**Lead**: OEI, Plan Review	$$-$$$	Cost savings Local jobs

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ENDNOTES

1 "How Do We Know Climate Change is Real?" NASA Global Climate Change: Evidence.

2 "Is it too late to prevent climate change?" NASA Global Climate Change.

3 "28. Southwest," U.S. Global Change Research Program, Fifth National Climate Assessment," 2023.

4 "State Solar Spotlight: Arizona," Solar Energy Industries Association.

5 "Rooftop Solar Potential," Google Environmental Insights, accessed 1/5/2024.

6 "2022 State Energy Efficiency Scorecard," ACEEE, December 2022.

NOTE: LINKS UPDATED

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WATER



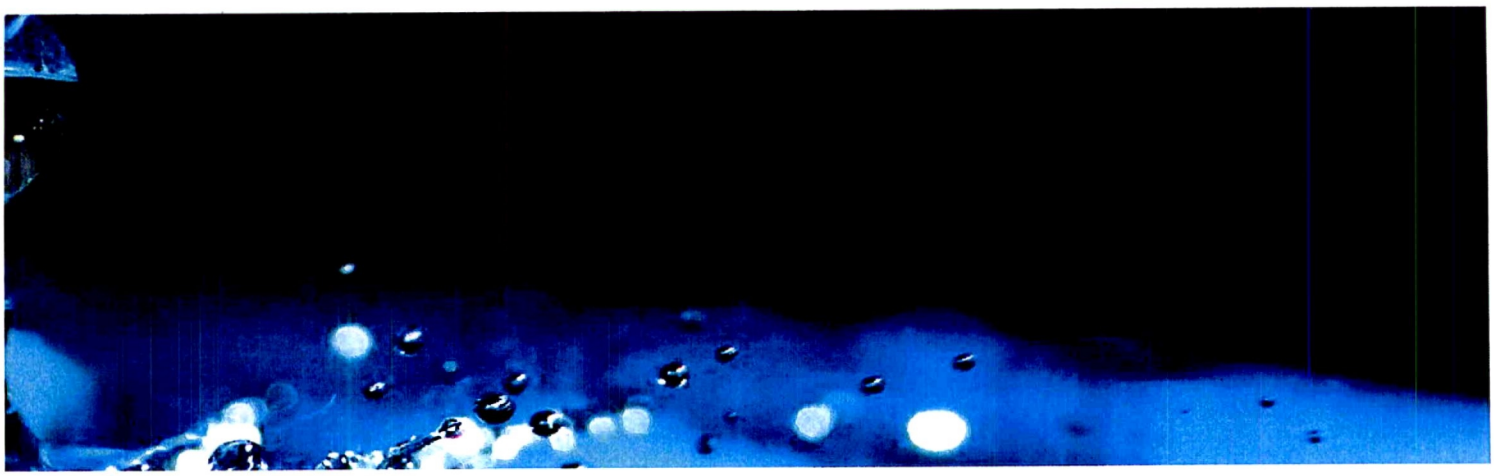
Conserve, protect and deliver quality drinking water safely and reliably to the community, now and into the future.

Providing quality drinking water and ensuring adequate water supplies has been a long-standing priority in Scottsdale. As reflected in the recently adopted "Sustainable Water Management Principles," Scottsdale Water thinks and acts strategically with its water resources – from supply, quality, and conservation to recycling and recharge. Staff works around the clock to ensure your drinking water surpasses all federal, state and local water quality regulations.

The city has a long record of substantial infrastructure investments and community water conservation programs. Staff administers several residential and commercial incentive rebate programs, offers residential outdoor efficiency checks and a commercial audit program, manages ordinance compliance like water waste complaints, and offers water efficiency educational opportunities. Demand for these services has been growing since the activation of Stage 1 of the city's Drought Management Plan.

In fiscal year 2023 residential and commercial turf conversion rebates incentivized removal of 440,000 square feet of grass – an almost 425% increase from the previous year and a 250% increase over the five-year average. In the same year, homeowner associations' (HOAs) consultations and recommendations grew by 175% and have proven to yield significant water savings. With the large number of HOAs in Scottsdale, a target of 100% consultation across HOA communities is ambitious. Residential outdoor water efficiency checks also grew by 160% when compared to the previous five year average.





When looking at total potable water demand data over the last decade and a half, a steady slight decrease in total demand and an increase in the number of accounts tells the story of conservation and increased efficiency.

In 2021, the city enacted Stage 1 of its Drought Management Plan and in doing so also requested all customers voluntarily reduce water consumption by at least 5%.[1] The conservation work has paid off. Even during the hottest month on record (July 2023), water use dropped in Scottsdale, saving 7% when compared to July 2022 and nearly 180 million gallons of water.[2]

While these accomplishments have placed the city in a positive position related to its water resources, addressing the challenges of the future will require an even more substantial effort. The over-allocation of Colorado River water supplies, coupled with trends of a hotter and drier climate, make protecting water resources essential. The current megadrought, which started in 2000, is the worst in 1,200 years and has impacted reservoir levels on the Colorado River[3] and Central Arizona Project's water supplies.

In 2022, Scottsdale Water customer accounts ~~totaled more than~~ **USED ABOUT** 70,000 acre-feet of potable water or 62 million gallons per day of safe, reliable drinking water. **Total water use** ~~is on a downward trend~~ **HAS DECREASED BY 7% SINCE 2006 even as the number of connections has increased** ~~by 9%~~ **(Figure 1).** It is important to note that Figure 1 represents metered data and not total water production.

SCOTTSDALE WATER TRENDS
METERED POTABLE WATER DEMAND (ACRE-FEET)

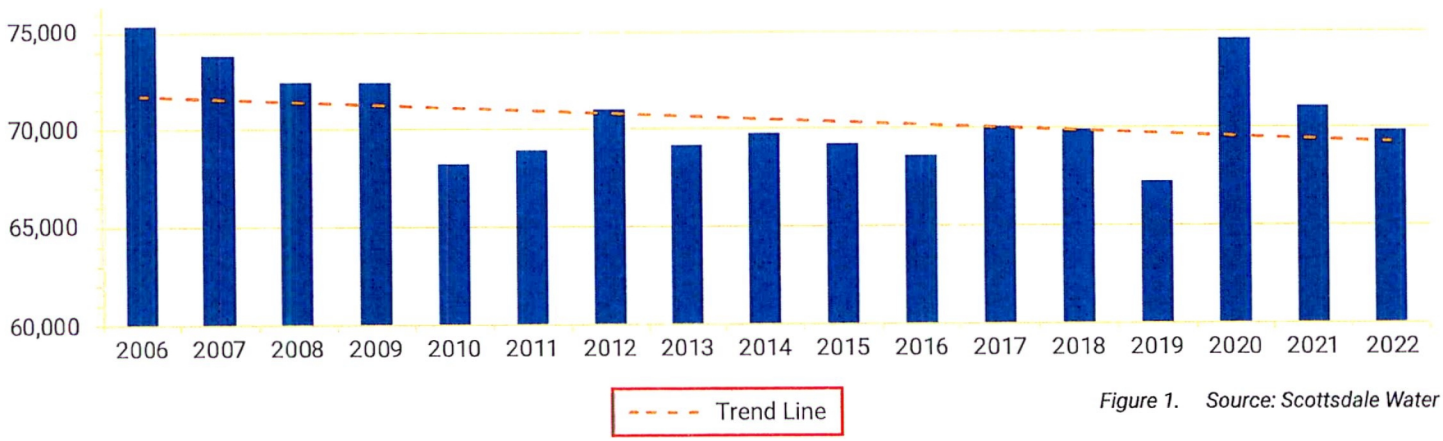


Figure 1. Source: Scottsdale Water

In 2022, the average residential customer (which comprise almost 90 percent of the active water accounts) used 13% less water than in 2000 or 199 gallons per capita per day (gpcd) for residential water use (Figure 2).

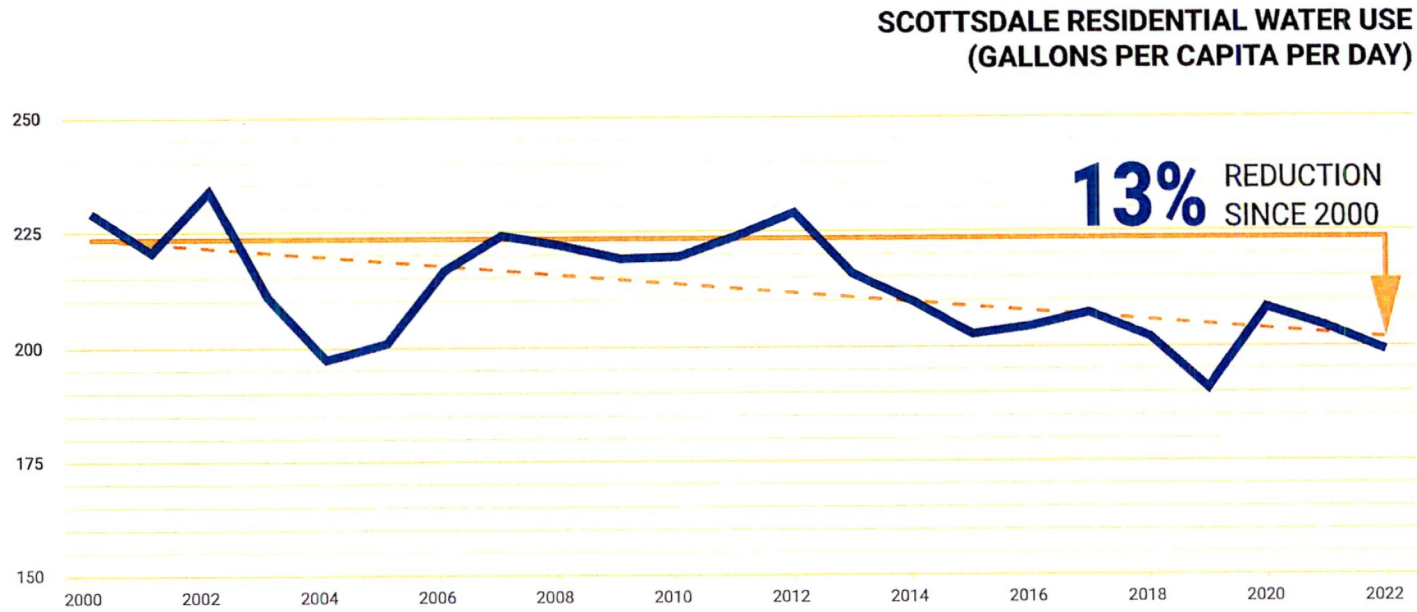


Figure 2. Source: Scottsdale Water

INDICATOR

Gallons per capita per day of residential water use (2022 = 199 gpcd)

TARGET

Reduce residential water use (gallons per capita per day) to 170 by 2033

Average residential water use varies by meter size and by season. The number of total customers has grown since 2014, but demand has decreased~~, showing that growth has not affected water use~~ (Figure 3).

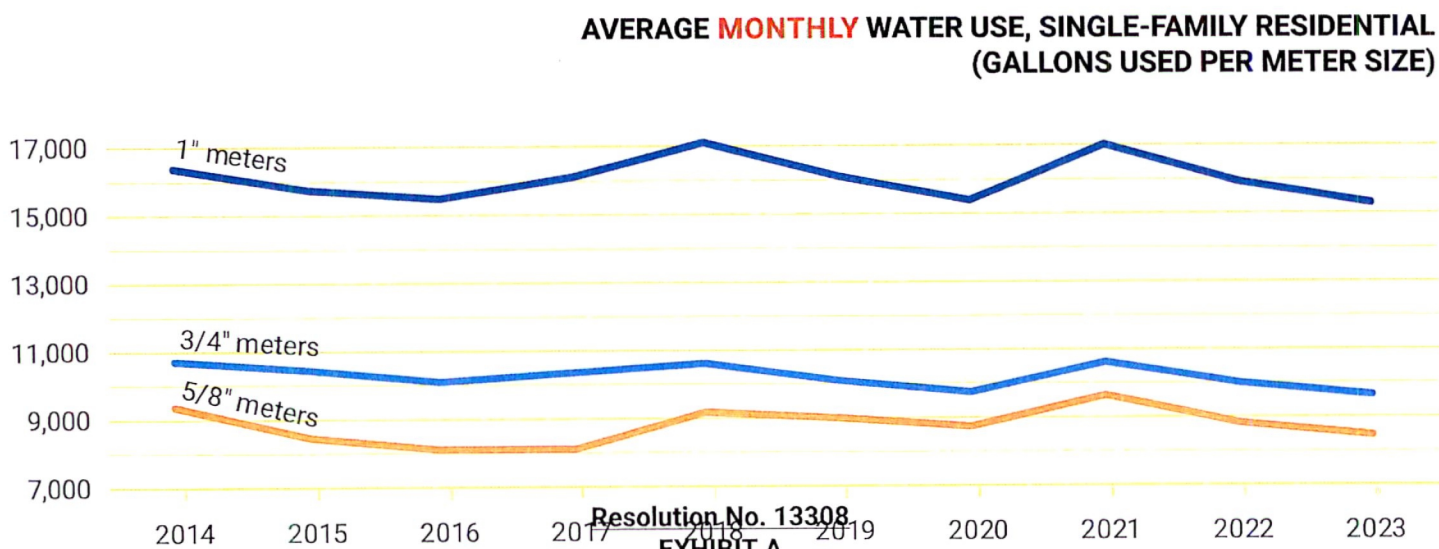


Figure 3. Source: Scottsdale Water

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Municipal water use represents around 2% of total potable city use and has dropped almost 10% since 2017. Scottsdale Facilities and Parks & Recreation have been proactively working to reach optimal and efficient water use in city-owned facilities and in the provision of services to the community.

INDICATOR	TARGET
Gallons of municipal water use (2022 = 438,172,762 gallons)	Reduce municipal potable water use by 5% by 2027 (from 2022 levels)

Scottsdale Water has targeted improvements in the amount of water used by Multi-Family Residential (MFR) customers and ~~their~~ HOAs to irrigate their common areas with water-use budgets, rebates and tips for overall water efficiency.

INDICATOR	TARGET
Gallons of irrigation water use for HOA properties (2022 baseline data to be established in a future annual report)	Reduce irrigation water use for HOA properties by 10% by 2033 (from 2022 levels)

Commercial water use has been relatively stable even during periods of economic growth. Future efforts will focus on developing strategies for efficiencies for existing users without affecting the ability to build Scottsdale's economy.

INDICATOR	TARGET
Gallons of commercial water use (2022 = 3,818,311,019)	Reduce commercial water use by 10% by 2033 (from 2022 levels)

DRAFT

Scottsdale Water was the first Arizona water utility to ~~implement~~ **BE PERMITTED FOR** indirect potable reuse with the Advanced Recycled Purified Water (ARPW) infrastructure at the Advance Water Treatment facility (AWT). The AWT is one of the largest and most sophisticated indirect potable reuse facilities in the world and, in 2019, became the third plant in the nation and the first in Arizona to be permitted for direct potable reuse.

Scottsdale's reclamation system has approximately 1,500 miles of sewer collection lines and over 40 lift stations. For decades, Scottsdale has used 100 percent of its recycled wastewater for beneficial, non-potable reuse or recharge. As a part of Scottsdale water resources portfolio, a portion of Advanced Recycled Purified Water (ARPW) is recharged into the aquifer as a kind of savings account to be able to recover it via groundwater wells in times of prolonged drought and shortage. Another portion of the ARPW is delivered to turf facilities through the Reclaimed Water Distribution System (RWDS). The third portion of Scottsdale's wastewater is delivered to the jointly-owned and Phoenix-operated 91st Avenue Wastewater Treatment Plant where it is treated and used for the cooling tower at Palo Verde Nuclear Generating station and the Tres Rios Wetlands.

Of the total amount of water that is delivered to customers, approximately 33% is currently "returned" to the sewer system, capturing indoor/outdoor efficiency for both residential and commercial customers. Future decreases in outdoor use and increases in irrigation efficiency would lead to a higher percentage of overall "return" flow. As an indicator of conservation for all customers, the city seeks to increase the return flow percentage over what has been seen in the last 10 years.

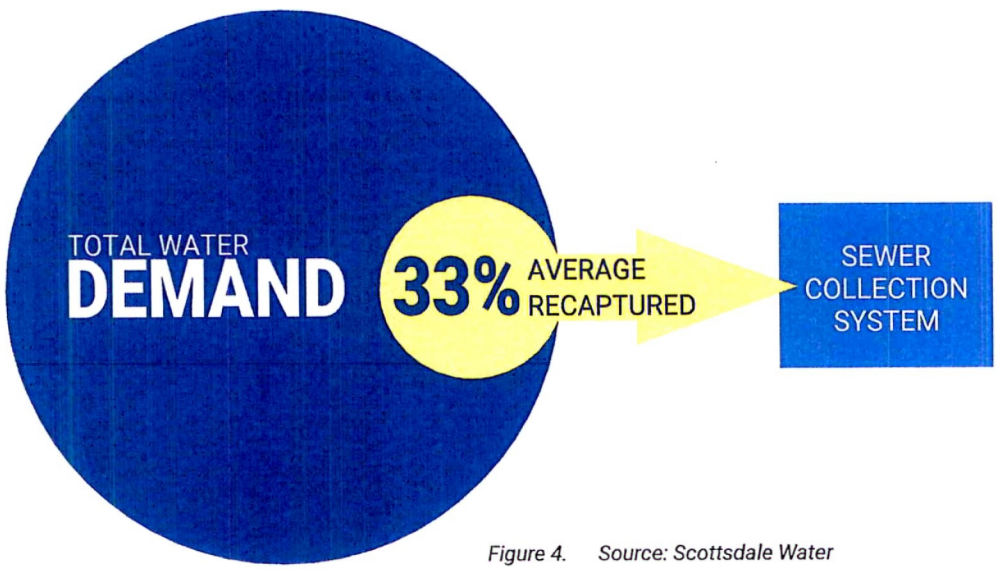


Figure 4. Source: Scottsdale Water

INDICATOR

Return flow percentage ~~or wastewater captured in the sewer collection system~~ (2022 = 33% of total potable water demand)

TARGET

Increase return flow percentage by 10% by 2033 **(FROM 2022 LEVELS)**

DRAFT

Scottsdale has excelled at proactive long-range planning to ensure safe and adequate water supplies and best management practices on water conservation efforts, total wastewater reuse, and water banking. Scottsdale helps ensure quality water supplies by reclaiming or reusing water, recharging excess to the aquifer, and treating groundwater. **The amount of groundwater delivered has remained fairly constant and kept to an internal target of Safe Yield.**

INDICATOR

Gallons of supply sourced from groundwater
(2022 = 1,823 million gallons)

TARGET

Maintain ~~treated~~ groundwater deliveries to Safe Yield levels

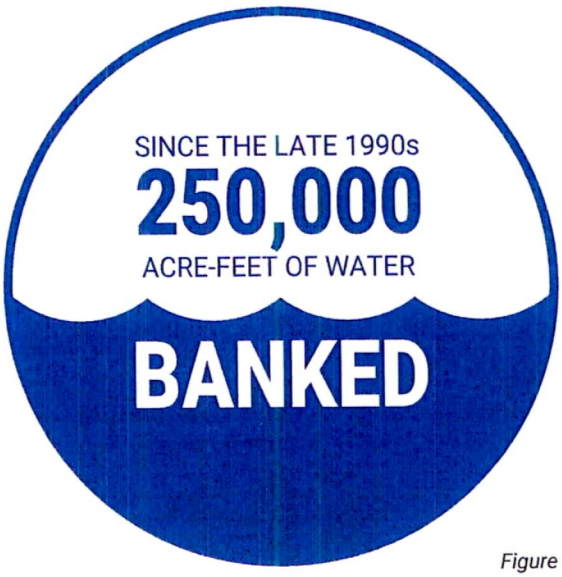


Figure 5. Source: Scottsdale Water

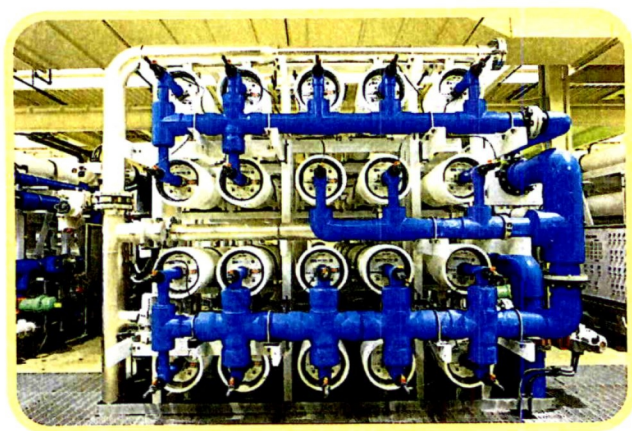
INDICATOR

Gallons of water recharged in aquifer
(Cumulative = 250,000 acre feet)

TARGET

Maximize annual water banking





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BENEFITS

Environmental:
Using water efficiently brings a level of relief from the drought and reduces carbon emissions by using less energy to pump and treat water

Economic:
More secure water supplies aid business operations/ development and attract tourists; conservation means lower water bills for customers

Social:
Clean and secure drinking water for all residents supports health & equity



WHAT CAN YOU DO?

- Use the WaterSmart app to monitor use and receive leak notifications
- Convert non-functional turf (grass) areas to desert-adapted landscapes
- Consider a WaterSense Smart Irrigation controller upgrade
- Understand your landscape water needs
- Plant native and drought tolerant plants
- Replace faucets, showerheads and toilets with WaterSense-labeled fixtures

For more tips, go to ScottsdaleAZ.gov and search "water"

STRATEGIES & ACTIONS

STRATEGY WTR 1

Ensure water system resiliency.

ACTIONS

WTR 1.1 Communicate the leak detection benefits of registering for the online visualization portal and leak alerts (WaterSmart), aiming to double participation by 2025.

WTR 1.2 Encourage removal of privately-owned non-functional/non-recreational turf through education and turf removal rebates.

WTR 1.3 Promote improvements to irrigation equipment and plumbing fixtures for residential and commercial customers.

WTR 1.4 Expand water conservation programs focused on homeowners associations (HOAs).

WTR 1.5 Review water use and conservation in development projects through the framework of the Scottsdale Sustainable Water Management Principles.

WTR 1.6 Showcase and benchmark best practices of water efficient buildings & landscaping.

WTR 1.7 Encourage site development strategies that incorporate green infrastructure, low impact development, and stormwater harvesting.

WTR 1.8 Develop strategies to encourage efficient water practices for commercial businesses.

WTR 1.9 Convert all water meters to Automatic Meter Infrastructure.

WTR 1.10 Conduct water efficiency consultations with all HOAs by 2033.

WTR 1.11 Explore and implement strategies to reduce water use in pools, spas and fountains.

STRATEGY WTR 2

Reduce municipal water use.

ACTIONS

WTR 2.1 Remove non-functional/non-recreational turf at city facilities ~~and retrofit municipal irrigation systems to smart controllers~~.

WTR 2.2 Monitor leaks ~~and implement advanced drip irrigation systems~~.

WTR 2.3 Maintain high-efficiency toilets, **SHOWERHEADS** and faucets in city buildings.

WTR 2.4 Install new cooling tower controllers in all municipal facilities by 2025.

WTR 2.5 RETROFIT MUNICIPAL IRRIGATION SYSTEMS TO SMART CONTROLLERS.

WTR 2.6 IMPLEMENT ADVANCED DRIP IRRIGATION SYSTEMS.

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ACTION		TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
STRATEGY WTR 1 **Ensure water system resiliency.**					
WTR 1.1	Communicate the benefits of registering for WaterSmart.	Ongoing	**Lead**: Water **Partners**: Customers	$	Customer savings
WTR 1.2	Encourage removal of privately-owned turf.	Ongoing	**Lead**: Water **Partners**: Customers, HOAs, landscapers	$-$$	Customer savings
WTR 1.3	Promote improvements to irrigation equipment and plumbing fixtures.	Ongoing	**Lead**: Water **Partners**: Customers, HOAs, landscapers	$	Customer savings
WTR 1.4	Expand HOA water conservation programs.	Ongoing	**Lead**: Water **Partners**: HOAs	$-$$	Customer savings
WTR 1.5	Utilize Scottsdale Sustainable Water Management Principles in development review.	Ongoing	**Lead**: Water **Partners**: Developers	$	Customer savings
WTR 1.6	Showcase and benchmark water efficient buildings & landscaping.	Ongoing	**Lead**: Water **Partners**: Customers, developers, landscapers	$	Customer savings
WTR 1.7	Encourage sustainable site development strategies.	Ongoing	**Lead**: Water, OEI **Partners**: Residents, developers	$	Nature Reduced flooding
WTR 1.8	Develop efficient water practices for businesses.	1-3 years	**Lead**: Water **Partners**: Commercial customers	$-$$	Customer savings
WTR 1.9	Convert water meters to Automatic Meter Infrastructure.	Ongoing	**Lead**: Water **Partners**: Customers	$	Customer savings

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ACTION	TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
WTR 1.10 Conduct HOA water efficiency consultations.	3-10 years	**Lead**: Water **Partners**: HOAs	$	Customer savings
WTR 1.11 Explore and implement strategies to reduce water use in pools, spas and fountains.	1-3 years	**Lead**: Water **Partners**: Customers, HOAs, developers	$-$$	Customer savings
STRATEGY WTR 2 Reduce municipal water use.				
WTR 2.1 Remove non-functional/ non-recreational turf at city facilities ~~and retrofit municipal irrigation systems to smart controllers~~.	Ongoing	**Lead**: ~~Parks & Rec~~ **PARKS & RECREATION**	$-$$	Municipal savings
WTR 2.2 Monitor leaks ~~and implement advanced drip irrigation systems~~.	Ongoing	**Lead**: ~~Parks & Rec~~ **PARKS & RECREATION, FACILITIES**	$	Municipal savings
WTR 2.3 Maintain high-efficiency toilets, **SHOWERHEADS** and faucets in city buildings.	Ongoing	**Lead**: Facilities	$	Municipal savings
WTR 2.4 Install new cooling tower controllers in municipal facilities.	Quick win	**Lead**: Facilities	$	Municipal savings
WTR 2.5 RETROFIT MUNICIPAL IRRIGATION SYSTEMS TO SMART CONTROLLERS.	**ONGOING**	**LEAD: PARKS & RECREATION**	**$-$$**	**MUNICIPAL SAVINGS**
WTR 2.6 IMPLEMENT ADVANCED DRIP IRRIGATION SYSTEMS.	**ONGOING**	**LEAD: PARKS & RECREATION**	**$**	**MUNICIPAL SAVINGS**

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ENDNOTES

1 "Scottsdale asking water users to use 5% less, conserve more amid water shortage," ABC15 Arizona, January 12, 2022.

2 "Scottsdale says residents reduced water use, despite hottest month on record," Arizona's Family, August 14, 2023.

3 "Rapid intensification of the emerging southwestern North American megadrought in 2020–2021," Nature Climate Change, Williams, Cook and Smerdon, Vol 12, March 2022.

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Managing waste better and more efficiently benefits everyone. Recycling or reusing goods reduces the reliance on finite natural resources and yields cost savings by buying less and avoiding landfill tipping fees. Solid Waste trucks will drive fewer miles on city streets, litter is reduced~~, jobs can be created~~ and fewer landfills need to be built and maintained. Increasing recycling, changing how vendors package their goods and offering compost receptacles reduces the pressure on landfills, saves energy and lessens upstream pollution from manufacturing.

Because of these benefits, achieving 'zero waste' has become a common long-term target for municipalities and organizations. While the overall goal – a holistic approach to minimizing the amount of waste sent to landfills – is often similar, precise definitions vary and sometimes include different waste streams. Most follow familiar principles to 'reduce, reuse, recycle' and often define zero waste as a 90% reduction or diversion rate.[1]

Sustainable materials management (SMM) goes beyond diversion to maximize environmental benefits and extend the life cycle of products and materials by keeping them in circulation as long as possible. This more holistic approach looks at extraction of resources, design, production and use of products, as well as end-of-life management and disposal (Figure 1) and identifies actions that reduce impacts on soils, water, the air we breathe and ecosystems.

One application of SMM is the creation of a circular economy, which "reduces material use, redesigns materials and products to be less resource intensive, and recaptures 'waste' as a resource to manufacture new materials and products."[2] This circularity provides an important framing as Scottsdale works to become a more sustainable city.

LIFE CYCLE OF MATERIALS AND PRODUCTS

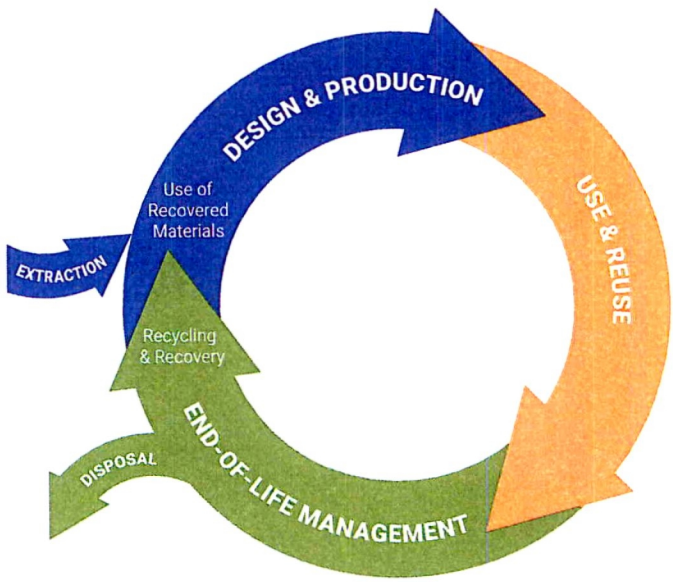


Figure 1. Source: Materials Management in Oregon

The 2018 Community Solid Waste Reuse and Recycling Strategic Plan set eight policy objectives to guide the work of Scottsdale Solid Waste Services. These policies are driven by the community's values and vision as represented in General Plan 2035. Together, they provide a comprehensive approach to meeting community expectations for how Scottsdale will approach the reduction, reuse, collection, recovery and disposal of solid waste materials generated within the city, while adhering to the sustainability ethic that is so important to our residents. As a companion document to this Scottsdale Community Sustainability Plan, the Strategic Plan includes detailed objectives for each of its policies and steps that can be taken to realize those goals.

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Historically, members of the Scottsdale community have supported and embraced efforts to divert waste from the landfill. Scottsdale Solid Waste Services has provided single-stream recycling collection to all single-family homes since 1996. Each residential customer is also provided monthly pickup of bulk items and uncontained brush (landscaping debris). Finally, as part of the base single-family service fee, residents can also receive on-call move-in box collection, appliance collection, household hazardous waste collection and participate in quarterly e-waste drop-off events.

Scottsdale Solid Waste Services maintains a contractual agreement with the Salt River Landfill (SRL) for the disposal of refuse. The estimated operational lifespan of the landfill extends through 2035, with ongoing efforts by the SRL to prolong the facility's utility beyond this period. ~~Waste~~ **REFUSE** is transported by the department either directly to the Salt River Landfill or to the Scottsdale Transfer Station, where it is consolidated into larger transport vehicles destined for the landfill. In addition, the Salt River Landfill Complex houses a Materials Recovery Facility, which the city employs for processing recyclable materials.

Like most municipalities, the city is motivated to divert material from the landfill in part by limited landfill space. When the Salt River Landfill reaches the end of its lifespan, the City will have to use alternative sites that are up to four times further away, meaning more fuel, labor, vehicle wear and air pollution. Bringing less waste to the landfill helps extend its usable life, avoiding future costs associated with opening a new landfill. Annie Leonard, the creator of "The Story of Stuff," said it best: "*When we throw anything away it must go somewhere.*"

There are multiple providers of material management services in Scottsdale. Single-family residences and city facilities are serviced by Scottsdale Solid Waste Services. The commercial sector, which includes multi-family housing and businesses, is mostly serviced by private haulers but can also choose to contract with the city.

Unlike residents of single-family households, Scottsdale's multi-family complexes and other commercial customers do not automatically receive recycling service. A quarter of Scottsdale's residents live in multi-family housing, so it is important to find effective methods to increase diversion and reduce waste in these communities. This need is underscored by the fact that, at the beginning of 2024, only 18% of the city's 1,150 commercial account customers recycled.

Construction and demolition (C&D) debris represents a significant portion of the waste generated in Scottsdale and the surrounding region. Nationwide, the Environmental Protection Agency (EPA) reports that 600 million tons of C&D waste were generated in 2018, more than twice the amount of municipal solid waste generated.[3] Scottsdale Solid Waste Services can provide roll-off containers for landfill disposal of C&D debris. Private haulers are also very active in this sector, with only limited data reported to the city. Private haulers and other service providers also offer options for recycling and reuse of construction materials and salvaged building materials. Of note, building code changes in 2023 in Scottsdale now require that all commercial projects achieve at least a 50% diversion of nonhazardous construction, demolition and deconstruction waste material.

Materials management planning is hampered by many data gaps. Data on landfill refuse, recycling and organics diversion from municipal facilities is incomplete, but will be estimated starting in 2024 based on existing data and periodic waste audits. In the commercial sector, the city has little data from private haulers for commercial spaces and multi-family housing.

In fiscal year 2022/23, Scottsdale Solid Waste Services collected 61,814 tons of landfill refuse (black containers) and 22,903 tons of recycling (mauve containers) from single-family residential households. The combined 84,717 tons was 10% less by weight than in 2009, in part due to lighter recyclables as more plastic is used today. **At the same time, the amount of landfill refuse collected per household is down almost 13% to under 1,500 pounds.** These numbers include waste collected by the city for single-family household but excludes other waste streams not collected weekly. In FY 2022/23, Scottsdale Solid Waste Services also collected 20,263 tons of brush and bulk from single-family households.

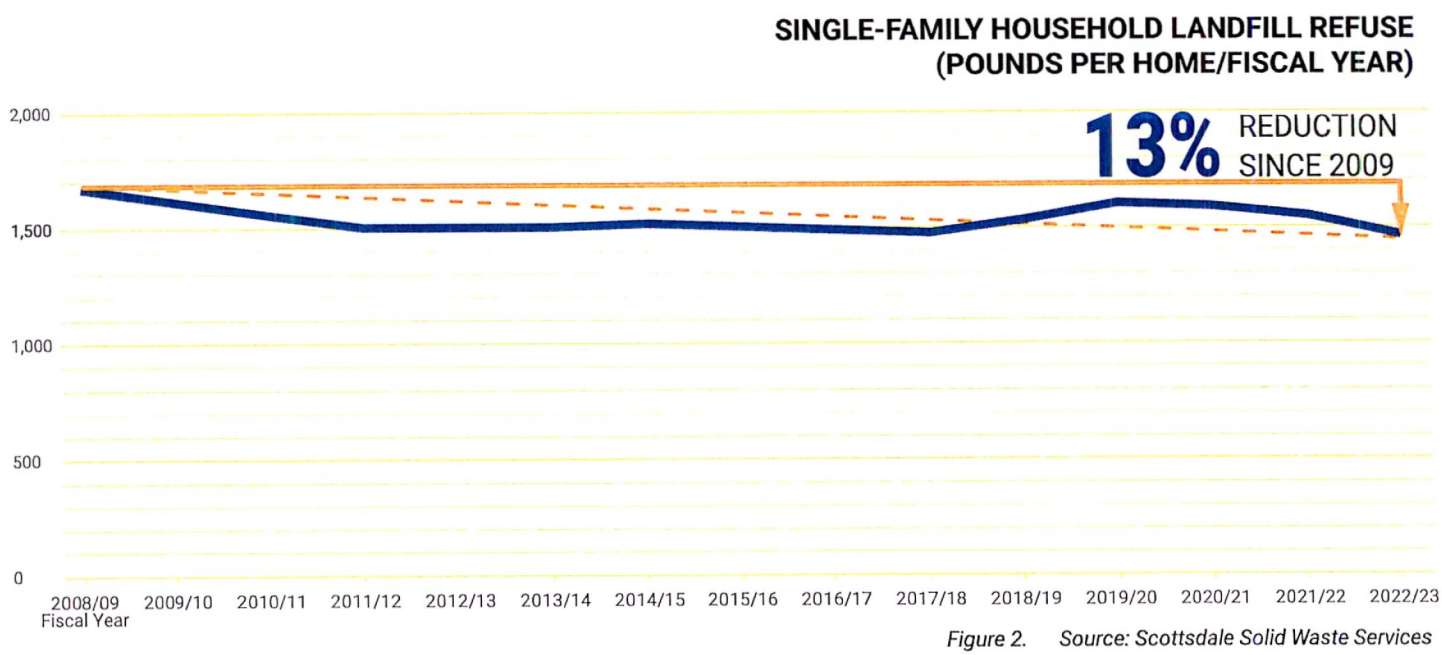


Figure 2. Source: Scottsdale Solid Waste Services

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INDICATOR

Pounds of landfill refuse per single-family household **(BLACK CONTAINER)**
(2022-2023 = 1,465 pounds)

TARGET

Reduce landfill refuse per single-family household by 25% by 2030 and 90% by 2040 (from 2022 levels)

INDICATOR

Tons of landfill refuse citywide (Baseline data to be established in a future annual report)

TARGET

Reduce landfill refuse ~~collected~~ citywide by 90% by 2040

INDICATOR

Tons of municipal landfill refuse ~~collected~~ (Baseline data to be established in a future annual report)

TARGET

Reduce municipal landfill refuse by 35% by 2030 and 90% by 2040 (from 2024 levels)
(excludes municipal green landscaping debris hauled under city contract)



A key component of sustainable materials management is diversion. Diversion is any action that keeps waste out of the landfill, from well-known actions like recycling or composting to reuse and waste prevention.

Source reduction is the design, manufacture, distribution, sale, purchase, and use of materials in ways that reduce the quantity or toxicity of waste generated. Source reduction preempts the need to collect, process and dispose of materials by preventing their generation in the first place. Examples of source reduction practices include: repairing or refurbishing, purchasing in bulk, choosing reusable over single-use and donating unwanted items with useful life remaining.

In addition, while the subject of refuse and recycling collection generally prompts images of large trucks driving down the streets emptying containers along the way, there are many alternatives available within the community, including textile collection drop-off points, retail outlets accepting used light bulbs, batteries, motor oil, or plastic grocery bags for proper disposal, and thrift stores and other markets for reusable items.

Scottsdale Solid Waste Services provide weekly recycling pickup for approximately ~~84,000~~ **85,000** single-family homes. The city's contracted recycling facility operator sorts recyclable materials by commodity and sells them through various markets, with a portion of the revenues coming back to the city. While this revenue does not always provide a positive revenue stream after accounting for the costs of collection and transportation, it does provide environmental savings over the alternative of landfill disposal. The same could potentially be true for other recyclable commodities outside of the curbside single-stream recycling program.

DRAFT

In fiscal year 2022/23, single-family residential households diverted 27% of the material by weight from disposal in the landfill through recycling, a rate that has held steady for several years. This rate is equal to recycling tonnage (mauve containers) divided by the sum of landfill refuse and recycling tonnages (black and mauve containers) and does not include any organics diversion[4]. Currently the methodology for calculating diversion rates is not consistent across Valley cities, so comparisons are difficult. Scottsdale is a leader in the Valley in diversion, although there is room for significant improvement.

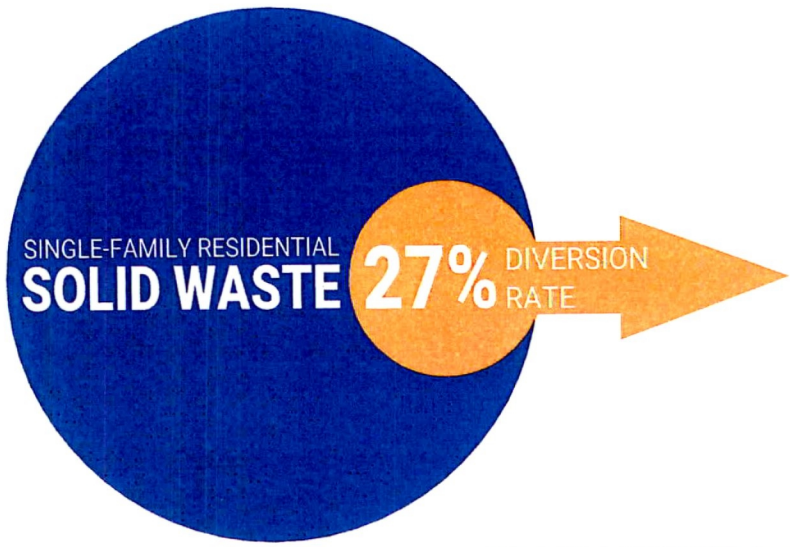


Figure 3. Source: Scottsdale Solid Waste Services

INDICATOR

Diversion rates
(FY 2022-2023 = 27% for single-family residents)

(Baseline data for citywide and municipal ~~waste~~ to be established in a future annual report)

TARGETS

- Achieve a 35% diversion rate by 2030 (single-family households)
- Achieve a 90% diversion rate by 2040 (citywide)
- Achieve a 35% diversion rate by 2030 and a 90% diversion rate by 2040 (municipal ~~waste~~)

INDICATOR

Percentage of Scottsdale Solid Waste Services commercial accounts that recycle
(FY 2022-2023 = 18%)

TARGET

Increase the percentage of Scottsdale Solid Waste Services commercial accounts that recycle to 40% by 2030

Organic material – mostly ~~yard~~ **LANDSCAPING DEBRIS** and food waste – ~~in the waste stream~~ is another great opportunity for diversion. Nationally, approximately 349 pounds of food waste is generated per person each year, with the majority ending up in landfills. Food waste reduction saves consumers money, conserves resources associated with the production of wasted food and reduces methane emissions from landfills.

Just like with 'reduce, reuse, recycle' for overall waste, there are multiple ways to reduce food waste. A study from the State of Oregon looked at ways to prioritize prevention of ~~food waste~~ **WASTED FOOD**, generating a helpful hierarchy from prevention to rescue, recovery and disposal (Figure 4). Some of these actions are difficult to quantify but are still important ~~waste~~ **MATERIAL** management tools. Horse manure from the WestWorld equestrian center and Scottsdale's many horse properties could also be diverted.

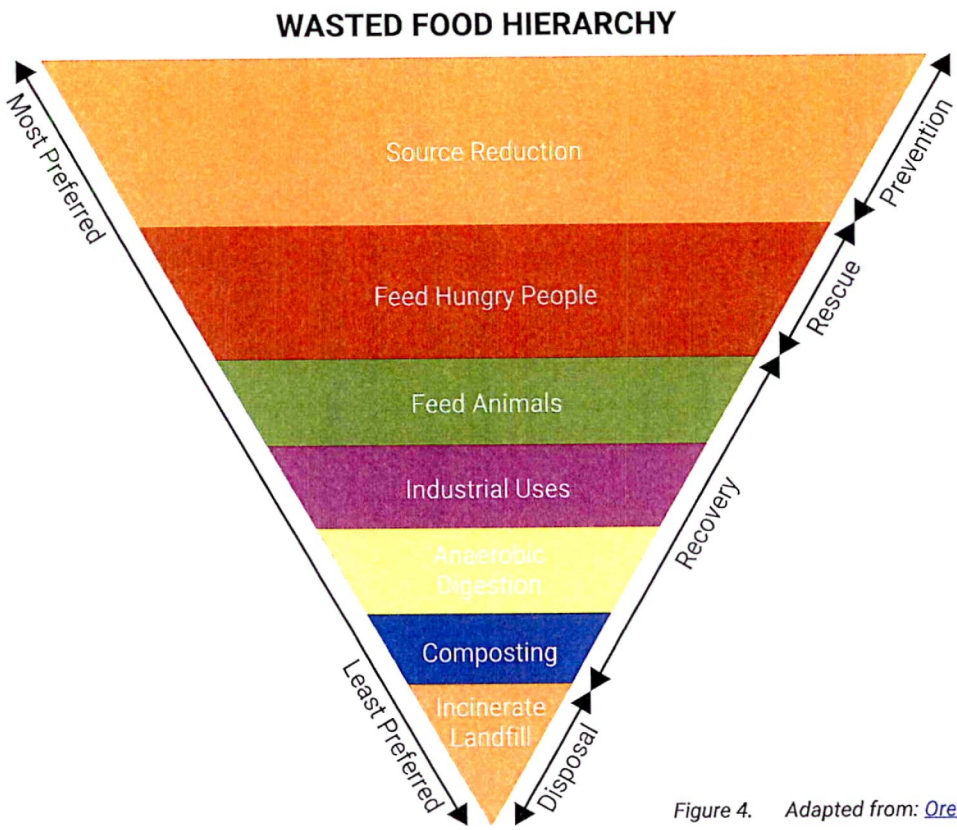


Figure 4. Adapted from: Oregon Wasted Food Study

INDICATOR

Brush and bulk diversion rate (FY 2022-2023 = 0 %)

TARGET

Achieve a **BRUSH AND BULK** diversion rate ~~from the brush and bulk waste stream~~ of 50% by 2030 and 90% by 2040

INDICATOR

Tons of organic waste diverted from landfill (Baseline data to be established in a future annual report)

TARGET

Divert 15,000 tons annually of citywide organic waste from the landfill by 2030 and 30,000 tons annually by 2040 *(excludes brush and bulk and municipal green landscaping debris hauled under city contract)*

DRAFT

Single-family residents can dispose of ~~yard waste~~ **LANDSCAPING DEBRIS**, including grass clippings, tree trimmings and other organic material, during their monthly brush and bulk pickup. Usually, this ~~waste~~ **DEBRIS** is mixed with other materials, either before pickup or in the city's collection vehicles. The city is currently exploring ways to separate brush from bulk ~~waste~~ as part of the transfer station expansion. Here, commercial landscapers will be able to dispose of their organic materials. As of 2024, there is no available data on diversion of organic materials from these private haulers.



For recycling and organics diversion to be most effective, the materials need to be properly sorted. Mixing trash or items soiled with food or liquids with recycling or using plastic bags for collecting recyclables cause recycling facility shutdowns, reduce the market value of commodities and raise the city's costs. The Salt River Landfill maintains a separate ~~green (yard) waste~~ **LANDSCAPING DEBRIS** disposal area where loads with minimal non-organic contamination are diverted from the landfill. ~~For organic waste,~~ **CONTAMINATION** leads to increased costs or even entire loads being redirected back to the landfill.



In 2019, the contamination rate for mixed recyclables sent by Scottsdale Solid Waste Services to the recycling facility was 14%, calculated through annual audits by the recycling facility operator. Similar rates for other Valley cities range from 12% to 30%.

INDICATOR	TARGET
Recycling contamination rate (2019 = 14%)	Maintain a recycling contamination rate below 10% by 2025 and below 5% by 2045

DRAFT

BENEFITS
Environmental: Generating less waste extends the life of landfills, lowers the risk of litter and reduces air, land and water pollution; diverting organics reduces methane production
Economic: A circular economy reduces demand for raw materials, creates new jobs and decreases waste hauling and disposal costs
Social: A cleaner city reduces the impacts of landfills on more vulnerable communities; more convenient diversion options improve quality of life

WHAT CAN YOU DO?

- Switch to reusable bags and water bottles instead of single-use plastics.
- Compost your food scraps and ~~yard waste~~ **LANDSCAPING DEBRIS**.
- Learn what items you can recycle in Scottsdale to prevent recycling contamination. Look for drop-off locations for items that are difficult to recycle.
- Switch to digital documents to reduce paper use both at work and home.
- Donate reusable items as an alternative to bulk pickup.
- Support local businesses by shopping locally.

For additional advice, visit ScottsdaleAZ.gov and search for "solid waste"

DRAFT

STRATEGIES & ACTIONS

STRATEGY WST 1

Increase diversion rates.

ACTIONS

WST 1.1 Encourage addition of recycling infrastructure in existing commercial and multi-family housing.

WST 1.2 Promote commercial and multi-family recycling.

WST 1.3 Support implementation of code requirements for diversion of construction and demolition waste for commercial projects.

WST 1.4 Work to make city-sponsored events zero waste.

WST 1.5 Develop a green event program and resources for event planners.

WST 1.6 Host an expo with vendors to promote and educate about green event options.

WST 1.7 Investigate ways to encourage private haulers to bring recycling to the transfer station.

WST 1.8 Expand the transfer station to include permanent household hazardous waste and electronics collection, a Swap Shop, and organic waste diversion facilities.

WST 1.9 Conduct waste characterization studies.

WST 1.10 Investigate ways to improve data collection from private haulers and for municipal waste.

STRATEGY WST 2

Strengthen local markets for recycled content, recyclable and reusable materials.

ACTIONS

WST 2.1 Adopt municipal green purchasing policies that prioritize purchasing based on sustainability practices and reduced waste generation.

WST 2.2 Attract circular economy companies and entrepreneurs

WST 2.3 Encourage innovative reuse of materials.

STRATEGY WST 3

Expand opportunities for diverting organic waste from the landfill.

ACTIONS

WST 3.1 Establish ~~a green or~~ an organic waste drop-off program.

WST 3.2 Promote organic waste diversion.

WST 3.3 Promote composting by food retailers and the food service industry.

STRATEGY WST 4

Reduce waste generation.

ACTIONS

WST 4.1 Promote donation of reusable items through City media channels and education campaigns, prioritizing recovery over landfill disposal.

WST 4.2 Expand reuse of surplus municipal goods.

WST 4.3 Educate on the benefits of reusable and compostable packaging and bags.

WST 4.4 Create a program to reuse building materials.

WST 4.5 Educate HOAs, homeowners, property managers, and landscapers about reducing the volume of landscaping debris generated.

DRAFT

ACTION	TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
STRATEGY WST 1 Increase diversion rates.				
WST 1.1 Encourage addition of recycling infrastructure.	1-3 years	**Lead**: OEI **Partners**: Property Owners	$-$$$	Less waste Municipal savings
WST 1.2 Promote commercial and multi-family recycling.	1-3 years	**Lead**: Solid Waste **Partners**: Businesses, residents	$-$$	Less waste Municipal savings
WST 1.3 Support implementation of code requirements for diversion of construction and demolition waste.	Quick win	**Lead**: OEI **Partners**: Developers	$	Less waste Municipal savings
WST 1.4 Work to make city-sponsored events zero waste.	Quick win	**Lead**: Solid Waste **Partners**: Parks & Recreation, Tourism, Stadium, Scottsdale Arts, attendees	$-$$	Less waste
WST 1.5 Develop a green event program and resources for event planners.	Ongoing	**Lead**: Solid Waste **Partners**: Event planners	$	Less waste
WST 1.6 Host an expo with vendors to promote and educate about green event options.	1-3 years	**Lead**: Solid Waste **Partners**: Event planners, city-owned venues, vendors	$-$$	Less waste
WST 1.7 Encourage private haulers to bring recycling to the transfer station.	1-3 years	**Lead**: Solid Waste **Partners**: Private haulers	$$	Less waste
WST 1.8 Expand the transfer station.	1-3 years	**Lead**: Solid Waste **Partners**: Capital Projects	$$$+	Less waste Resident convenience
WST 1.9 Conduct waste characterization studies.	Quick win	**Lead**: Solid Waste **Partners**: ASU	$	Less waste Increased composting
WST 1.10 Investigate ways to improve data collection.	1-3 years	**Lead**: Solid Waste **Partners**: Private haulers	$$	Less waste Municipal savings

ACTION		TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
STRATEGY WST 2 Strengthen local markets for recycled content, recyclable and reusable materials.					
WST 2.1	Adopt municipal green purchasing policies based on sustainability practices and reduced waste generation.	1-3 years	**Lead**: Purchasing **Partners**: Solid Waste	$-$$$	Less waste Local jobs
WST 2.2	Attract circular economy companies and entrepreneurs.	3-10 years	**Lead**: Economic Development	$	Less waste Local jobs
WST 2.3	Encourage innovative reuse of materials.	1-3 years	**Lead**: Solid Waste **Partners**: Residents, businesses	$	Less waste Local jobs
STRATEGY WST 3 Expand opportunities for diverting organic waste from the landfill.					
WST 3.1	Establish ~~a green or~~ an organic waste drop-off program.	3-10 years	**Lead**: Solid Waste **Partners**: Capital Projects	$$$+	Less waste Business savings
WST 3.2	Promote organic waste diversion.	Quick win	**Lead**: Solid Waste **Partners**: Communications	$$	Less methane Local jobs
WST 3.3	Promote composting by food retailers and the food service industry.	1-3 years	**Lead**: Solid Waste **Partners**: Restaurants, grocery stores	$-$$	Less methane

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ACTION		TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
STRATEGY WST 4 **Reduce waste generation.**					
WST 4.1	Promote donation of reusable items.	1-3 years	**Lead**: Solid Waste **Partners**: Non-profits	$-$$	Less waste
WST 4.2	Expand reuse of surplus municipal goods.	1-3 years	**Lead**: Purchasing **Partners**: Solid Waste, City departments	$	Less waste Municipal savings
WST 4.3	Educate on the benefits of reusable and compostable packaging and bags.	Ongoing	**Lead**: Solid Waste **Partners**: OEI, Communications	$-$$	Less waste Resident savings
WST 4.4	Create a program to reuse building materials.	3-10 years	**Lead**: OEI **Partners**: Developers, Construction industry, Deconstruction and reuse organizations	$$$	Less waste Cost savings
WST 4.5	Educate about reducing the volume of landscaping debris generated.	Quick win	**Lead**: Solid Waste **Partners**: AMWUA, Desert Botanical Garden	$	Less waste

ENDNOTES

1 "How Communities Have Defined Zero Waste," U.S. Environmental Protection Agency.

2 **"WHAT IS A CIRCULAR ECONOMY?" U.S. ENVIRONMENTAL PROTECTION AGENCY WEBSITE.**

3 "Advancing Sustainable Materials Management: 2018 Fact Sheet," U.S. Environmental Protection Agency.

4 This same methodology will be used for calculating the **MUNICIPAL** diversion rate ~~for municipal waste~~, but ~~composting~~ **ORGANIC MATERIAL** and diversion of brush and bulk items will be included in the citywide diversion rate.

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AIR QUALITY

Reduce contaminants and pollutants to improve air quality and protect community health.

Like many metropolitan areas, Scottsdale and other cities in the Valley have been working for years to improve air quality. The region's two biggest concerns are ozone and particulate matter (PM), as these exceed federal health-based standards most frequently. The causes of these pollutants are complex, given the number of sources and how far both can travel in the air.

Sources of particulate matter, classified as small (PM-2.5) or large (PM-10), include blowing dust, smoke from fires or fireworks and vehicle tire wear and tear. Most particulates form as a result of complex reactions of chemicals like sulfur dioxide and nitrogen oxides. To reduce PM-10, Scottsdale makes extensive use of recycled asphalt millings and stabilizers for dust mitigation on unpaved lots and roads. It also uses a fleet of filtered ~~(PM-10)~~ street sweepers to reduce traffic-generated dust.

Ground-level ozone is created when nitrogen oxides, volatile organic compounds (VOCS) and sunlight react~~, making ozone primarily a summer issue~~. **BECAUSE OF SUNLIGHT'S ROLE IN OZONE FORMATION, OZONE LEVELS EXCEED FEDERAL HEALTH STANDARDS MORE OFTEN IN SPRING THROUGH FALL WHEN LONGER DAYS PROVIDE MORE HOURS OF SUNLIGHT.** Industrial facilities, motor vehicles and gasoline vapors are primary sources of these precursor chemicals. Interestingly, trees can be both a source of VOCs and a key strategy in filtering a wide range of pollutants from the air.[1]

Regional air quality has varied in recent years, in part reflecting the influence of extremely hot summers on the number of unhealthy air days. In 2022, almost 1 in 3 days exceeded federal air quality standards (Figure 1).

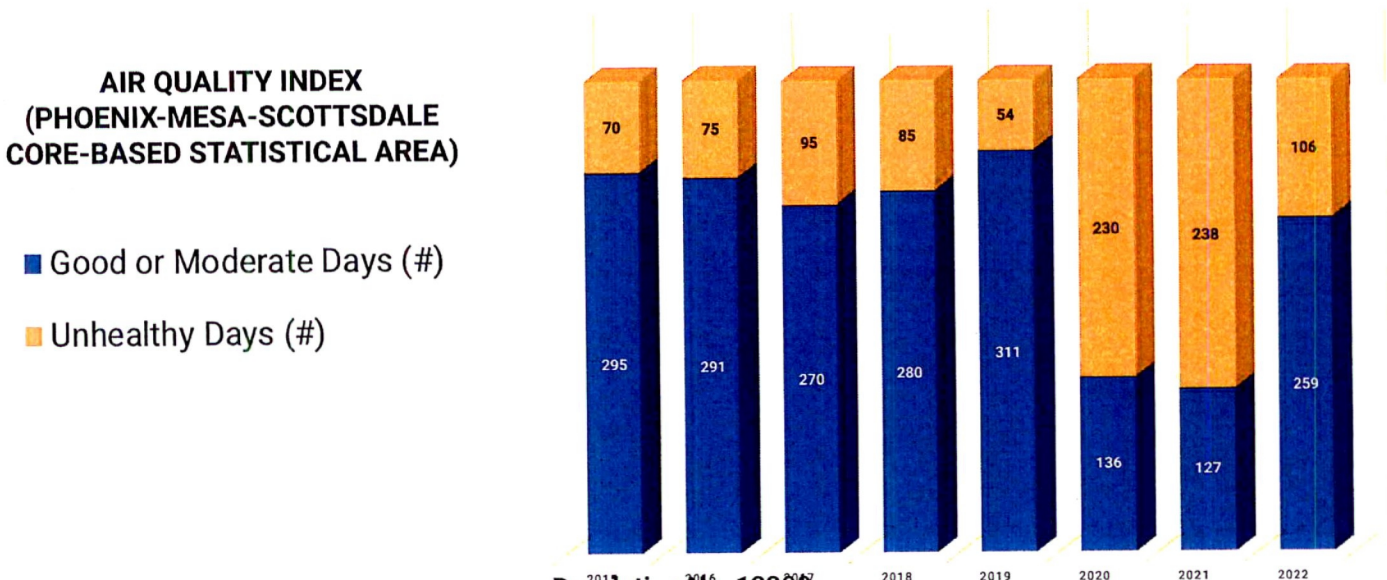


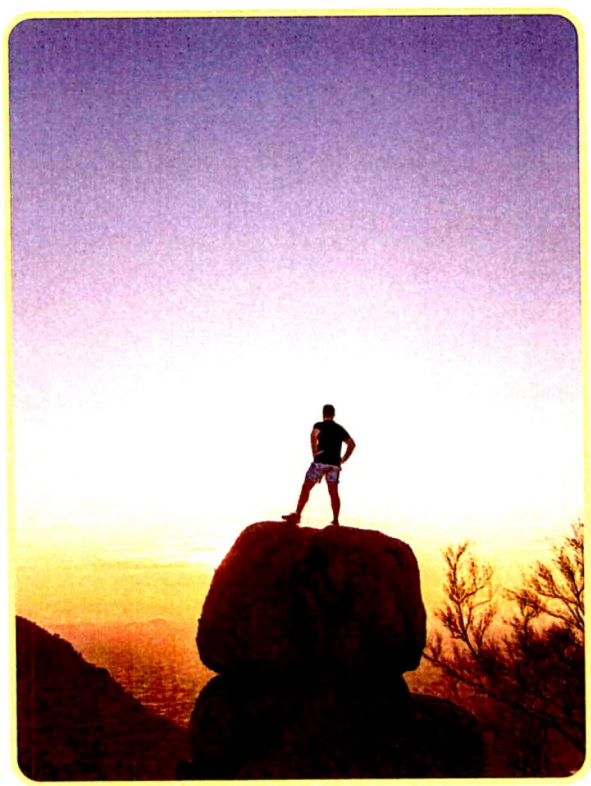
Figure 1. Source: EPA

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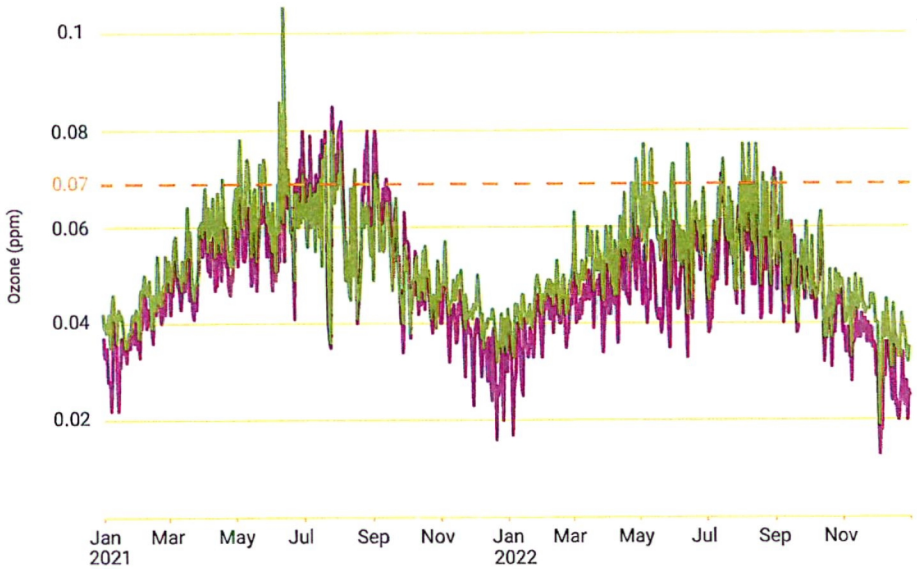


To signal when air quality is expected to be unhealthy, the state of Arizona projects High Pollution Advisory Days. This advance notice allows people to take steps to avoid exceeding federal standards for either ozone or PM or to modify their activities to mitigate health impacts. In most recent years, there have been over 50 such advisories, with 2021 and 2022 each having more than 65 advisories (mostly related to ozone levels). For these days, the city informs all its employees and contractors about leaf blowing, wood burning and off-road travel restrictions.

There are two air sampling monitors in Scottsdale taking hourly readings of ozone and one taking readings of PM-10 levels. Both pollutants can exceed federal standards, sometimes by substantial amounts. There are also two monitors for PM-2.5 just outside Scottsdale boundaries. Figures ~~1,~~ 2, ~~and~~ 3 **AND 4** illustrate readings above healthy limits in 2021-2022 and the impact on air quality of daily activities, ozone transport into higher elevations during summer afternoons, individual dust storms and holiday activities.



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OZONE 8-HR MAXIMUMS 2021 - 2022

South Scottsdale 8-Hr Max.

Pinnacle Peak 8-Hr Max.

8-Hr Avg. National Ambient Air Quality Standard

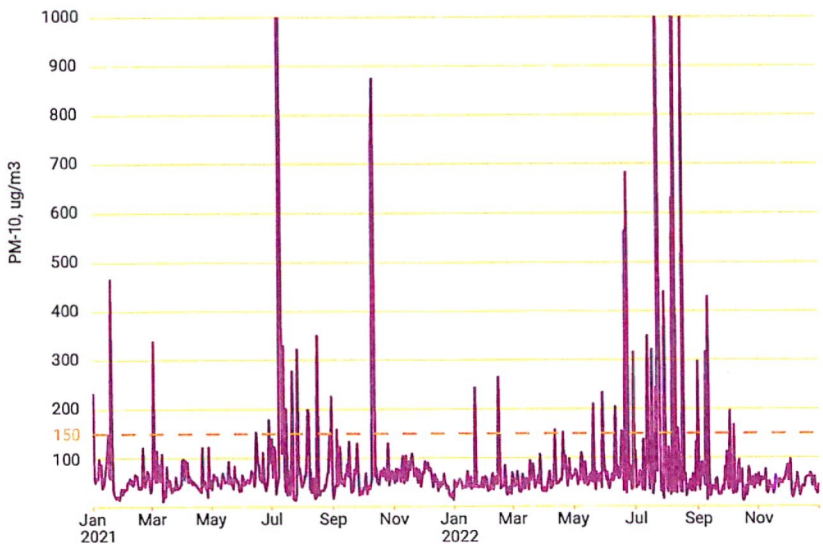
Figure 2.
Source: Maricopa County Department of Air Quality

PM-10 DAILY MAXIMUMS 2021 - 2022

South Scottsdale PM-10 Daily Max.

24-Hr National Ambient Air Quality Standard

Figure 3.
Source: Maricopa County Department of Air Quality



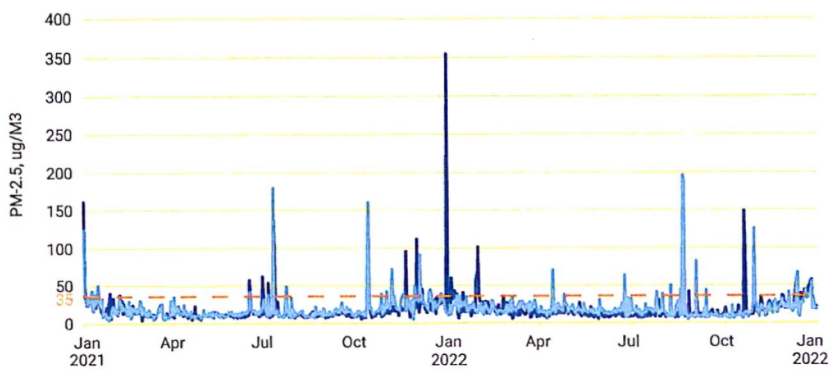
PM-2.5 DAILY MAXIMUMS 2021 - 2022

North Phoenix PM-2.5 Daily Max.

Tempe PM-2.5 Daily Max.

24-Hr National Ambient Air Quality Standard

Figure 4.
Source: Maricopa County Department of Air Quality



INDICATOR

NUMBER OF regional **unhealthy** air days (2022 = 106 days)

TARGET

Reduce unhealthy air days in Scottsdale by 2030

Extensive modeling demonstrates that every part of the city can be exposed to poor air quality, although not always at the same time for the same pollutant (Figure 5).

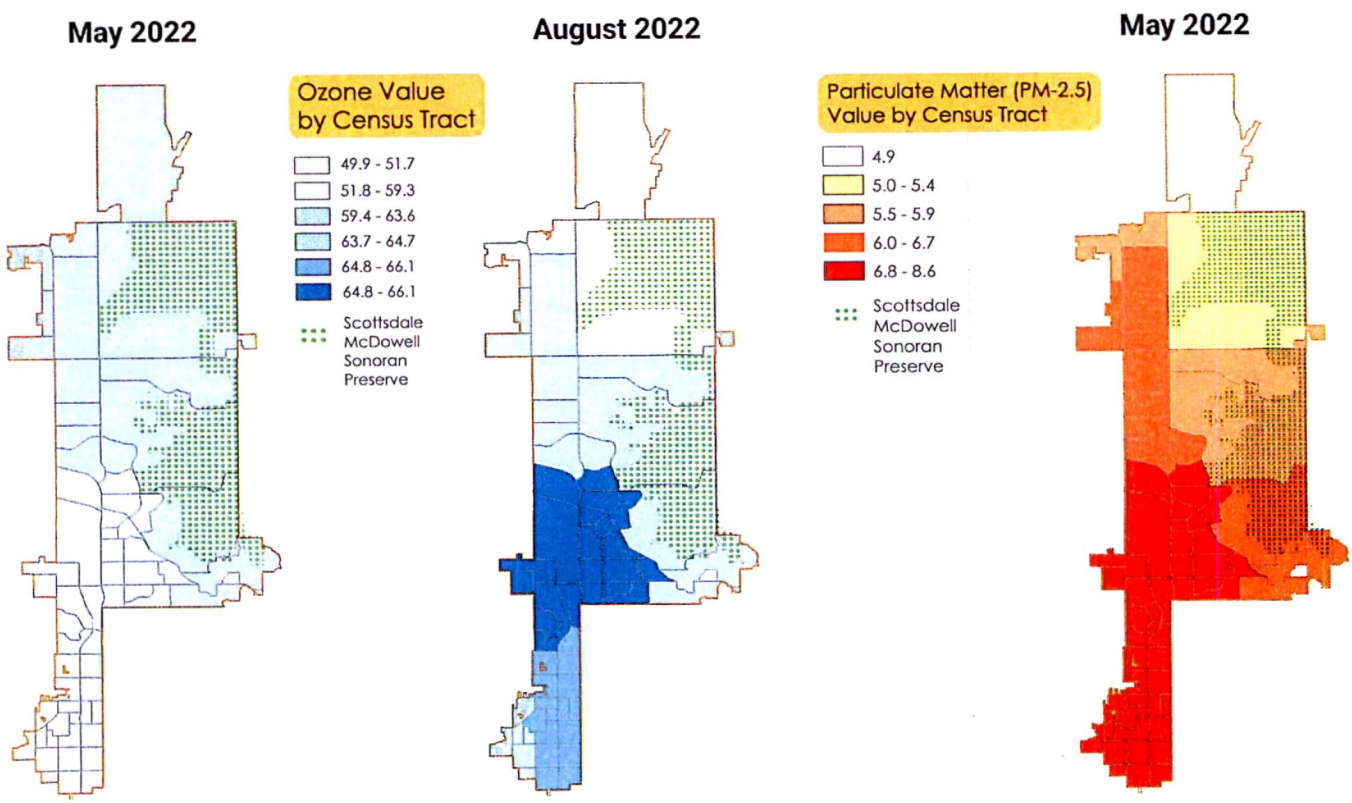


Figure 5. Source: City Health Dashboard

Ozone and particulate matter can aggravate a range of health issues, including asthma, COPD and heart disease, compounding how extreme heat can also influence their incidence and severity. **Maricopa County tracks illnesses and deaths for these disorders, which have fluctuated over time. Asthma illnesses (TRACKED FROM HOSPITAL ENCOUNTERS*) in Scottsdale are lower than in the rest of Maricopa County per 100,000 population (Table 1), and asthma hospital encounters* (2018-2022) are concentrated in census tracts in south and central Scottsdale (Figure 6).**

Table 1. ~~Incidents~~ **ILLNESSES AND DEATHS** among Scottsdale residents, per 100,000 population (total frequency)

	2018	2019	2020	2021	2022
Asthma illnesses	210.1 (517)	196.7 (493)	115.3 (294)	121.6 (310)	156.1 (398)
COPD illnesses	~~335.7~~ **323.1** (795)	~~287.7~~ **272.1** (682)	~~185.5~~ **173.7** (443)	~~148.2~~ **136.1** (347)	~~163.5~~ **156.1** (398)
COPD deaths	~~50.0~~ **45.5** (112)	~~61.9~~ **48.3** (121)	~~57.7~~ **48.6** (124)	~~47.8~~ **42.0** (107)	41.6 (106)
Heart disease illnesses	2,766.8 (6,807)	2,740.6 (6,868)	2,375.0 (6,056)	2,678.5 (6,830)	2,755.7 (7,027)
Heart disease deaths	217.5 (535)	224.3 (562)	231.0 (589)	251.0 (640)	245.1 (625)

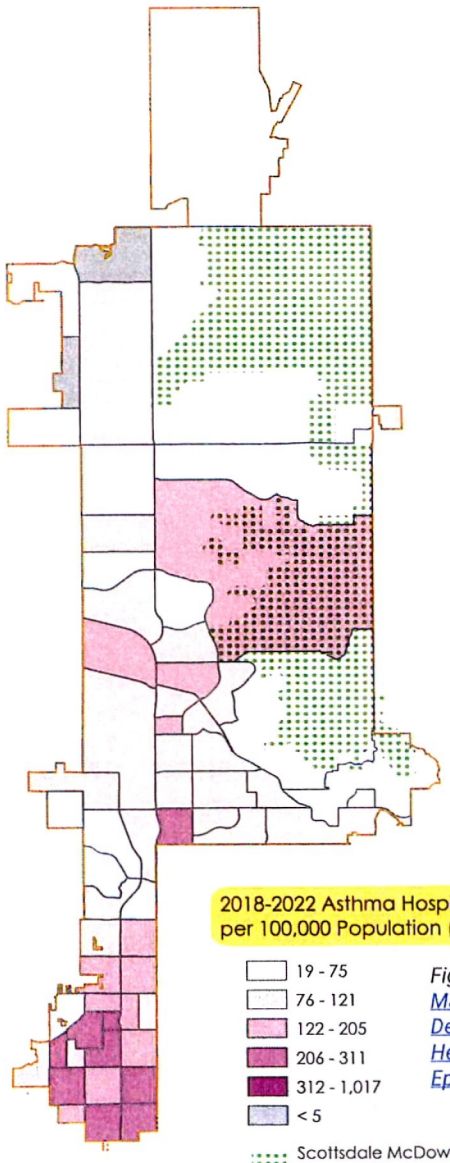


Figure 6. Source: Maricopa County Department of Public Health, Office of Epidemiology

INDICATOR

Number of **POLLUTION-RELATED** illnesses ~~for pollution-related health events~~ per 100,000 population in Scottsdale
~~(2021 = 2,948.3)~~
(2022 = 3,067.9)

TARGET

Reduce **POLLUTION-RELATED** illnesses ~~for pollution-related health events~~ (per 100,000 population) by 2030

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Scottsdale has been an active partner with Maricopa County and neighboring cities to formulate, adopt and implement laws and codes that have improved air quality Valleywide. Even as population and vehicle travel have increased, ozone levels decreased by 13 parts per billion **(PPB)** between 2000 and ~~2020~~ **2017**, but **SUBSEQUENTLY** increased by ~~appoximately two parts per billion since 2020~~ **SIX PPB FROM 2017 TO 2022** according to the Maricopa Association of Governments. **IN 2022, THE MEASURED OZONE LEVEL WAS 11 PPB HIGHER THAN THE FEDERAL HEALTH STANDARD; EVEN WITH WILDFIRE EVENTS EXCLUDED, OZONE EXCEEDED THE STANDARD BY 7 PPB.**

However, federal standards for ozone **AND PM-2.5** are tightening due to an improved understanding of the health effects, and metro Phoenix currently has the fifth-worst ozone levels in the country.[2] Because of the extended transport of air pollutants from outside the Valley, improving air quality requires regional cooperation and a long-term commitment to taking daily steps to reduce emissions. Failure to meet the Clean Air Act standards can have economic repercussions, since the tighter standards may trigger regulations that could discourage growth of new, large businesses. Metro Phoenix is currently ranked ninth for worst PM-2.5 pollution[3] and is not expected to meet the new EPA annual PM-2.5 standard (effective May 2024).

The city follows and reinforces federal, state and county requirements. It also commits to additional steps to support cleaner air for residents and visitors related to vehicles. **Scottsdale has reduced the environmental impact of its municipal vehicles by switching to compressed natural gas (CNG) as a fuel source and by using less gasoline and diesel fuel. Total fleet fuel use is down 7% since 2016.** The Fleet and Solid Waste departments significantly reduce vehicle miles through sophisticated route optimizations. Relatedly, the Transportation and Streets Department champions the use of van pool and bus pass programs by employees. Supporting the regional transition to electric and other alternate fuel vehicles can also improve air quality. **The number of publicly available electric vehicle charging ports in Scottsdale has increased dramatically, up 18% in just one year, reflecting resident and business interest in this technology.** This trend reflects the economics of electric vehicles, which can be $50 less expensive for a full charge versus a tank of gasoline.[4] The city also plans to install electric vehicle (EV) charging stations in at least five locations.

INDICATOR	TARGET
Gallons of gasoline, diesel and CNG used in municipal vehicles (2023 = 1,379,942 Gallons)	Reduce municipal fleet fuel use by 10% by 2030 and 40% by 2050 (from 2023 levels)

INDICATOR	TARGET
Number of publicly available electric vehicle charging ports (2023 = 360)	Increase the number of publicly available charging ports four-fold by 2027 and ten-fold by 2030 (from 2023 levels)

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BENEFITS

Environmental:
Improved air quality reduces harm to plants and animals; more trees also provide shade, cooling, food and shelter for wildlife

Economic:
Fewer bad air quality days aid business operations/ development, attracts tourists and lessens damage to buildings and infrastructure; electric vehicles can be less expensive to operate

Social:
The greatest impact of better air quality will be improved health and quality of life

WHAT CAN YOU DO?

- Switch to electric-powered blowers and other landscaping equipment
- Avoid idling unnecessarily and long drive-thru lines
- Fuel your vehicle after dark
- Eliminate or replace your wood-burning fireplace, wood stove or fire pit with natural gas units
- Plant a low-VOC emitting tree

For more tips, go to Maricopa.gov and search "air quality"

DRAFT

STRATEGIES & ACTIONS

STRATEGY AQ 1

Clean Scottsdale's air.

ACTIONS

AQ 1.1 Participate in regional efforts to improve air quality and actively participate in regional AQ planning and policy committees and councils (e.g., MAG, MCAQD).

AQ 1.2 Expand education/outreach to city employees, businesses and residents about air quality and High Pollution Advisory days, including benefits of electric-powered landscaping equipment and reduced single occupancy vehicle trips.

AQ 1.3 Encourage replacement of existing wood-burning fireplaces, wood stoves and fire pits with cleaner options.

AQ 1.4 Continue requirement of dust control plans for special events using unpaved parking.

AQ 1.5 Promote Maricopa County program to convert from gas to electric yard equipment.

AQ 1.6 Promote and enhance the municipal Travel Reduction Program.

AQ 1.7 Create education campaigns related to vehicle idling and parking on unpaved lots.

STRATEGY AQ 2

Support adoption of electric and other alternative fuel vehicles.

ACTIONS

AQ 2.1 Advertise locations of publicly available EV charging stations.

AQ 2.2 Develop a financially sustainable plan for purchasing additional electric and other alternate fuel vehicles for the city fleet.

AQ 2.3 Create an EV charging infrastructure plan identifying barriers, opportunities, and priorities.

DRAFT

ACTION		TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
STRATEGY AQ 1 **Clean Scottsdale's air.**					
AQ 1.1	Participate in regional efforts.	Ongoing	**Lead**: OEI **Partners**: Maricopa County	$	Health
AQ 1.2	Expand education/outreach about air quality.	Quick win	**Lead**: OEI **Partners**: Residents, businesses, employees	$	Health
AQ 1.3	Encourage replacement of existing wood-burning units.	1-3 years	**Lead**: OEI **Partners**: Residents, developers	$	Health
AQ 1.4	Continue requirement of dust control plans for special events.	Ongoing	**Lead**: Tourism **Partners**: Event planners	$	Health
AQ 1.5	Promote Maricopa County program to convert from gas to electric yard equipment.	Quick win	**Lead**: OEI **Partners**: Maricopa County	$	Health
AQ 1.6	Promote and enhance the municipal Travel Reduction Program.	Ongoing	**Lead**: Transportation & Streets **Partners**: Employees, Maricopa County, Valley Metro	$	Health Fuel savings
AQ 1.7	Create education campaigns related to vehicle idling and parking on unpaved lots.	Ongoing	**Lead**: OEI, Transportation & Streets	$	Health Fuel savings

DRAFT

ACTION		TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
STRATEGY AQ 2 **Support adoption of electric and other alternative fuel vehicles.**					
AQ 2.1	Advertise locations of publicly available EV charging stations.	Quick win	**Lead**: OEI	$	Health Fuel savings
AQ 2.2	Develop a plan for purchasing additional alternate fuel vehicles.	3-10 years	**Lead**: Fleet **Partners**: Other city departments	$-$$$	Health Municipal savings
AQ 2.3	Create an EV charging infrastructure plan.	1-3 years	**Lead**: OEI **Partners**: Other city departments	$-$$	Health Fuel savings

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ENDNOTES

1 Read more about the benefits of trees and Scottsdale's strategies to increase tree canopy in the Heat section.

2 "Phoenix ranks 5th in ozone pollution, but a new report finds fewer bad air days overall," Updated April 22, 2023, Arizona Republic.

3 "State of the Air 2024," American Lung Association, Year-Round Particle Pollution Trends.

4 "Is it cheaper to refuel your EV battery or gas tank? We did the math in all 50 states," Updated August 14, 2023, Washington Post.

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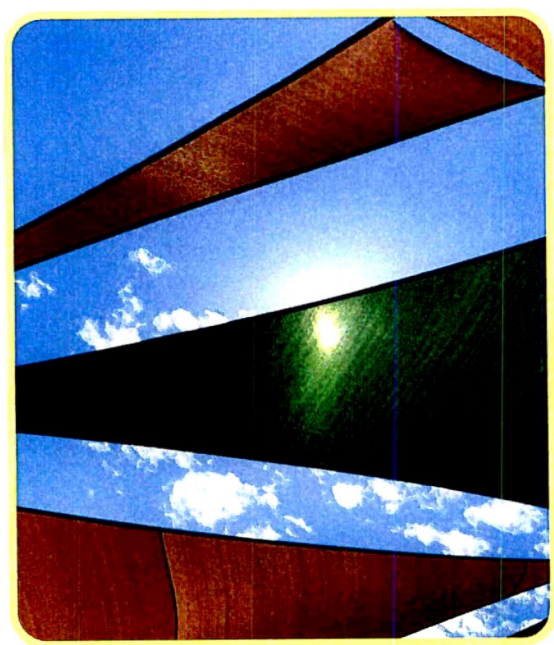
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EXTREME HEAT

Ensure that the community prevents, is prepared for, responds to and recovers from extreme heat.

Temperatures in 2023 set records for extreme heat: regionally, for the hottest July and the most heat-related fatalities, and globally, for the hottest year ever. Located in the Sonoran Desert, Scottsdale and other Valley cities are experiencing a trend of increasing average temperatures going back over a century of data. But averages only tell some of the story, since the number and length of heat waves has also been increasing.[1] The cumulative effect of multiple days of extreme daytime highs also makes nighttime temperatures uncomfortably high, combining to create a deadly weather phenomenon.

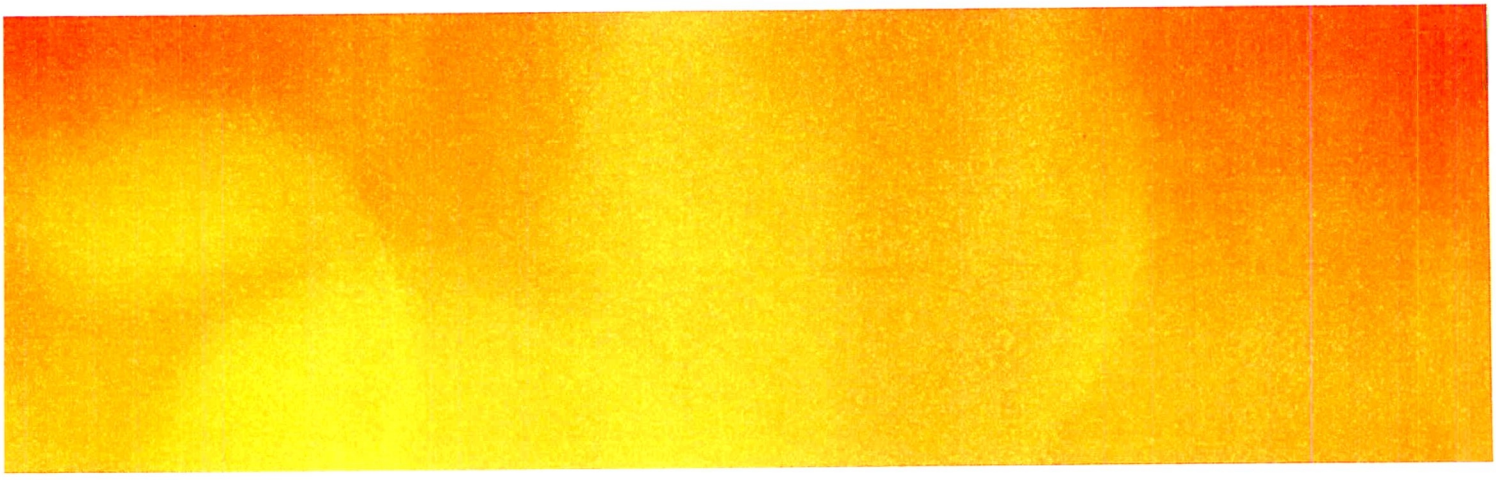
These long and hot summers impact human health, quality of life and economic vitality. Increased heat results in added energy use and higher air conditioning costs. Staying indoors during extreme heat is not always an option, and the impact of people deferring work, shopping or other activities can have a negative impact on the economy. Pets, wildlife and plants are also affected by the heat. Even the region's iconic saguaro cacti lost arms and died in large numbers during the heat wave in July 2023.



Rising temperatures compound a myriad of other interrelated problems, including the drought as hotter temperatures further shrink water supplies. Hotter temperatures increase the frequency and destructiveness of wildfires and draw more moisture from the ground generating intense and frequent haboobs (dust storms). Air quality is degraded as wildfires and haboobs significantly increase concentrations of particulate matter and other pollutants, and heat directly increases the production rate of ground-level ozone.

Exposure to extreme heat and air pollution also compounds health impacts. One study found the risk of death from all causes increased 6% on days with extreme high temperatures, 5% on days with high concentrations of fine particulate matter and 21% on days with both conditions present. When cause of death was isolated to cardiovascular and respiratory, the increased risk in co-exposure conditions was even higher – 30% and 38%, respectively.[2]

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NOAA records show that Scottsdale is experiencing an upward trend in air temperatures both during the day and at night. This rise can be seen in average summer temperatures as well as the highest temperatures each month.

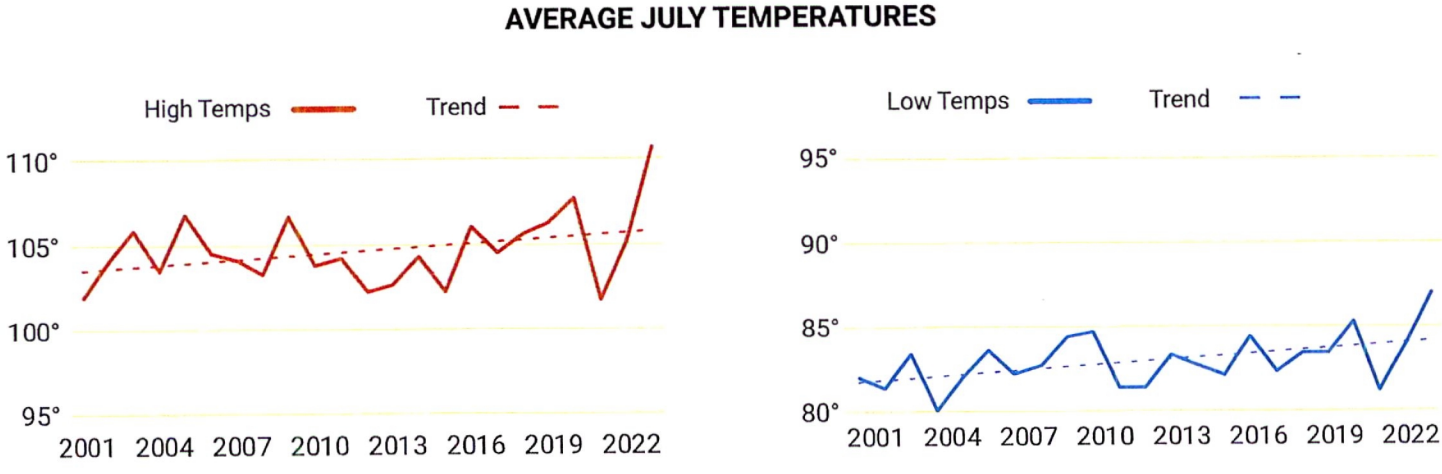
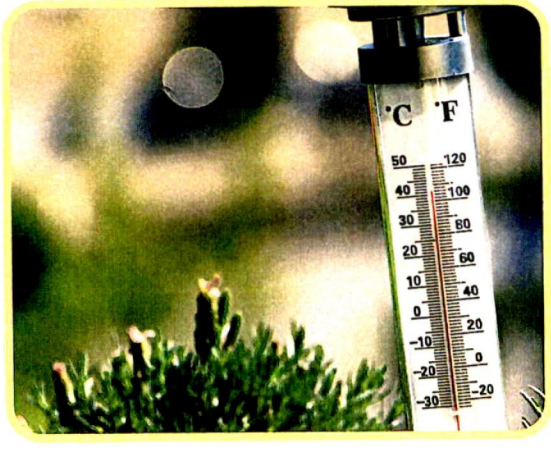


Figure 1. *Source: National Weather Service NOWData*



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The number of excessively hot days and nights is also increasing, ~~indicating that~~ **and the heat season is getting longer.** Comparing recent averages (2015-2023) to earlier years (2001-2014), there are now 5-8 additional days each year with ~~extreme heat~~ **HIGHS ABOVE 110 DEGREES OR LOWS ABOVE 90 DEGREES.**

Table 1. Annual Summarized Data: Scottsdale Airport Weather Station

	2001-2014 Average	2015-2023 Average	Maximum (year observed)
Number of Days 110+	8	16	30 (2023)
Number of Nights 90+	2	7	20 (2023)

Table 1. Source: National Weather Service NOWData

INDICATOR

Average air temperatures, July

(2023 average high = 110.7°F)
(2023 average low = 87.1°F)

TARGET

Reduce average July day- and night-time air temperatures by 2030

INDICATOR

Average surface temperatures, Summer

(2020 average Greater Airpark = 129.0°F)
(2020 average Old Town = 129.5°F
(2020 average McDowell Road / Scottsdale Road = 131.4°F)

TARGET

Reduce average surface temperatures by 2030 in the Greater Airpark, Old Town and McDowell Road/Scottsdale Road growth areas

Another way to measure heat is using land surface temperature. Satellite imagery has been used to compile a map of the hottest areas in the city, based mostly on 2020 summer data (*Figure 2*). Unlike the NOAA data based on air temperatures, these data record the temperatures of the highest surface, like the street or a rooftop. There is a feedback loop between these two ways of measuring heat, since hot surfaces contribute to the urban heat island effect that raises air temperatures.

Surface temperatures vary substantially across Scottsdale, ranging between 95.1°F and 165.5°F. The average temperature for the entire City was 122.5°F, but three areas were higher, which generally align with General Plan 2035 designated Growth Areas: the Greater Airpark, Old Town and McDowell Road/Scottsdale Road. In fact, the average in McDowell Road/Scottsdale Road was almost 10 degrees higher (131.4°F) than the rest of the city.

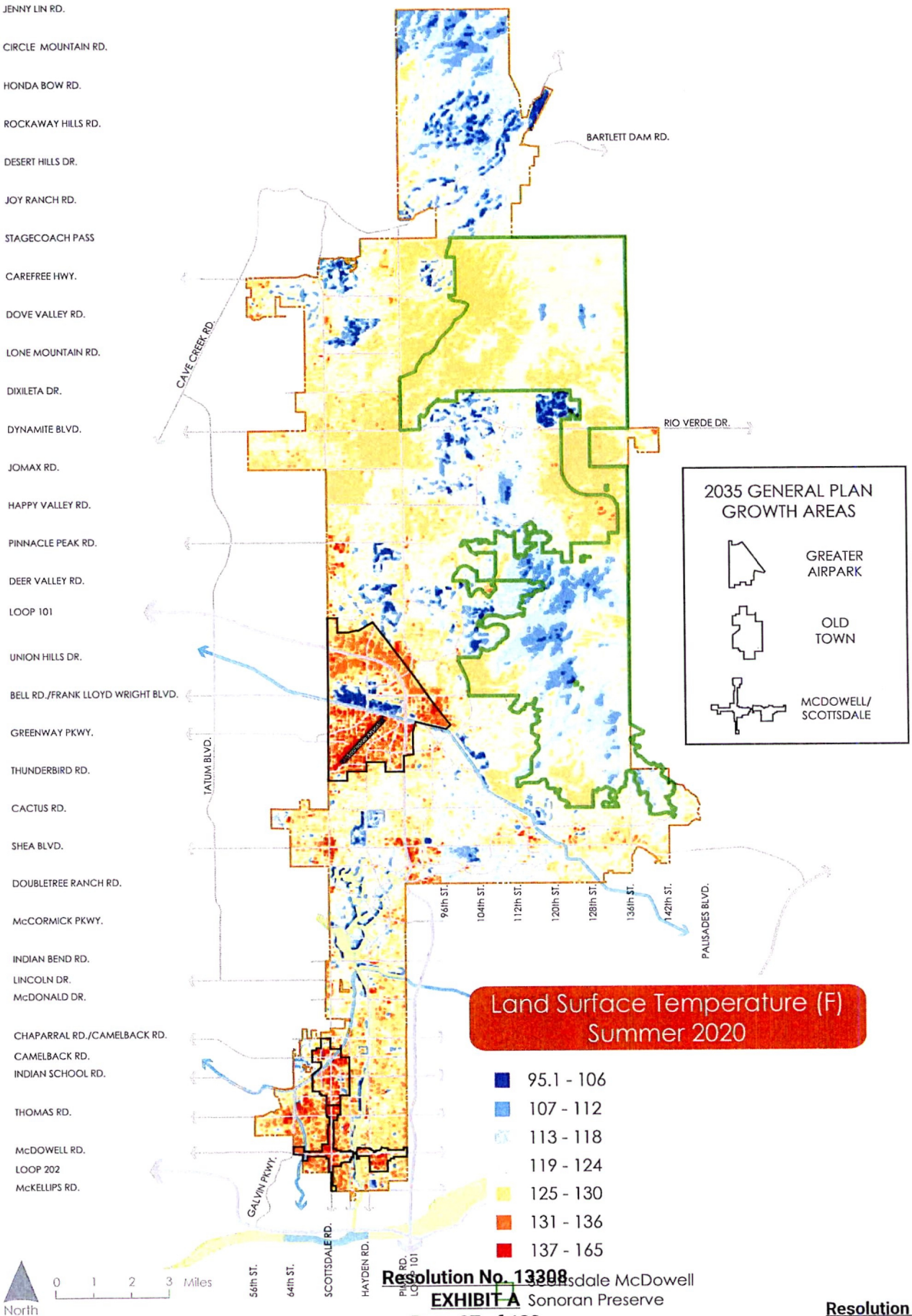


Figure 2. Source: Cooler Scottsdale Study

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Exposure to extreme heat can impact the body's ability to cool itself, harming vital organs or aggravating existing conditions like heart disease. When night-time temperatures are also higher than normal, these health impacts are amplified. Those experiencing homelessness can be the most vulnerable, but heat-related deaths can also occur indoors if the air conditioning is broken or set too high due to inability to pay. Seniors can start feeling the health effects of heat at lower temperatures, so may be more physically vulnerable than others.

In Scottsdale, heat-related ~~mortality and~~ illnesses ~~resulting in hospitalizations~~ are lower than in other parts of Maricopa County and have varied over time. ~~Data do not include illnesses that were not treated at a hospital.~~ **TABLE 2 INCLUDES ONLY ILLNESSES TREATED IN A HOSPITAL.** It is not possible to map whether these deaths and illnesses are in the hottest areas of the city, due to privacy reasons and data limitations.

Table 2. ~~Incidence~~ **ILLNESSES AND DEATHS** per 100,000 population (total frequency)					
	2018	**2019**	**2020**	**2021**	**2022**
Heat Deaths					
Maricopa County Residents	**3.2 (138)**	**3.8 (165)**	**6.2 (273)**	**6.0 (267)**	**7.4 (328)**
Scottsdale Residents	**3.7 (9)**	**1.6 (**)**	**3.9 (10)**	**3.1 (8)**	**2.8 (7)**
Heat Illnesses					
Maricopa County Residents	**43.8 (1,861)**	**44.2 (1,912)**	**39.6 (1,748)**	**43.7 (1,927)**	**52.5 (2,318)**
Scottsdale Residents	**31.3 (77)**	**33.5 (84)**	**26.7 (68)**	**27.5 (70)**	**36.1 (92)**

*Table 2. Source: Maricopa County Department of Health ** ~~suppressed~~ data not public to protect confidentiality*

INDICATOR

NUMBER OF heat-related ~~morbidity and mortality~~ **ILLNESSES** ~~resulting in hospitalization,~~ (per 100,000 population) **IN SCOTTSDALE**

~~(2022 deaths = 2.8)~~
(2022 illnesses = 36.1)

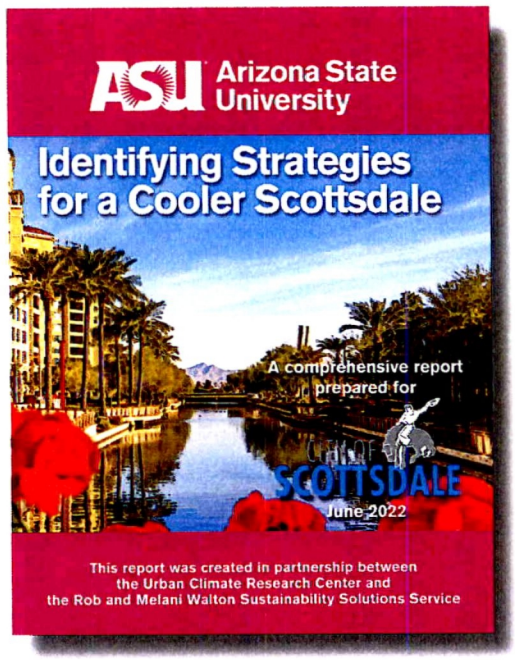
TARGET

Reduce heat-related illnesses (per 100,000 population) by 2030



In 2020, the city partnered with Arizona State University to assess patterns of urban heat in Scottsdale. The result was the Identifying Strategies for a Cooler Scottsdale (Cooler Scottsdale) study that analyzed heat mitigation and management efforts including tree planting and structured shade. The report offers goals and specific strategies to reduce temperatures in the City and make it more comfortable for residents and visitors including:

1. Increase tree canopy, particularly along frequently traveled pedestrian walkways and along the south and west facades of buildings.
2. Reduce the land area of exposed dark asphalt, dark roofs and other hot surfaces.
3. Improve and increase pedestrian shade amenities through building-integrated and free-standing shade structures, particularly along frequently traveled walkways and in locations that support public transportation.



The study found that 19 of the city's 20 hottest census block groups are in Southern Scottsdale. In addition, census block groups with higher average incomes had lower land surface temperatures. Land surface temperature decreased by more than 1°F for each $10,000 increase in mean per capita income.

As summers grow hotter due to the urban heat island effect and climate change, more strategies are needed to make Scottsdale cooler and to help people manage with the heat, especially in previously developed areas like Southern Scottsdale. The City's "Beat the Heat" program brings summer relief for homebound seniors. This program serves two equally important functions. First, the city serves homebound seniors with heat relief items to help keep them cool during the summer. Second, staff and volunteers assess the needs of our vulnerable seniors and help connect them to any needed resources.

Grant-funded programs also assist low to moderate income households with home weatherization and repair or replacement of AC units. There are eight citizen assistance centers, senior centers and libraries operating as cooling centers or hydration stations, and the city partners with nonprofits to provide day relief centers that give refuge from the outdoors and navigation for additional services.

Protecting city employees who work outdoors is another important part of the response to extreme heat. Most city departments hold safety meetings and adjust schedules to deal with the summer heat, although there is not a standardized citywide policy. Parks and Recreation Maintenance staff utilize a buddy system during the summer to spot employees suffering from heat-related health problems arising during the working period. The city is monitoring potential new guidance from the state to prevent these types of workplace injuries.

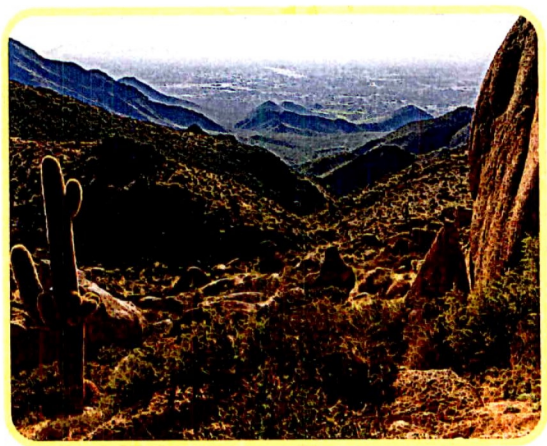
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As discussed in the Cooler Scottsdale study, a primary way to reduce heat is through shade and cooler surfaces. Currently, 37% of Scottsdale is open space (public and private including the McDowell Sonoran Preserve). Through land management policy including the Environmentally Sensitive Lands Overlay District (ESL), the city uses zoning and other requirements to guide development in its desert and mountain areas. The ESL ordinance requires that a percentage of each property be permanently preserved as Natural Area Open Space (NAOS). The city also manages developed open spaces, like the Indian Bend Wash Greenbelt and other parks.

A third way to measure heat is mean radiant temperature (MRT). MRT is a measure of the heat load on the human body at a given time and location, based on direct, diffuse and reflected thermal and solar radiation. MRT can be a better indicator than air temperature of heat-related mortality, heat stress and thermal comfort. Compared to full exposure, MRT is:

- Approximately 55°F lower under mature, fully leafed trees in Old Town and on Waterfront
- Approximately 30°F lower under mature, desert-adapted trees
- Up to 50°F lower under bus stops with full, wide shade structures

Shaded, light-colored and pervious pavement materials store less heat and have lower surface temperatures compared to conventional hardscape design. Unshaded, dark and impervious pavement materials, such as asphalt, can reach peak summertime surface temperatures of 120–150°F. These surfaces transfer heat downward to be stored in the pavement subsurface, where it is re-released as heat at night. The solar reflectance index (SRI) is a measure of a surface's ability to reflect and emit solar heat. For example, a standard black surface SRI value is 0 and a standard white surface is 100. Surfaces made of materials with a high SRI are often referred to as "cool surfaces." These surfaces can remain approximately 50 to 60°F cooler than traditional materials during peak summer weather. An example is roofing materials. Traditional roofing surfaces can reach summer peak temperatures of 150 to 185°, while a "cool roof" transfers less heat into the building, yielding energy savings and a more comfortable indoor environment.



To capture the potential for shade and cooler surfaces, the Cooler Scottsdale study analyzed land cover in Scottsdale using remote sensing and data from aerial imagery captured in 2015 (*Figure 3*). Six land cover types were examined: building, asphalt, bare soil & concrete, tree & shrub, grass and water. Darker surfaces – like buildings and paved surfaces – will tend to be hotter unless they are partially or fully shaded (including by installing solar panels). Greener areas, whether trees, shrubs or grass, will be cooler and can provide important air quality benefits.

13% of Scottsdale is covered with trees and shrubs, with larger percentages being asphalt (17%), ~~and~~ buildings ~~(33%)~~ (16%) or bare soil and concrete (45%). The amount of green landscape varies across the city, and tree ~~canopy~~ AND SHRUB coverage is as low as 6% in south Scottsdale. These differences in surface type are also visible in the earlier map of average surface temperature.

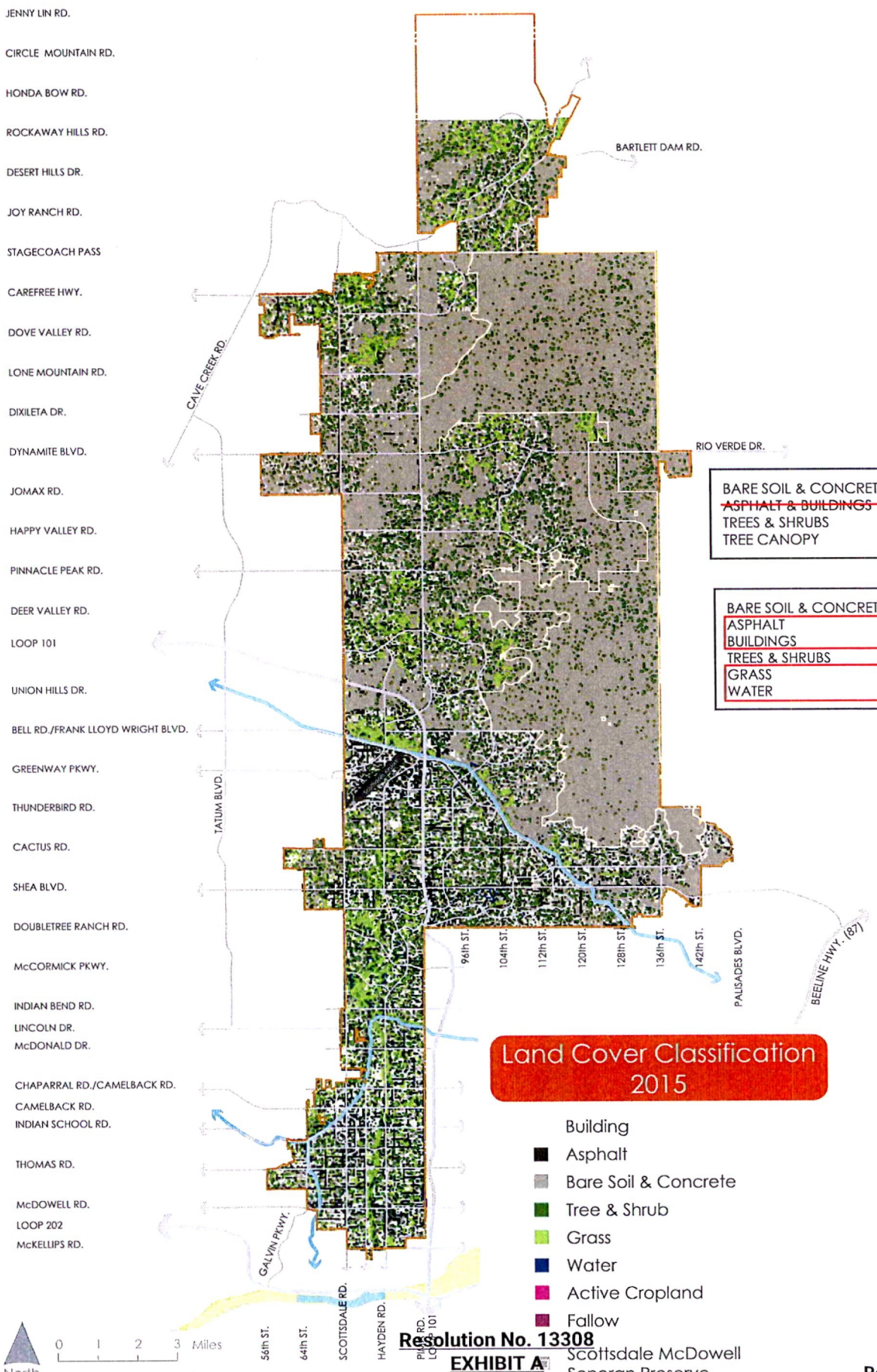


Figure 3. Source: Cooler Scottsdale Study

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Scottsdale has already begun to increase the number and health of our trees and will continue these efforts through the development of a Shade and Tree Plan. Parks and Recreation maintains an inventory of trees on city property and works to increase tree plantings. The Shade and Tree Plan will also address existing trees, since tree or natural shade needs to be periodically replaced due to storm damage and lack of proper maintenance or watering.

The city has also enacted design guidelines, plans and code related to shade and heat. Design guidelines for Old Town Scottsdale strongly recommend shaded or covered walkways, and guidelines for commercial development set minimum requirements for tree planting including trees for shade in parking lots. Mandatory commercial green building codes adopted in 2022 also require "cool roofs" and not less than 50% of site hardscape (like walkways and parking areas not covered by solar energy systems) be shaded or meet one of the other heat island effect mitigation options.

INDICATOR	TARGET
Percentage of tree and shrub canopy (2015 = 13%)	Increase tree & shrub canopy to 20% by 2030 and to 25% by 2040



While heat mitigation measures are important, they do not address the root causes of increasingly hotter temperatures. Strategies, actions and targets to avoid getting hotter are outlined in other sections of this plan.

DRAFT

BENEFITS
Environmental: Increased tree canopy cover provides ecosystem services, reduction of stormwater runoff and improved air quality; shading that uses solar panels also decreases emissions
Economic: Reducing the need for air conditioning cuts energy costs; providing shade and addressing worker safety reduces health care costs and encourages economic activity
Social: Reducing daytime and nighttime temperatures improves health and quality of life, especially when actions are focused on those most vulnerable to the heat

WHAT CAN YOU DO?
▪ Plant a tree or volunteer at a tree-planting event ▪ Stay hydrated and wear loose, lightweight, light-colored clothing ▪ Check on a friend or neighbor when the temperature rises ▪ Lighten the color of your roof and other hardscaped surfaces ▪ Let the city know if you see any maintenance needs for trees or shade structures in the public right-of-way ▪ Install solar screens or window coverings to reduce solar gains More tips are available in the Cooler Scottsdale study

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STRATEGIES & ACTIONS

STRATEGY HT 1

Expand heat relief communication and education.

ACTIONS

HT 1.1 Engage employees and residents in creative ways on needed response to heat options, especially in the hottest areas.

HT 1.2 Collaborate with regional, statewide, and national governmental and other entities on best practices on heat mitigation engagement strategies.

HT 1.3 Expand communication on locations of cooling and hydration centers in the city.

HT 1.4 Support and expand existing outreach programs like "Beat the Heat."

STRATEGY HT 2

Protect people from the health effects of extreme heat.

ACTIONS

HT 2.1 Expand response strategies for extreme heat and increase the number of cooling centers; explore the value of pop-up cooling stations.

HT 2.2 Seek grant or other funding for supplies for cooling centers.

HT 2.3 Seek grant or other funding for weatherization, green rehab and air conditioner repair/replacement programs for low-income households.

HT 2.4 Develop partnerships with local utilities for weatherization and tree planting programs.

HT 2.5 Create Resiliency Hubs for neighborhoods with higher populations of seniors and lower income residents.

HT 2.6 Develop a more robust and detailed plan for large scale heat disaster response including power grid failure.

HT 2.7 Review municipal guidelines for heat protection for employees.

DRAFT

STRATEGY HT 3

Identify urban design improvements including structured shade and built environment.

ACTIONS

HT 3.1 Support private and public strategies to reduce the area of exposed dark asphalt, dark roofs and other hot surfaces.

HT 3.2 Promote cool roofs and sidewalks and other cool infrastructure technologies and options.

HT 3.3 Promote shading for site hardscape on existing commercial and multifamily developments.

HT 3.4 Identify areas most impacted by the heat island effect and prioritize mitigation for these areas to reduce heat impacts.

HT 3.5 Coordinate heat and shade work with other active plans such as the Old Town Character Area Plan.

STRATEGY HT 4

Plant more trees and implement other nature-based solutions.

ACTIONS

HT 4.1 Increase tree canopy and building-integrated or free-standing shade structures through a Shade and Tree Plan; study the value of shade on a return-on-investment basis and balance benefits of natural shade and water usage.

HT 4.2 Encourage use of desert-adapted trees to support heat reduction and water conservation strategies.

HT 4.3 Investigate an urban forestry program to balance shade and water use and to ensure trees are maintained (including in city parks).

HT 4.4 Study options to improve proper tree maintenance and replacement near commercial and multifamily buildings.

HT 4.5 Partner with non-profits, volunteers, and businesses to plant more trees especially in underserved or older neighborhoods and in areas of high pedestrian activity; evaluate a 'matching tree' initiative.

HT 4.6 ~~Plant trees in appropriate locations to accommodate their growth.~~ **DEVELOP EDUCATIONAL RESOURCES ABOUT ABOVE- AND BELOW-GROUND SPACE NEEDS FOR TREE HEALTH.**

DRAFT

ACTION		TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
STRATEGY HT 1 **Expand heat relief communication and education.**					
HT 1.1	Engage employees and residents on response options.	Quick win	**Lead**: OEI **Partners**: Employees, residents	$	Health
HT 1.2	Collaborate with other governments and entities on best practices.	Ongoing	**Lead**: OEI **Partners**: Other government agencies	$	Health
HT 1.3	Expand communication on locations of cooling and hydration centers in the city.	Quick win	**Lead**: Human Services **Partners**: OEI, Arizona Department of Health Services	$	Health Equity
HT 1.4	Support and expand existing outreach programs like "Beat the Heat."	1-3 years	**Lead**: Human Services	$-$$$	Health Equity
STRATEGY HT 2 **Protect people from the health effects of extreme heat.**					
HT 2.1	Expand response strategies, increase number of cooling centers, explore pop-up cooling stations.	3-10 years	**Lead**: Human Services **Partners:** OEI	$$-$$$	Health Equity
HT 2.2	Seek grant or other funding for supplies for cooling centers.	1-3 years	**Lead**: Human Services **Partners:** OEI	$-$$$	Health Equity
HT 2.3	Seek grant or other funding for weatherization, green rehab and air conditioner repair/replacement programs for low-income households.	3-10 years	**Lead**: Human Services **Partners:** OEI	$$$	Health Cost savings
HT 2.4	Develop partnerships with local utilities for weatherization and tree planting programs.	1-3 years	**Lead**: OEI **Partners:** Utilities	$	Health Cost savings

DRAFT

ACTION		TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
HT 2.5	Create Resiliency Hubs for neighborhoods with higher populations of seniors and lower income residents.	3-10 years	**Lead**: OEI **Partners:** Human Services	$$$	Health Equity
HT 2.6	Develop a more robust and detailed plan for large scale heat disaster response including power grid failure.	3-10 years	**Lead**: Emergency Management	$	Safety
HT 2.7	Review municipal guidelines for heat protection for employees.	1-3 years	**Lead**: OEI **Partners:** Facilities, ~~Parks & Rec~~ **PARKS & RECREATION**	$	Health
STRATEGY HT 3 Identify urban design improvements including structured shade and built environment.					
HT 3.1	Support private/public strategies to reduce hot surfaces.	1-3 years	**Lead**: OEI **Partners:** Planning & Development, developers, residents	$	Health
HT 3.2	Promote cool infrastructure technologies and options.	Ongoing	**Lead**: Planning & Development/OEI **Partners:** Developers, residents	$	Health Cost savings
HT 3.3	Promote shading for site hardscape on existing commercial and multifamily developments.	1-3 years	**Lead**: Planning & Development **Partners:** Developers, businesses	$-$$$	Health Cost savings
HT 3.4	Identify areas most impacted by the heat island effect and prioritize mitigation for these areas.	Ongoing	**Lead**: OEI	$	Health

DRAFT

ACTION		TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
HT 3.5	Coordinate heat and shade work with other active plans.	Ongoing	**Lead**: OEI/Planning & Development	$	Health
STRATEGY HT 4 Plant more trees and implement other nature-based solutions.					
HT 4.1	Increase tree canopy and shade structures through a Shade and Tree Plan	3-10 years	**Lead**: OEI **Partners:** Multiple city departments	$$$	Health Air quality
HT 4.2	Encourage use of desert-adapted trees to support heat reduction and water conservation strategies.	Ongoing	**Lead**: OEI, ~~Parks & Rec~~ **PARKS & RECREATION** **Partners:** Planning & Development, Scottsdale Water	$$$	Health Air quality
HT 4.3	Investigate an urban forestry program to balance shade and water use and to ensure trees are maintained.	1-3 years	**Lead**: ~~Parks & Rec~~ **PARKS & RECREATION**	$$$	Health Air quality
HT 4.4	Study options to improve proper tree maintenance and replacement near commercial and multifamily buildings.	Ongoing	**Lead**: ~~Parks & Rec~~ **PARKS & RECREATION** **Partners:** OEI, Planning & Development	$-$$$	Health Air quality
HT 4.5	Partner to plant more trees.	Ongoing	**Lead**: ~~Parks & Rec~~ **PARKS & RECREATION** **Partners:** OEI, Planning & Development	$-$$$	Health Air quality
HT 4.6	~~Plant trees in appropriate locations to accommodate their growth.~~ **DEVELOP EDUCATIONAL RESOURCES ABOUT ABOVE- AND BELOW-GROUND SPACE NEEDS FOR TREE HEALTH.**	Ongoing	**Lead:** ~~Parks & Rec~~ **PARKS & RECREATION** **Partners:** OEI, Planning & Development	$	Health Air quality

DRAFT

ENDNOTES

1 "Arizona Then and Now: Summer heat," *Arizona Republic*, 07/28/2016.

2 "The Effects of Coexposure to Extremes of Heat and Particulate Air Pollution on Mortality in California: Implications for Climate Change," American Journal of Respiratory and Critical Care Medicine, Volume 206, Issue 9.

DRAFT

GLOSSARY

A

Advanced Purified Recycled Water (APRW) – Water from the process at the Advanced Water Treatment Facility (AWT) that uses recycled water from the city's conventional water reclamation plant and further treats it through ozonation, membrane ultrafiltration, reverse osmosis and ultraviolet photolysis.

Advanced Water Treatment Facility (AWT) – The Scottsdale Water Campus is home to the Advanced Water Treatment Facility (AWT), the first permanent facility in Arizona permitted as a pilot program for Advanced Purified Recycled Water (APRW).

Air Quality Index (AQI) – ~~The U.S. AQI is EPA's index for reporting air quality. For each of six pollutants an AQI value of 100 generally corresponds to an ambient air concentration that equals the level of the short-term national ambient air quality standard for protection of public health.~~

THE AQI IS A SCALE DEVELOPED BY EPA TO REPORT AIR QUALITY TO THE PUBLIC AS IT RELATES TO HEALTH. THE HIGHER THE AQI VALUE, THE GREATER THE LEVEL OF AIR POLLUTION AND THE GREATER THE HEALTH RISK. AQI VALUES ARE CALCULATED BY CONVERTING MEASURED POLLUTANT CONCENTRATIONS FOR EACH OF THE MAJOR AIR POLLUTANTS REGULATED BY THE CLEAN AIR ACT TO A UNIFORM INDEX BASED ON THEIR HEALTH EFFECTS. AN AQI VALUE OF 50 OR LESS IS CONSIDERED GOOD AIR QUALITY WITH LITTLE OR NO POTENTIAL TO AFFECT PUBLIC HEALTH. AN AQI VALUE ABOVE 100 MEANS A POLLUTANT LEVEL IS HIGHER THAN THE NATIONAL HEALTH STANDARD (KNOWN AS THE SHORT-TERM NATIONAL AMBIENT AIR QUALITY STANDARD) AND AIR QUALITY IS CONSIDERED UNHEALTHY.

Alternative Energy or Fuel – Energy sources that do not rely on fossil fuels, such as, sunlight and wind.

B

Built Environment – Human-made elements including, buildings, structures, roads, canals, paths, and trails, that together create the physical character of an area or community.

C

Character Area Plan (CAP) – The second level of Scottsdale's three-level General Plan structure that guides more detailed planning, land use, and character for a defined sub-area of the city.

Circular Economy – In the linear economic model, products are made, used, and disposed of in the landfill. The circular economy is an alternative model of production and consumption in which resources are kept in use for as long as possible to extract maximum value, then recovered to regenerate new materials. This is achieved through intentional design of products and systems and by employing reuse, leasing, sharing, repair, refurbishment, remanufacturing, and recycling. The circular economy minimizes waste, pollution and carbon emissions and conserves energy, water, and other resources.

Citywide – Occurring or extending throughout Scottsdale, including everyone who lives here.

Conservation – (1) The controlled use and systematic protection of a resource, including environmental or cultural resources; or (2) To use something sparingly so as not to exhaust supplies.

Cool roof/surface – A roof or surface designed to reflect solar energy away from its surface.

DRAFT

D

Design Guidelines – Non-mandatory provisions that steer the design of buildings and are used by staff, the city's boards and commissions, and City Council for evaluating projects. Design guidelines are usually applied in a particular area or to a particular use to protect investment or establish a unifying look for an area. Typical guidelines might focus on building orientation, architectural details, and streetscape considerations.

Distributed Solar/Generation – Using small sources of electrical power, such as solar, micro-turbines, fuel cells, or other generating devices, at designated sites to meet individual customer energy load. These sources (i.e., generators) are sized to match a specific load, such as a house, industry, or community.

Diversion rate – A diversion rate is the proportion by weight of all material diverted from the landfill to the total of all waste material generated, expressed as a percentage.

Drought – Three or more consecutive years of less-than-average rainfall.

Drought Management Plan – The City of Scottsdale Water Resources Department management program of responses to drought and/or shortage conditions.

E

Electric Vehicle (EV) – A car or truck that runs solely on an electric motor, with no internal combustion
engine.

Energy Burden – The percentage of gross household income spent on energy costs

Effluent – Wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall.

Environmentally Sensitive Lands (ESL) – Land in Scottsdale with unique and sensitive natural features, including mountains and hills, large rock formations, native landscapes, archeological and historical sites, significant washes, Scenic Corridors, wildlife habitats, and land with special hazards.

Environmentally Sensitive Lands Ordinance (ESLO) – A set of zoning regulations originally adopted by the City of Scottsdale in 1991 (and subsequently revised) to guide future development in the desert and mountain areas of Scottsdale. The Ordinance includes standards to ensure that new construction will be compatible with the natural beauty of the area.

Extreme heat – A period of at least 2-3 days of high heat with temperatures above 90 degrees, according to the Arizona Emergency Information Network.

F

Fossil Fuels – Buried, combustible geologic deposits of organic materials, formed from decayed plants and animals, that have been converted to crude oil, coal, natural gas, or heavy oils by exposure to heat and pressure in the earth's crust over millions of years. Fossil fuels are generally considered "non-renewable" energy sources.

DRAFT

G

General Plan – The Scottsdale General Plan is a comprehensive, long-range plan consisting of community goals and policies setting forth objectives, principles and standards for the state mandated elements of land use, circulation, open space, growth areas, environmental planning, cost of development, water resources, conservation (natural resources), recreation, public services and facilities, public buildings, housing, conservation, rehabilitation and redevelopment, safety, bicycling, energy, and neighborhood preservation and revitalization. In addition, the Scottsdale General Plan includes community-created elements for economic vitality, character and design, community involvement, arts and culture, tourism, and a healthy community.

Green Building – The practice of increasing the efficiency of building resource use, including energy, water, and materials, while also reducing negative effects on human health and the environment during the building's lifecycle through site layout, building design, construction, operation, maintenance, and removal. In this plan, green buildings are defined as those that comply with IgCC, LEED, Scottsdale Green Building Program or Green Rehabilitation Program ~~(Green Rehab) guidelines~~.

Greenhouse gas (GHG) – A gas that contributes to the greenhouse effect by absorbing infrared radiation (like carbon dioxide and methane), usually emitted upon combustion of fossil fuels for energy.

Greenhouse effect – According to NASA, the greenhouse effect is when heat is trapped near Earth's surface by greenhouse gases.

Growth Areas – Areas of the community that best accommodate future growth allowing increased focus on creating or enhancing transportation systems and infrastructure coordinated with development activity.

H

Heat Island – The phenomenon involving elevated temperatures in urban/suburban areas as compared with outlying rural/ undeveloped surroundings. Heat islands are generally caused by reduced vegetation, solar heat absorption, material heat capacity, use of energy, and building spacing.

High Pollution Advisory – The Arizona Department of Environmental Quality issues high pollution advisories (HPA) on days when air pollution levels are expected to exceed federal health standards.

Homeowners' Association (HOA) – An organization initially established by developers of residential subdivisions. Control of the entity is transitioned to a board of home owners. An HOA is typically responsible for administration of the subdivision's codes, covenants and restrictions (CC&Rs), and other property controls for maintaining a safe and quality environment and design uniformity. Most neighborhoods built in Scottsdale after 1980 have HOAs.

I

International Green Construction Code (IgCC) – The International Green Construction Code establishes minimum regulations for building systems and site considerations using prescriptive and performance-related provisions and is developed collaboratively by the International Code Council, the American Institute of Architects (AIA), ASHRAE, the US Green Building Council (USGBC) and the Illuminating Engineering Society (IES).

DRAFT

J

K

Kilowatt (kW) – A unit of measure of electrical power equal to 1,000 watts (capacity).

Kilowatt hour (kWh) – A measure of energy consumption equal to using 1,000 watts for one hour (use).

L

Landfill refuse – The amount of total waste generated that is sent to the landfill.

LED – Light-emitting diode, an energy-efficient lighting source.

LEED – Leadership in Energy and Environmental Design, a green building certification program.

Low-Impact Infrastructure, Green Infrastructure – An approach to stormwater management that mimics the natural hydrology of a site and uses captured stormwater run-off. This contrasts with conventional methods that convey stormwater offsite as quickly as possible to regional drainage facilities. The low-impact model views stormwater as a resource, reduces stormwater runoff, uses natural systems for filtration, and helps protect ecologically sensitive areas within a development.

M

Maricopa Association of Governments (MAG) – The Maricopa Association of Governments provides a forum for local governments working together on issues that affect the lives of everyone in the greater Phoenix region.

Maricopa County Air Quality Department (MCAQD) – The Maricopa County Air Quality Department works to improve air quality throughout the county.

(Scottsdale) McDowell Sonoran Preserve – A permanently protected preserve of Sonoran Desert and mountains with the purpose of maintaining scenic views, protecting wildlife and desert plant habitat, and preserving archaeological and historical resources and sites, while providing public access for educational and passive outdoor recreational opportunities. Upon completion, Scottsdale's Preserve will consist of about one-third of the city's land mass.

Mean radiant temperature (MRT) – MRT is a measure of the heat load on the human body at a given time and location, based on direct, diffuse and reflected thermal and solar radiation.

Megawatt (MW) – A unit of measure of electrical power equal to 1,000,000 watts (capacity).
Megawatt hour (MWh) – A measure of energy consumption equal using 1,000,000 watts for one hour (use).

Municipal – Associated with or owned by Scottsdale.

Multi-Family Housing – 1) A building, or part of a building, designed for occupancy by three (3) or more families; or 2) A housing variety associated with high- and moderate-density development within Suburban, Urban, and Mixed-Use Neighborhood land uses. Multi-family housing may be owner or renter occupied.

N

Native Plants – Plants indigenous to an area or from a similar climate and requiring little or no supplemental irrigation once established.

NASA – The National Aeronautics and Space Administration, a U.S. government agency.

DRAFT

NOAA – The National Oceanic and Atmospheric Administration, a U.S. government agency.

Natural Area Open Space (NAOS) – Areas of undisturbed natural desert, but may include revegetated areas.

Natural Resource – A feature or phenomenon in nature that enhances the quality of human life, including land, water, air, vegetation, geology, animal habitat, and topography.

O

Open Space – Any parcel or area of water or land that is essentially unimproved and devoted to an open space use for the purpose of (1) the preservation of natural resources; (2) the managed production of resources; (3) outdoor recreation; or (4) public health and safety.

Organic Waste – Any waste material that is biodegradable.

P

Particulate Air Pollution – ~~A mixture of large and fine solid particles and liquid droplets found in the air.~~

A MIXTURE OF LARGE COARSE AND FINE SOLID PARTICLES AND LIQUID DROPLETS FOUND SUSPENDED IN THE AIR. COARSE PARTICLES (KNOWN AS PM-10) RANGE FROM GREATER THAN 2.5 TO 10 MICROMETERS (MM) IN DIAMETER. FINE PARTICLES (KNOWN AS PM-2.5) ARE 2.5 MM AND SMALLER IN DIAMETER. ONCE INHALED, THESE PARTICLES CAN LODGE DEEP IN THE LUNGS AND MAY ENTER THE BLOODSTREAM, CAUSING SERIOUS HEALTH EFFECTS. PARTICLE SIZE IS DIRECTLY LINKED TO THEIR POTENTIAL TO CAUSE HEALTH PROBLEMS, WITH PM-2.5 POSING THE GREATEST RISK.

Porous pavement – Paving surfaces that allow stormwater to percolate and infiltrate into the soil or layers below.

Q

R

Recharge, Groundwater – The natural or human-induced process of infiltration and percolation of rainwater, surface water, or treated wastewater, from land areas, streams, or engineered methods through permeable soils into aquifers that provide underground storage.

Reclaimed Water – Wastewater that is treated to remove solids and certain impurities to a level that is suitable for such uses as turf irrigation, landscape application, water features, and aquifer recharge.

Recycling – The recovery of materials such as paper, glass, plastic, metals, construction and demolition material and organics from the waste stream, along with the transformation of those materials to make new products, thereby reducing the use of virgin raw materials. Recycling includes three steps which create a continuous loop: 1) collection and processing of recyclable materials, 2) manufacturing new products from recycled materials, and 3) purchasing products with recycled content.

Renewable Energy Source – Energy sources that do not rely on fossil fuels, including, sunlight and wind.

Resiliency Hubs – Community-serving facilities augmented to support residents and coordinate resource distribution and services before, during, or after a natural hazard event (Urban Sustainability Directors' Network)

RETURN FLOW PERCENTAGE – THE PORTION OF WASTEWATER CAPTURED IN THE SEWER COLLECTION SYSTEM.

DRAFT

S

Scottsdale Environmental Advisory Commission – A City Council appointed citizen commission to advise the Council on issues related to preservation and enhancement of the environment.

Scottsdale Sustainability Steering Team – A group of city staff advising the City Manager and making recommendations on issues related to sustainability and the environment, as defined in the General Plan 2035. Operationally, the team provides a forum to elevate to leadership important or citywide issues that impact the achievement of sustainability goals.

Safe Yield – A groundwater management goal to achieve and maintain a long-term balance between the annual amounts of groundwater extracted and recharged in the aquifer.

Sensitive Design Principles – Program and documents aimed at strengthening the focus on design in the community, promoting coordination of the city's design-related efforts and resources, and guiding discussion of design-related issues.

Solid Waste – Unwanted or discarded solid, liquid, semisolid or contained gaseous material. Commonly referred to as "trash" or "garbage." As a general category, however, solid waste includes many items that are not "trash," such as metal, paper products, glass, and other recoverable resources.

Stormwater, Stormwater Runoff – Water generated from rain, snowmelt, or drainage. Runoff is generated when precipitation flows over land or impenetrable surfaces (e.g., asphalt) and does not absorb into the ground. As runoff flows over the land, it accumulates debris, chemicals, sediment, and other pollutants that may adversely affect water quality, if untreated.

Sustainability – For the purposes of the General Plan, sustainability is a condition of living that enables the present generation to enjoy social well-being, a vibrant economy, and a healthy environment, without compromising the ability of future generations to enjoy the same.

T

U

Unhealthy air day – A day when the air quality index (AQI), an indicator of overall air quality, is above 100.

V

Volatile organic compound (VOC) – VOCs are gases that are emitted from certain solids or liquids, some of which may have short- and long-term adverse health effects.

W

Wastewater – The used or effluent water from homes, communities, and businesses. It includes both domestic and commercial sewage and contains multiple types of pollutants.

Water Conservation – Any beneficial reduction in water loss, use, or waste. This includes water management practices and programs that improve the use and/or efficiency of water, functional process, and behavior.

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Watershed – The area of land where all of the water underneath it, or draining off it, goes to the same place. All areas of Scottsdale drain into the larger Salt River and Gila River watersheds. Some areas of the community drain to smaller tributaries, including the Verde River, the Indian Bend Wash, and other minor watersheds.

X

Xeriscape – Landscaping or gardening that reduces or eliminates the need to irrigate.

Y

Z

Zero Waste – The conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health.

APPENDICES

Appendix A: Related Scottsdale General Plan 2035 Goals

Energy	Energy Element Goal E 1 - Become a net-zero community Goal E 2 - Reduce energy consumption Goal E 3 - Promote energy efficiency Goal E 4 - Increase energy efficiency of city facilities Goal E 5 - Develop renewable energy sources Environmental Planning Element Goal EP 2 - Demonstrate environmental stewardship Goal EP 5 - Encourage environmentally sound design Goal EP 8 - Plan, prepare, adapt for climate impacts Conservation Element Goal CONSV 1 - Achieve a sustainable balance Public Buildings Element Goal PB 1 - Provide safe, accessible, and adaptable public buildings Goal PB 2 - Design, construct, & renovate public buildings
Water	Environmental Planning Element Goal EP 6 - Surpass water quality standard Water Resources Element Goal WR 1 - Ensure long-term water supplies Goal WR 2 - Prepare for climatic impacts Conservation Element Goal CONSV 1 - Achieve a sustainable balance Goal CONSV 3 - Protect watersheds Goal CONSV 4 - Conserve water
BEYOND Waste	Environmental Planning Element Goal EP 4 - Expand recovery, reuse, and recycling **CONSERVATION ELEMENT** **GOAL CONSV 1 - ACHIEVE A SUSTAINABLE BALANCE** Public Services & Facilities Element Goal PSF 1 - Maintain an innovative solid waste system

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APPENDICES

Appendix A: Related Scottsdale General Plan 2035 Goals

Air Quality	Environmental Planning Element Goal EP 3 - Improve air quality **GOAL EP 8 - PLAN, PREPARE, ADAPT FOR CLIMATE IMPACTS**
Extreme Heat	Environmental Planning Element Goal EP 7 - Reduce heat islands Goal EP 8 - Plan, prepare, adapt for climate impacts Conservation Element Goal CONSV 1 - Achieve a sustainable balance Safety Element Goal S 1 - Prevent hazards Goal S 2 - Prepare for emergencies Goal S 3 - Deliver emergency response

DRAFT

APPENDICES

Appendix B: Existing Plans and Programs

Energy & Air Quality

- Commercial Solar Guidelines (2019)
- Design Standards and Policy Manual (2018)
- Sensitive Design Principles (2001)
- Energy & Green Building Programs
- Environmental Compliance

Water

- Sustainable Water Management Principles (2022)
- Integrated Water Resources Master Plan (2022)
- Drought Management Plan (2021)
- Scottsdale Water Strategic Plan (2019-2024)
- Water Conservation and Other Programs

Heat

- Strategies for a Cooler Scottsdale (2022)
- Emergency Preparedness Jurisdictional Project Summary (2018; 2021)
- Extreme Heat Resources

Waste

- Community Solid Waste and Recycling Strategic Plan (2018)
- Solid Waste Programs

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SUSTAINABILITY TIMELINE

- **2024: Scottsdale Community Sustainability Plan**
- 2023: Solar infrastructure is added to the North Corporation Yard
- 2023: Natural grass in front yards of new single-family homes prohibited
- 2022: Adopted mandatory Green Construction Code for commercial and multifamily buildings
- 2021: 2035 General Plan approved by voters
- 2020: Began installing LED streetlights
- 2019: Water Campus is first in Arizona to be permitted for direct potable reuse
- 2019: Scottsdale received ASU's inaugural Resilience Prize
- 2019: Preserve reaches current size of 30,500 acres
- 2017: Traffic signal coordination began
- 2016: First class of the Scottsdale Water Citizen Academy
- 2012: Adoption of voluntary incentivized green construction code
- 2011: Named a Gold Level Bicycle Friendly Community
- 2010: Began installing LED traffic signals
- 2009: Fire Station 602 – city's first LEED Platinum certified building
- 2008: Xeriscape Garden, a 5.5-acre demonstration garden, opens
- 2008: Compressed natural gas fueling infrastructure is added to public works facilities
- 2007: Granite Reef Senior Center – city's first LEED certified building (Gold)
- 2005: First city in the country to require new municipal buildings to be LEED Gold certified
- 2003: City's first energy code adoption for residential and commercial construction
- 2002: 2001 General Plan adopted by voters
- 2000: Transportation Management Center became operational
- 2000: Establishment of Sensitive Design Principles for new development
- 1999: First Sustainability Indicators Report produced ("Scottsdale Seeks Sustainability")
- 1998: Water Campus (the largest public works project in city history to date) started operations
- 1998: Green Building Program established as first in Arizona and fifth in the country
- 1996: Solid Waste Transfer Station is constructed
- 1996: Scottsdale begins curbside recycling collection program
- 1996: CityShape 2020 included guiding principle to "Seek Sustainability"
- 1995: Voters approved tax to fund expansion of Preserve
- 1994: Scottsdale McDowell Sonoran Preserve created
- 1993: First component of the city's Intelligent Transportation System installed to reduce congestion
- 1993: Sustainability resident board created (now Scottsdale Environmental Advisory Commission)
- 1991: Environmentally Sensitive Lands Overlay District ordinance adopted
- 1982: Water Conservation Office is formed
- 1982: Scottsdale named a Tree City USA
- 1981: Native Plant Ordinance passes
- 1980: Scottsdale Trolley makes first run
- 1970s: Indian Bend Wash Greenbelt constructed
- 1969: First mechanical garbage truck constructed by city staff (Godzilla)
- 1967: Eldorado Park, Scottsdale's first major park, is built.

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Economic Development
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Solid Waste
Facilities Parks & Recreation
Fleet
Community Services
Water
Web and Design Services

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CITY OF SCOTTSDALE

COMMUNITY SUSTAINABILITY PLAN



Community Sustainability Plan: Summary of September 2024 Workshops

Introduction

The Scottsdale Community Sustainability Plan is an important part of the city's commitment to a more sustainable future. The City Council included adoption of a sustainability plan as part of the city's 2022 and 2024 organization strategic plans, and the plan was identified as part of the General Plan 2035 implementation.

Work on the plan began in June 2021, relying on input from the Scottsdale Environmental Advisory Commission (SEAC) and other community members. City Council feedback at five Work Study Sessions resulted in a sharp focus on the priorities, a push to develop baseline metrics and set numeric targets, and the need to include the costs and benefits of action.

The city has conducted a broad public input process to residents, boards and commissions and other stakeholders. Staff and subject matter experts have provided their guidance and ideas along the way. Two sets of community meetings were held in May and October 2022 in conjunction with a public questionnaire, to elicit feedback on an early draft and on overall priorities. As interim drafts were posted online and discussed at public meetings, additional input was gathered and incorporated.

Workshop Format

As a follow-up to City Council direction at the May 21, 2024, Regular Meeting, the city hosted two 90-minute interactive meetings on September 11 (SkySong) and September 16 (Florence Ely Nelson Park). The workshops were widely publicized on social media and via email and city newsletters. In total, almost 70 people attended.

After an introductory presentation on Scottsdale's efforts to be a more sustainable and resilient city, workshop participants had an opportunity to share ideas for enhancing the city's work. There were six stations for input – energy, water, waste, extreme heat, air quality and overall/general – with informational posters and subject matter experts to answer questions.





Input Received

Participants were asked to share their thoughts either on a comment card or sticky notes. More than 200 comments were received in response to the four questions below, ranging from one-word responses to full paragraphs.

- What should be continued or expanded?
- What else should we be doing?
- What should we not be doing? Or doing differently?
- Are there specific actions or elements that could be addressed?

Overall, attendees shared positive and extremely helpful feedback. There was a strong overlap with the strategies and actions included in the May 2024 draft plan. Support was especially high for planting more trees, diverting more waste, adding solar and conserving water. In some instances, comments suggested more ambitious action than currently included in the plan.

Few directly raised questions about the cost of strategies being discussed, while others suggested adding new incentives for specific strategies. There were some concerns over zoning and land use, often making connections between the impact of development and environmental impacts. Interestingly, some attendees requested additional requirements or mandates.

Participants embraced the community focus of the plan, and most suggestions focused on individual or business action to be more sustainable. Finally, several shared suggestions on how to improve future community meetings, including requests for more detailed dialogues on the plan topics.







Below are some themes that emerged from the discussions, reflecting when the same or similar ideas were shared by more than one attendee. All comments received are in Attachment 1, sorted by topic and by question.

<u>Waste</u>

- Significant support for actions that increase recycling and composting
- Interest in actions that would expand recycling at commercial properties, apartment complexes and short-term rentals
- Suggestions about using pricing and fines to achieve goals

Water

- Widespread support for existing programs, with suggestions on expanding or improving educational and rebate/incentive efforts

Extreme Heat

- Overwhelming support for adding more trees and shade, with some suggestions related to code requirements and enforcement
- Very detailed suggestions on how to implement strategies

Air Quality

- Mostly support for expanding electric vehicle charging infrastructure and adding electric vehicles to the city fleet
- Interest in expanding trolley, bus, bike and carpool usage and restricting the impacts of fireworks

Energy

- Significant support for increasing solar installations, including calls for adding solar to all city buildings and for requiring solar in new residential buildings
- Support and opposition for building codes adopted in 2023

Attachment

1. All Input Received at September 2024 Community Meetings

Participants in the September 2024 Community Meetings shared their ideas for enhancing the city's work on sustainability, with six stations for input – energy, water, waste, extreme heat, air quality and overall/general. Attendees' responses to four questions are all listed in the below tables.

WASTE

Waste: What should be continued or expanded?
September 11 meeting
Do commercial properties recycle? If not, why not?
Do you the apartment complexes recycle? If no, why not?
Make landscapers aware of the opportunity to compost waste instead of dumping.
September 16 meeting
Composting - broader recycling(more categories) - recycling and compost bins in restaurants, stores, schools, gyms
Recycling @ multi-family housing.
Keep curbside organics pickup and recycling/composting back in the plan
More education on proper recycling
Bulk pickup is fantastic & more people pickup my trash and it avoids the landfill
Agreed wonderful service.

Waste: What else should we be doing?
September 11 meeting
Charge residents for waste removal to encourage composting & recycling.
Pay as you throw!
Start fining short term rentals for noncompliance w/ recycling programs.
Easy recycle for apartments & townhomes.
Keeping edible food out of the landfill - mainly from businesses.
Mandate restaurants to donate leftover food.
Mandate residential & commercial composting.
September 16 meeting
Educating about long term cost of excess waste - more to discourage use of single use plastic or paper bags - more communication of what not to recycle

Use of compost in landscapes. Mulch too.
Build a household waste facility like Mesa. State of the art.
Commercial composting & buy back.
Provide opportunities for residents to compost.
Be transparent about how much waste is recycled
Provide homeowners opportunity to drop off green waste for composting.
Free compost for residents from green waste.
Promote swap meets and community sales.

Waste: What should we not be doing or doing differently?
September 11 meeting
How can we be sustainable & control our excesses when we have approx 25k apts going in N. Scottsdale. How can you task the solid waste people who are already @ max & fulfill the percentage of reduction. With approx 25k multifamily apts how will it ffect house value and meet agendas. People visiting probably are not concious of waste as well as does not be part of their culture.
September 16 meeting
Recycling education and more creative ways to repurpose.
Compost & recycle at all city facilities & events
implement a single use plastic goal of for city facilities with a plan to get there

Waste: Are there specific actions or elements that could be addressed?
September 11 meeting
Address the amount of waste generated by a large amount of people in an air bnb - much more than a single family & not recycled usually.
Make airbnbs recycle. Airbnbs near me have refused recycling bins.
September 16 meeting
<none>

WATER

Water: What should be continued or expanded?
September 11 meeting
H2O conservation should continue to be priority.
Continue turf conversion program.
September 16 meeting
Smart water meters & leak detection
Continue and expand rebates for house upgrades, low flow toilets, grass removal, electric appliances, etc.
More community education about reducing water usage, identifying leaks/problem water usage

Water: What else should we be doing?
September 11 meeting
Provide more ideas on how important it is to save water & more ways to save water.
Turf & fountain removal
Rainwater catchment?
Make water rebates tax free.
September 16 meeting
Consider water rebate incentive for lowering water usage year over year
Incentivize turf removal like Las Vegas
Code compliance enforcement of water days
Incentivize pool removal
Incentivize fountain removal
Start driving around old town and look at commercial water lawn use. Circle k/ az fed cc on hayden/osborn are awful
Power generated is water consumed. But nobody wants to talk about that.
Continue to pursue introducing fully treated waste water back into the domestic supply
Set aside a water grant for replumbing older communities and homes where old cast iron pipes are used. Homeowner owned only.
Expand ARPW to hotels & resorts
Gray water initiatives. Laundry - to landscape.

Water: What should we not be doing or doing differently?
September 11 meeting
More public education.
Incentivize rainwater harvesting.
Project.
Council allows everything to system size. More larger pools at resorts etc. Water needs better use assessment for each building.
September 16 meeting
Limit or eliminate open water lakes or decorative ponds in future development
How can tiered water pricing be balanced best against the need to vegetate and provide shade.
Stop bullying homeowners to use less water when apartments are being approved with rooftop pools.
Cover the ditches that bring in h20 from Colorado river

Water: Are there specific actions or elements that could be addressed?
September 11 meeting
Zoning: decrease approval of large, tall buildings.
Get more commercial involvement esp short term rentals.
September 16 meeting
<none>

EXTREME HEAT

Extreme Heat: What should be continued or expanded?
September 11 meeting
Adding more trees to parking lots.
September 16 meeting
Love the natural/native landscape in N Scottsdale. Expand
More tree in south Scottsdale and old town.
Misting outside venues. More trees.
Put a set of misters & canopy over all of Old Town.
More trees using wood mulch.

Extreme Heat: What else should we be doing?
September 11 meeting
Ask/Mandate business parking lots to provide/build shade. *bonus if they add solar.
Give us more trees. (SRP only provider)
More trees in parks and medians.
Trees
Plant more trees & build more shade.
More solar on parking structures and city buildings.
Structural shade.
September 16 meeting
More shade. Especially in old town walking areas.
Require or incentivize green scaping with all new building.
Consequences for tree butchers.
Enforce tree care ordinances for topping.
Expand shade through planting trees - offered to private landowners. Leverage volunteers.
Plant more trees - monitor trees throughout city & replace when we can.
White & green roofs on city buildings.
In commercial zones incentivize development that shades and extends building roof over public walkways.

Extreme Heat: What should we not be doing or doing differently?
September 11 meeting
If homes are abandoned, demolish for green space in neighborhood; green landscape & neighborhood park & or/dog park
Put up solar in streets with shade for each house/car. More trees on major street.
Real shade for bus stops. More trees in the park, water features in park for cooling. Large trees encouraged for neighborhoods. Parking lots with w/ trees.
Stop using trees & grass.
September 16 meeting
More artificial shade structures everywhere.
Less density.
Pause upzoning degree
Require awnings @ every building.
Add paths in areas that are hot to promote transit & provide trees/shade along path

Extreme Heat: Are there specific actions or elements that could be addressed?
September 11 meeting
<none>
September 16 meeting
<none>

AIR QUALITY

Air Quality: What should be continued or expanded?
September 11 meeting
Electric vehicles are still in baby stage. If you only go to the store in the neighborhood its ok. 300 miles is a target not actual. Trucks are bit good in electric.
We're kidding ouselves that there will be no gas engines in my lifetime. 78yo. They haven't even addressed the battery issues on resale cars.
Where are the used ones going. That's another type of waste there is no answer for. Which state will they bury them? Off - gases.
September 16 meeting
Expand Trolley
Thank you for charging stations. I drive an EV.
Expand bus system. Expand EV infrastructure.
Signs pointing to EV stations are needed.
Plant more trees.
Expand trolley. Close Scottsdale Rd in old town. Think 16th st mall in Denver

Air Quality: What else should we be doing?
September 11 meeting
Plant more trees!
More trees.
More trees.
Convert city vehicles to EV.
Ban smoke "bombs" at sporting events etc.
Outlaw fireworks.
Traffic signal synchronization to reduce idle time.
Not just more trees. But infrastructure design suitable to changing seasons.
September 16 meeting
Speaking to Maricopa County to reduce registration for Evs
Promoting how residents may avoid polluting or contribute to air quality

Greater/ new incentives for carpooling. Meaningful & enforceable penalties for improper use of carpool lane
Get rid of fireworks. Are you kidding me with fireworks.
Every Scottsdale city vehicle should be an EV
Expand EV charging. Yes!
Transfer to EV for municipal vehicles.

Air Quality: What should we not be doing or doing differently?
September 11 meeting
Educate the public on mass transit use.
What information (data) is available regarding the impact of blowers? My thoughts are this should be looked at.
Expand electric charging infrastructure.
Decrease population density in south Scottsdale. Fewer apartments/condos.
Discontinue the use of fireworks.
Cars possibly discontinued.
Would the public transit system in Scottsdale be used more if there were more stops at eg grocery stores etc used in every day living. Also make a long term public announcement system to advertise it.
September 16 meeting
Minimize sprawl land thus decrease driving. Stop building the high rise condos/apartments. Keep northern Scottsdale with open space
Support carbon capture tech.
Add the mobility chapter back in the plan.
Add meaningful transit & alternatives to car based transport
Add bike lanes that connect - should not dead end.

Air Quality: Are there specific actions or elements that could be addressed?
September 11 meeting
<none>
September 16 meeting
<none>

ENERGY

Energy: What should be considered or expanded?
September 11 meeting
Solar ready design.
September 16 meeting
Great job on adopting the new building codes.
Greener/better codes for new construction.

Energy: What else should we be doing?
September 11 meeting
Offer incentives and education for rooftop solar.
Increase usage of nuclear power verese coal/natural gas.
Increase solar opps for biz and homeowners w/ incentives, rebates, etc. Partner w/ variety of businesses to promote & delivery
Solar for every school in town plus Skysong!
September 16 meeting
Work with P & Z and City council to ensure LEED optional loopholes are closed. Require IgCC reclamation!
Add solar panels to every city building and parking lot.
Greater or more education about peak & non peak times for lights and electricity.
Celebrate smaller super-efficient homes & workplaces.
Mountain view on Hayden just south of frank lloyd wright is beautiful now without that tall building. Reduce height.
Consider requiring new builds of residential to have full or partial solar.

Energy: What should we not be doing or doing differently?
September 11 meeting
The planning being pushed at us with no substantiation & with city council approving building that does always go over zoning height, land use council needs to be held accountable to --- the rules laid out, control staff & developer plans. The need to conform to zoning.

September 16 meeting
Along with other cities/counties lobby energy regulators to increase required power buy back
Business buildings are not being stripped of valuable items before being torn down
Why are buildings that are going to be torn down if they are small enough could be jacked up & moved by crane.

Energy: Are there specific actions or elements that could be addressed?
September 11 meeting
<none>
September 16 meeting
Reevaluate LEED for commercial and enforce IgCC energy and sustainability

GENERAL COMMENTS

What should be continued or expanded?
Comment Cards + Overall/General: September 11 meeting
Encourage water conservation, xeriscaping. Encourage carpooling, biking, walkability. Better PR - get ahead of the "anti-woke" activists and councilors.
Energy: Use solar can be expanded for public areas/bldgs to add charging stations. Water: continue recharging, reclamation, and filtration/capture of wastewater. Waste: Continue recycling efforts. Air Quality: plant more desert plants throughout public spaces and encouraging roof top/canopy/ balcony gardens. These can be used for shade, air quality, and heat mitigation. This sustainable concept is already being championed across the globe in urban environments.
Please work cross- functionally on your plan so items support each other rather than contradict.
We need a sustainability plan as a city. Many other cities have had one for a decade or longer. The world of business is now adopting sustainability mindset en masse, renewable energy water efficiency, etc. We should not be a lagger, we should be a leader.
More/more widely publicized community recycling days.
More trees. SRP has an incentive program - maybe help promote it.
If it costs taxpayers, none of it! If it restricts our lives, none of it!
I am interested in saving water by collecting it off my roof. I have been seeking knowledge or someone/group who promotes this. I found one on nextdoor buts its been inactive for a longtime. So I'd like help with that. What can my HOA do to stop me collecting water?
Education at all levels - make children, business people, homeowners, council members and other government officials about the importance of resource conservation, decarbonization.
The city has many beautiful areas between the Greenbelt & the McDowells. We need to keep up the good work! So glad we now have a sustainability manager. Thank you!
More drought resistant trees.
Increase solar installation opportunities rebates & partnerships
Comment Cards + Overall/General: September 16 meeting
Expand more shade in walkable areas. Continue recycling program. Expand trolley routes, especially for special events in old town (canal convergence) westworld- or popular routes (up & down Shea, Scottsdale, Pima and Old Town)
Notify advocates of council agendas with sustainable council actions.
The original plan doesn't go far enough
Expand fire prevention in Sonoran Preserve

GENERAL COMMENTS

What else should we be doing?
Comment Cards + Overall/General: September 11 meeting
Clear goals that can be "defended" against the propaganda on the far right. Encourage solar, consults & audits for green behavior.
We should be balancing cost of initiatives with the actual returns generated. Sustainability needs to balance cost/returns. Please spend more effort on communicating the plans & getting feedback before sending the plan to council/residents for approval.
Recycling receptacles 1 to 1 with trash cans in all public spaces. Transition away from plastics in food/beverage services in all city building & event spaces. Curbside compost collection.
Encourage/ incentivize participation by multi-family housing residents. Green waste collection.
Encourage deploying solar collectors on extensive covered parking developments to add to solar energy.
Reliable public transportation - drivers performance to be evaluated per everyone's feedback & complaints. - public transit can lower air pollution, improve air quality.
Extreme Heat: (1) Higher % of tree canopy -> more shade; Install more trees! (Desert trees) along all sidewalks & parking lots, & walking paths in parks. *This should be especially included in any new construction projects, but also in any renovation projects by developers. * Improve services that trim city trees -- to use best practices. Too many city trees are being over-pruned & cannot survive due to poor pruning by crews. (2) Explore ways to cool hard surfaces (concrete, road surfaces). Paint road surfaces w/reflective paints (City of Phoenix is experimenting w/this) (ASU is involved in designing products to be considered -- School of Sustainability).
Have these sust "sessions" more often in sept - nov. "we" City goes to elementary schools high schools, & voting age gens
Incentivize businesses to implement sustainability initiatives ex. Reduce edible food waste / install solar panels, etc.
Plant more trees in so Scottsdale
Comment Cards + Overall/General: September 16 meeting
Promote grass removal program. Promote native landscaping.
Run the economics of sustainability to silence the nah sayers
Work with P & Z and city council to enact requirements and close LEED loophole for commercial development. Reclamation and repurposing existing buildings.
Volunteer opportunities for tree planting, park assistance should be available and promoted.
Make the hard choices fun, fashionable, or popular

GENERAL COMMENTS

What should we not be doing? Or doing differently?
Comment Cards + Overall/General: September 11 meeting
Energy - Promotion for solar is great, but should also look at battery storage.
Lobby with SRP to raise solar buy back pricing to encourage more homes to convert.
Plastic grass. It's toxic and creates more heat. Plant more trees, etc? Nice, but uses more water. Contradicts plastic grass!
I feel like if the City promoted this, people might get interested & HOA boards would hesitate before stopping people.
Ignore the problem. Local government officials should support sustainability efforts. Being conservative is not going to help drought or heat.
Extreme Heat: (3) Install more heat-tolerant plants (xeriscaping) long sidewalks (in urban areas & Indian Bend Wash). (4) Bring 'MaRTy" to Scottsdale! (from ASU) [drawing included] Hot spots need to be identified throughout the city -- where are these 'hots spots'? Identify locations & remediate with plantings, paint, misters, maybe develop structures to provide shade at hottest time of day. Maybe these structures can move & shift with sun direction change. (5) Playgrounds and vulnerable spaces for children. Infrared images show these hot spots. Materials used in play spaces need to be assessed -- slides, swings, etc. Important for childhood development: shade within playspaces, pollinator gardens, land contours (used for directional shade & privacy)
Too many people in too small a place is removing the exclusivity of Scottsdale and we will be no longer a town but a city with city issues
Too many people increase roads and the heat island concept. We need to spread out not compact & working against ourselves
Change the zoning for south Scottsdale to decrease the building of multifamily unit housing developments - (up arrow) the space from buildings and the street traffic created by population density decreases the appeal of Scottsdale for tourism
Slow down the new building in so Scottsdale. If not change the parameters. More shade and more undeveloped space further from street.
More buildings, businesses, houses = more heat continue
Why we are fine economically, keep adding, gets hotter, then you ruin the desert
Comment Cards + Overall/General: September 16 meeting
Going in front of council without your community supporters
"Walk around easels" is the weakest form of outreach, and missed opp for explain benefits

GENERAL COMMENTS

Are there specific actions or elements that could be addressed?
Comment Cards + Overall/General: September 11 meeting
Change minds and don't let MAGA extremist define the issues. Outreach tools to target younger and 30-40's citizens, webinars, online etc. so younger generations are heard. Environmentalism is a core value for them.
This meeting was not as helpful as it could have been. I was hoping to learn what is being done & what the goals or the changes are - no one presented that across the 5 areas of sustainability. Its hard to give helpful feedback if residents aren't informed. Disappointing format. Didnt lend itself to informed dialog. Hope there will be another meeting - I want to be involved in the feedback. Thanks
Enforce speeding ordinances on multi-use paths - becoming dangerous and discouraging use by some populations.
Increase / mandate solar "covers" for all parking / parking structures. (See the ASU Tempe campus.)
New building codes are restrictive and expensive. Please stop! Electric cars use energy. Why do we have less energy?
If there were a group devoted to this I would join it.
Make waste management and recycling more available to all: apartment complexes, offices, not only homeowners. 20 yrs ago Gently Strength (similar to sprouts now) used to have recycling bins in the parking lot. Anyone could drop off glass, cardboard, paper, clothing etc.
Extreme Heat: (6) Consider shade structures over canal paths. Work with APS and SRP -- share cost. (These areas are highly used by pedestrians & bicyclists.) (7) When creating new streets & intersections & new buildings create gathering spaces/green spaces with shade & seating connected with paths in neighborhoods. *Add shade trees (desert trees & shrubs) * Add seating, artwork (culture counsel) * Add water sources. Developers should be required to provide these respite locations in perimeters of their projects connecting to the existing neighborhoods.
Concentrate more on the educating the population from primary school level & follows it through their whole life
Organize volunteers squads to educate!
Increase designated neighborhood solar parking lots open to the public.
What is cost & return
Comment Cards + Overall/General: September 16 meeting
Please keep bulk pickup (it diverts trash - my neighbors pick up my things and take them home)
Lower density = less heat, why are we not continuing the low growth around?

Scottsdale Environmental Advisory Commission
Office of Environmental Initiatives
City of Scottsdale
7447 E Indian School Rd STE 125
Scottsdale, AZ 85251

Staff Liaison: Lisa McNeilly
Email lmcneilly@scottsdaleaz.gov
PHONE 480-312-2831
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October 23, 2024

Honorable Mayor Ortega and Members of the City Council,

Following two community workshops on sustainability in September in which over 90% of the comments received were favorable, the Scottsdale Environmental Advisory Commission (SEAC) recommends that City Council agendize adoption of the Community Sustainability Plan before December 31, 2024. At its October 16, 2024, meeting, SEAC also voted to recommend the attached clarifications be made to the sustainability plan before adoption.

Respectfully,

Ute Brady, Chair
ubrady.az@gmail.com

Andrew Scheck, Vice-Chair
andrew.scheckny@gmail.com

Attachment:
1. Recommended Clarifications to Community Sustainability Plan

CONTENTS

Section	Page*
Health-related Indicators and Targets	2
Air Quality	6
Extreme Heat	10
Water	14
Waste	18
Executive Summary	20
Glossary	22
Introduction	24
Energy	25
Appendix A	26

* Page numbers in lower right corner

The Air Quality and Extreme Heat health-related targets and the associated Air Quality indicator were changed after the March 19, 2024 Work Study as follows:

Priority	Indicator	Target
Air Quality page 86	Number of ~~hospitalizations~~ illnesses for pollution-related health events per 100,000 population in Scottsdale (2021 = 2,948.3)	Reduce ~~hospitalizations~~ illnesses for pollution-related health events (per 100,000 population) by 2030
Extreme Heat page 98	Heat-related morbidity and mortality resulting in hospitalization, per 100,000 population (2022 deaths = 2.8) (2022 illnesses = 36.1)	Reduce ~~hospitalizations~~ illnesses for heat-related health events (per 100,000 population) by 2030

typo in draft: "heat-related related"

PROBLEM

What does the Air Quality target "reduce illnesses for pollution-related health events" mean?

Let's start with: what is a "pollution-related health event"? It's not a defined term in the plan. On its face, it's a health event – illness or death – caused or exacerbated by exposure to pollution (here, air pollution). Examples: asthma attack, aggravation of COPD. So, the target essentially says: "reduce illnesses for pollution-related illnesses."

It's the same story for the Extreme Heat target "reduce illnesses for heat-related health events." A "heat-related health event" is an illness or death caused or exacerbated by exposure to heat. Examples: heat exhaustion, heat stroke. So, the target essentially says: "reduce illnesses for heat-related illnesses."

SOLUTION

Answering three questions will clarify these indicators and targets:

1. What do we want to reduce – illnesses, deaths or both?

   City Council did not provide direction or even discuss this question in the Work Study. The subsequent change from "hospitalizations" to "illnesses" implies that deaths have been excluded from the targets. However, "mortality" and baseline death counts remain in the Extreme Heat indicator.

2. Does the data in the tables on pages 86 and 98 represent hospitalizations, hospital encounters, or something else? What terminology does Maricopa County Department of Health use and how is it defined?

   This matters because "hospitalization" implies admission. "Hospitalization" is generally defined as an inpatient stay of at least 24 hours:

   > Care in a hospital that requires admission as an inpatient and usually requires an overnight stay. An overnight stay for observation could be outpatient care. [www.healthcare.gov/glossary/hospitalization/]

   So, does the county illness data include, for instance, an ER visit for asthma or heat exhaustion that does not result in admission?

3. Do the reported deaths in the tables on pages 86 and 98 include *all* deaths or *only those that occurred in a hospital*?

Answers to questions 2 and 3 should be readily available from the county health department.

The next two pages provide options for indicator and target language – one page for illness and one page for illness and death.

In sum, we need to clarify our intent for the health-related targets, select target language that makes sense, and select indicator language that aligns with those targets.

Illnesses Only; Deaths Not Included

Indicator Options

Number of ph-related illnesses treated in a hospital per 100,000 population in Scottsdale (2022 = y)

Number of ph-related illnesses that result in hospitalization per 100,000 population in Scottsdale (2022 = y)

Number of ph-related illnesses that result in a hospital encounter per 100,000 population in Scottsdale (2022 = y)

Target Options

Reduce ph-related illnesses treated in a hospital per 100,000 population by 2030

Reduce ph-related illnesses that result in hospitalization per 100,000 population by 2030

Reduce ph-related illnesses that result in a hospital encounter per 100,000 population by 2030

Reduce the number of ph-related illnesses treated in a hospital per 100,000 population by 2030

Reduce the number of ph-related illnesses that result in hospitalization per 100,000 population by 2030

Reduce the number of ph-related illnesses that result in a hospital encounter per 100,000 population by 2030

Notes

1. **ph**-related = **p**ollution-related or **h**eat-related
2. blue text highlights the differences between the options; black text is the same in all options
3. If either term is used, provide a definition of "hospitalization" or "hospital encounter" as defined by the Maricopa County Department of Public Health.

Illnesses and Deaths Included

Indicator

Number of ph-related health events per 100,000 population in Scottsdale
(2022 deaths = x)
(2022 illnesses = y)

Target Options

Reduce ph-related health events per 100,000 population by 2030
Reduce the number of ph-related health events per 100,000 population by 2030

Notes

1. **ph**-related = **p**ollution-related or **h**eat-related
2. blue text highlights the differences between the options; black text is the same in all options
3. The key to making this format clear is providing a complete definition of "health events" in the plan. State what is not included in "health event" counts, e.g., illnesses treated in a non-hospital setting or deaths that occur outside of a hospital. (These are just examples and may not be applicable.)
4. This indicator and target language could be used even if deaths are not included by defining "health events" accordingly.
5. Depending on the answers to the questions, other structures are possible, for example, one similar to the current Extreme Heat indicator.

pg black and red = current text and redlined changes
blue = reasons, explanation, sources

82

To reduce PM-10, Scottsdale makes extensive use of recycled asphalt millings and stabilizers for dust mitigation on unpaved lots and roads.

Accuracy. Dust mitigation is a PM-10 reduction strategy. PM-2.5 is primarily a combustion by-product from burning fossil fuels and wood. (Source: www.lung.org/research/sota/health-risks)

82

Ground-level ozone is created when nitrogen oxides, volatile organic compounds, and sunlight react~~,~~ ~~making ozone primarily a summer issue~~. Because of sunlight's role in ozone formation, ozone levels exceed federal health standards more often in spring through fall when longer days provide more hours of sunlight.

Ozone exceedances in the Valley quite commonly occur in April and September and even occur in March and October. This April, we had one ozone exceedance and three ozone High Pollution Advisories (HPAs). In May, we had seven ozone exceedances and seven ozone HPAs. In September, we had seven ozone exceedances and three ozone HPAs. In fact, we had more ozone exceedances in May and September than in June. From October 1 to 9, we had three ozone exceedances and four ozone HPAs.

83

Figures ~~1~~ 2, ~~2~~ 3 and ~~3~~ 4 illustrate readings . . .

84

The PM-2.5 graph is ineffective because a) the January 2022 New Year's spike buries the story and b) the North Phoenix and Tempe lines excessively overlap. Solution:
1) a y-axis break between 200 and 350 (see broken y-axis graph example on page 3 of 4 herein) and
2) make the graph taller (same size as the PM-10 graph).

86

This important point is missing: The counts of asthma and other illnesses in Table 1 **include only those that resulted in hospital encounters**. Add this note beneath Table 1:

Table 1 includes only illnesses treated in a hospital.

If the illness data in Table 1 does not include *outpatient* hospital care:

Table 1 includes only illnesses treated inpatient in a hospital.

86

Do the reported deaths include *all* deaths or *only those that occurred in hospitals*? If the latter, add this note beneath Table 1:

Table 1 includes only deaths that occurred in a hospital.

86

Table 1	2022
Asthma illnesses	156.1 (398)
COPD illnesses	163.5 (398)

Same total frequency; different per 100,000. The error is most likely either COPD illnesses per 100,000 or COPD total frequency.

86

Table 1. Incidents among Scottsdale residents ...

Does Maricopa County's Office of Epidemiology provide "incident" data or "incidence" data? Table 2 in the Extreme Heat section was changed from "Incidents" to "Incidence," but Table 1 in Air Quality was not. Are both sections consistent with the data as reported by the source?

86

Indicator: ~~(2021 = 2,948.3)~~ (2022 = 3,075.3)

We have 2022 data in Table 1. We use 2022 data for heat-related illnesses and deaths in the parallel indicator in Extreme Heat. Everywhere else in the plan, the indicators reference the most recent data available. Is there a reason for using 2021 data in this indicator?

87

Even as population and vehicle travel ~~has~~ have increased, ozone levels decreased by 13 parts per billion (ppb) between 2000 and ~~2020~~ 2017, but subsequently increased by ~~approximately two parts per billion~~ six ppb ~~since 2020~~ from 2017 to 2022 according to the Maricopa Association of Governments. In 2022, the measured ozone level was 11 ppb higher than the federal health standard; even with wildfire events excluded, ozone exceeded the standard by 7 ppb.

without legislative edits:
Even as population and vehicle travel have increased, ozone levels decreased by 13 parts per billion (ppb) between 2000 and 2017, but subsequently increased by six ppb from 2017 to 2022 according to the Maricopa Association of Governments. In 2022, the measured ozone level was 11 ppb higher than the federal health standard; even with wildfire events excluded, ozone exceeded the standard by 7 ppb.

First sentence: The sentence is misleading. The citation for the sentence is a MAG letter. The letter does not actually state by what year in the 20-year period ozone had decreased 13 ppb and does not mention the subsequent 4 ppb *increase* during that time period. Looking at the actual data (see page 4 of 4 herein), the 13 ppb decrease was achieved in 2017 (88 ppb to 75 ppb). From that low, the Valley's ozone level has consistently *risen*. Between 2017 and 2020, the level rose 4 ppb to 79 ppb. In the following two years, it rose another 2 ppb to 81 ppb. So, between the years 2000 and 2022, the net reduction from 2000 was 7 ppb – not 11 ppb as the sentence implies.

Second sentence: The important take-home message is where we stand today (through 2022) relative to the federal health standard.

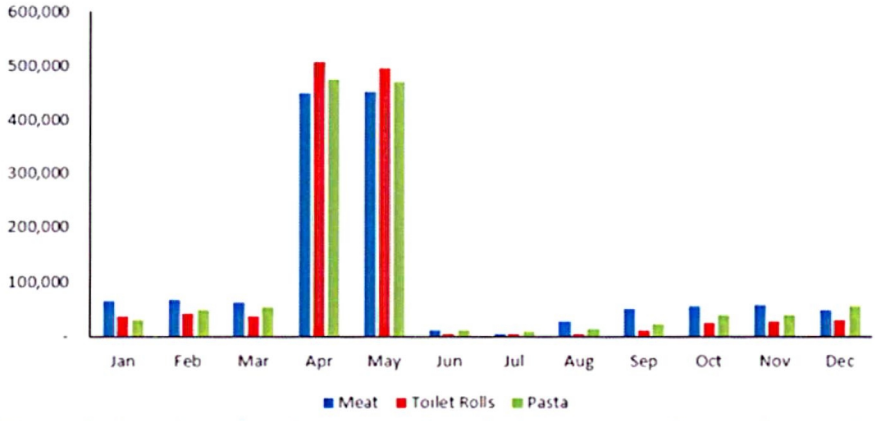
87

However, federal standards for ozone and PM-2.5 are tightening due to an improved understanding of the health effects.~~, and m~~ Metro Phoenix currently has the fifth-worst ozone levels in the country ... Metro Phoenix is currently ranked ninth for worst PM-2.5 pollution ...

Adding "PM-2.5" to that sentence is timely. Effective May 6, 2024, the primary annual PM-2.5 federal standard was strengthened, **specifically to provide increased public health protection consistent with the latest available health science**. Studies demonstrate that adverse health effects from exposure to PM-2.5 are occurring at concentrations allowed by the previous standard (set in 2012). Moreover, adding PM-2.5 to the first sentence in the paragraph works well with the newly-added last sentence, tying the paragraph together.

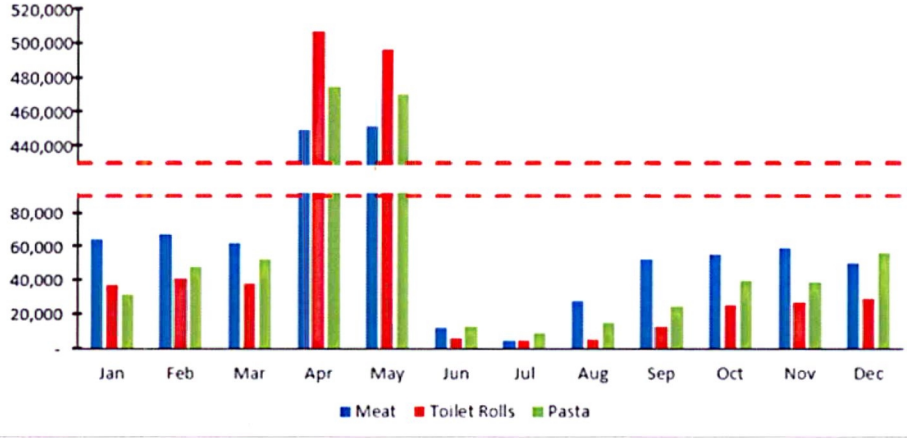
Broken y-axis chart example:

If I use a Clustered Column chart to represent this data, the problem becomes apparent — see the following screenshot:



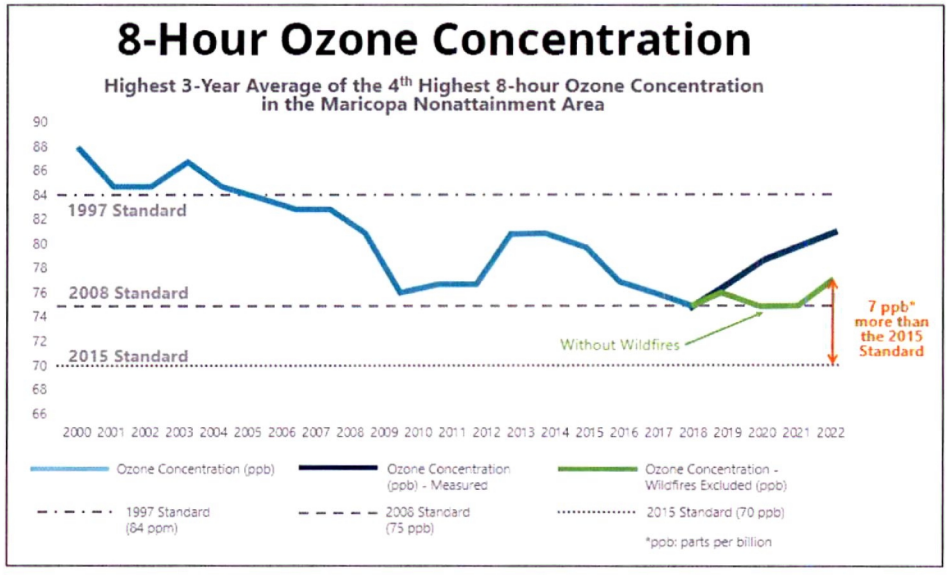
The majority of the data is swamped by the large values for April and May. If you can quantify the values for July and August from this chart alone, I suggest you do not need to see an optometrist any time soon.

One way to display this data is by using a "broken y-axis" chart, where not all the values on the y-axis are shown — see the screenshot below. (Please also refer to the downloadable Excel file for a modelled example).



Source: www.fm-magazine.com/news/2022/nov/excel-broken-y-axis-charting.html

Phoenix-Mesa, AZ	
8-Hour Ozone	
3-Year Period	Design Value (ppm)
1998-2000	0.088
1999-2001	0.085
2000-2002	0.085
2001-2003	0.087
2002-2004	0.085
2003-2005	0.084
2004-2006	0.083
2005-2007	0.083
2006-2008	0.081
2007-2009	0.076
2008-2010	0.077
2009-2011	0.077
2010-2012	0.081
2011-2013	0.081
2012-2014	0.080
2013-2015	0.077
2014-2016	0.076
2015-2017	0.075
2016-2018	0.077
2017-2019	0.077
2018-2020	0.079
2019-2021	0.080
2020-2022	0.081



Notes

1. For simplicity and to be consistent with the Plan, we refer to the 3-year period values by the final year in the period.
2. The shaded cells in the table highlight the years discussed.
3. See MAG website below for a larger, clearer version of the graph.

Sources

EPA www.epa.gov/air-trends/air-quality-design-values
MAG https://azmag.gov/Programs/Environmental/How-Ozone-Impacts-the-Maricopa-Region

1. SEAC strongly recommended the Sustainability Plan include a structured shade target. City Council concurred. At the March 19, 2024 Work Study, City Council agreed to staff's request to defer setting the specific target until more data could be collected in conjunction with development of the Shade & Tree Plan. That project launched in February 2024 and wraps in February 2025. Can the consultants' recommendation for the structured shade target be ready in time for this plan?

   Fun facts drawn from the "Cooler Scottsdale" study [pages 78 and 79]:
   - Each 1% increase in asphalt land cover was associated with a 0.31°F increase in land surface temperature at the census block group scale.
   - Airborne thermal imagery identified hard, dark surfaces as having some of the highest land surface temperatures during the early morning flight, an indication of the heat-retaining properties of those surfaces that contribute to the urban heat island effect.
   - Thermal images taken across Scottsdale growth areas show significantly lower surface temperatures under full, large overhangs – as much as ~50-70°F cooler than the same sun-exposed surface.

   Let's not miss the opportunity to have a structured shade target in our Sustainability Plan!

2. Land cover percentages were added to Figure 3 after the March 19, 2024 Work Study (page 101, middle right). The "Cooler Scottsdale" study is listed as the source for Figure 3. But one of the percentages is not found in that study. Where does "Tree Canopy 6%" come from?

   In "Cooler Scottsdale," the only reference to 6% is the tree and shrub land cover percentage in the South Scottsdale Growth Area (known as the "McDowell Road/Scottsdale Road Growth Area" in General Plan 2035). ["Cooler Scottsdale" pages 2, 11, 32, and 74]

   "Cooler Scottsdale" does not contain even an estimate of tree canopy – 6% or otherwise. In fact, the study states [page 32]:

   > Direct estimates of tree canopy coverage (excluding shrubs, accounting for varying tree crown diameters) are not directly available from either the LiDAR or land cover classification data.

   Does "Tree Canopy 6%" perhaps come from the TNC study cited in this plan's Introduction, "Economic Assessment of Heat in the Phoenix Metro Area"? That study estimated a baseline urban tree canopy for the **entire county** of "just over 6%" based on 2016 data from the Arizona Department of Forestry and Fire Management (DFFM). [citation: https://dffm.az.gov/azutm/resources]

   In reviewing that source, I found more granular data. Specifically, the 2016 Arizona Urban Tree Canopy Cover by City Summary Table reports a 9.00% tree canopy for the City of Scottsdale.

   Note that although the summary table is titled 2016, DFFM's webpage indicates the analysis was done in 2015. Coincidentally (or not?), the underlying data used for the "Cooler Scottsdale" land cover analysis was collected that same year. "Cooler Scottsdale" estimated Scottsdale's 2015 citywide tree **and shrub** coverage at 13%.

Data accuracy is important for our tree and shrub canopy target. At minimum, the source for "Tree Canopy 6%" should be identified and verified. Possibly, the percentage should be deleted.

3. Also with respect to the land cover percentages added to Figure 3:
In the "Cooler Scottsdale" study, asphalt land coverage and building land coverage were measured and analyzed as two distinct categories, and were found to have different heat impacts. Given that we commissioned a study that provided that level of detail, why not list the separate percentages in Figure 3: Asphalt 17% and Building 16%? There is plenty of room to add the remaining two citywide land cover classifications as well: Grass 7% and Water 1%.
Recommendation: list all six "Cooler Scottsdale" land cover classification percentages.

4. For the reasons discussed in #2 and #3, respectively, these changes should be made on page 100:

   The amount of green landscape varies across the city, and tree and shrub ~~canopy~~ coverage is as low as 6% in south Scottsdale.

   13% of Scottsdale is covered with trees and shrubs, with larger percentages being asphalt (17%), ~~and~~ buildings (~~33~~ 16%) or bare soil and concrete (45%).

5. The plan is unclear as to whether heat-related deaths include *all* deaths or *only those that occurred in hospitals* (page 98).

   - The wording of the indicator conveys that mortality data is limited to deaths in hospitals:
     Heat-related morbidity and mortality resulting in hospitalization, per 100,000 population
   - The wording in the second paragraph can be taken two ways:
     In Scottsdale, heat-related mortality and illnesses resulting in hospitalization are lower …
     "Resulting in hospitalization" can apply to illnesses only or to both mortality and illnesses.
   - Table 2 doesn't indicate either way.

   ⇨ If the data includes all deaths, whether they occurred in a hospital or not, make these changes:

   1 In the indicator, move "resulting in hospitalization" so it applies only to morbidity:
     Heat-related morbidity resulting in hospitalization and mortality ~~resulting in hospitalization~~, per 100,000 population

   2 In the second paragraph, flip mortality and illnesses to make it clear hospitalization applies only to illnesses:
     In Scottsdale, heat-related illnesses resulting in hospitalization ~~mortality~~ and ~~illnesses resulting in hospitalization~~ mortality are lower …

   ⇨ If the data includes only deaths that occurred in a hospital, make this change:

   1 Add this note beneath Table 2:
     Table 2 includes only deaths that occurred in a hospital.

6. "Hospitalization" is used three times on page 98. In Air Quality, the term "hospital encounters" is used. Which term does the Maricopa County Department of Public Health use for reporting heat-related illnesses and deaths? How is it defined? The difference matters because "hospitalization" implies admission, whereas the illness data in Table 2 may include, for example, ER visits that did not result in admission.

7. Table 2 (page 98)

   - We must be clear that the illness data in Table 2 *includes only those illnesses that resulted in hospitalizations.* A sentence in the second paragraph on page 98 is an attempt to do that. However, it refers to "data" generally (as opposed to "the heat illness data in Table 2") and the double negative is confusing. A better alternative would be to replace that sentence with one of these notes beneath Table 2:

     Table 2 includes only illnesses treated in a hospital.

     Table 2 does not include illnesses treated in places other than a hospital.

   - If the illness data in Table 2 does not include *outpatient* hospital care, use one of these notes beneath Table 2 instead:

     Table 2 includes only illnesses treated inpatient in a hospital.

     Table 2 does not include illnesses treated outpatient in a hospital or treated in places other than a hospital.

   - Does Maricopa County Department of Health provide "incident" data or "incidence" data? Presumably in response to that question, the title of this table was changed from "Incidents" to "Incidence." But Table 1 in Air Quality was not changed. Are both sections consistent with the data as reported by the County?

8. This sentence on page 96 is not accurate:

   Comparing recent averages (2015-2023) to earlier years (2001-2014), there are now 5-8 additional days each year with extreme heat.

   "Extreme heat" is defined in the Glossary (page 111) as:

   A period of at least 2-3 days of high heat with temperatures above 90 degrees, according to the Arizona Emergency Information Network.

   The data in Table 1 does not document 2-3 day periods of 90+ temperatures. It documents the average number of days over 110 degrees and the average number of nights over 90 degrees.

   This sentence would accurately convey the data:

   Comparing recent averages (2015-2023) to earlier years (2001-2014), there are now 8 additional days each year with highs above 110 degrees and 5 additional days each year with lows above 90.

The first sentence in the same paragraph on page 96 is not supported in the plan by data or citation, "excessively hot" and "heat season" are undefined, and the causal nexus is not established. A greater number of excessively hot days and nights does not necessarily indicate the heat season is getting longer; the excessively hot days and nights could all occur within the traditional heat season. If the sentence remains in the plan, at least the causal nexus should be removed:

> The number of excessively hot days and nights is also increasing~~, indicating that~~ and the heat season is getting longer.

9. HT 4.6 (page 105 & 108)

Suggested language options:

> Amend planning documents and the zoning ordinance to ensure new development accommodates the size and above- and below-ground needs of trees at maturity.
>
> Amend planning requirements and process to ensure new development accommodates the size and above- and below-ground needs of healthy trees at maturity.

Language in current draft:

> Plant trees in appropriate locations to accommodate their growth.

Note that length is not an issue. HT 4.1 and HT 4.5 are longer than the suggested language.

The stated purpose of this "action" was to provide for the long-term health and survival of the trees we require in the Planning & Development process. Planning that accommodates the size and above- and below-ground needs of trees at maturity includes, for example: space for roots, roots not being enveloped in heat-trapping hardscape surfaces, space for natural height without topping, space for natural form without constant pruning [see WST 4.5], and sufficient space to maintain clear traffic sight lines – all factors that must be addressed long before trees go in the ground.

The current draft language is unlikely to result in Planning & Development efforts to accomplish the stated goal.

In addition, Parks & Rec is listed as the Lead. However, since HT 4.6 is directed at the *planning and development process* to ensure a long life for trees required of *private sector projects*, Planning & Development is the more appropriate Lead.

10. Figure 1 (page 95)

To enclose the high temps line on the y-axis, remove the irrelevant 95° line and add a 115° line.

Golf course target: Eleven months ago, at the November 13, 2023 Work Study Session, staff asked for more time to put together a golf course target. Councilwomen Janik requested that discussions continue with "a sense of immediacy . . . pedal to the metal." Councilmembers Graham and Whitehead linked the credibility of the Plan with addressing golf course water consumption. Target? Action(s) to meet that target?

pg black and red = current text and redlined changes
blue = reasons, explanation, sources

57

When looking at total potable water demand data over the last decade and a half, a steady slight decrease in total demand and an increase in the number of accounts tells the story of conservation and increased efficiency.

. . .

In 2022, Scottsdale Water customer accounts ~~totaled~~ used more than 70,000 acre-feet of potable water or 62 million gallons per day of safe, reliable drinking water. **Total water use is on a downward trend even as the number of connections has increased by 9% (Figure 1).** It is important to note that Figure 1 represents metered data and not total water production.

- 9% over what time period?
- Figure 1 . . .
  - Does not depict the number of accounts or connections (increase or otherwise). That data could be incorporated on the right side y-axis. See example of dual y-axis chart on page 4 of 4 herein.
  - Does not depict a percent change in the number of connections (9% increase or otherwise).
  - Does not depict a downward trend in total water use since 2010 (even disregarding the anomalous year 2020).[1]
  - Therefore, does not support the statement: "total water use is on a downward trend even as the number of connections has increased."
  - Indicates 2022 metered demand is just under 70,000, not "more than 70,000 acre-feet." An acre-foot is a big amount. Which is correct?
- Identify the dashed yellow line in Figure 1.
- It is unclear why "it is important to note that Figure 1 represents metered data and not total water production."

---

[1] Disregarding the anomalous year 2020:
Compared to 2006-2009, annual demand from 2010-2023 is lower. But it's up and down. The demand over each of the past three years (2021-2023) was a) *higher* than in 2010, 2011, 2013, 2015, 2016 and 2019 and b) similar to 2012, 2014, 2017, and 2018.
(2023 is not shown in Figure 1, but Scottsdale Water delivered roughly the same amount of potable water in 2022 and 2023.)

58

Average residential water use varies by meter size and by season. The number of total customers has grown since 2014, but demand has decreased, showing that growth has not affected water use (Figure 3).

- Figure 3 . . .
  - Does not depict total customers (growth or otherwise). Total customers can be depicted on a dual y-axis chart as shown in the example on page 4 of 4 herein.
  - Does not depict total residential demand or total single family residential demand (decrease or otherwise).
  - Therefore, does not support the statement: "growth has not affected water use."
  - Depicts only the average gallons used per meter size and, with some small variation, the averages are relatively flat over time. Generally, 2016, 2020 and 2023 had relatively similar lower use, with higher use in the years between. If average use per meter size is flat, then more meters equals *higher* total use.
- Identify the y-axis. Is it average gallons used per meter size per month ?
- It would be great to have a graph that *does* demonstrate a reduction of use with growth. But neither Figure 1 or Figure 3 does so. And that calls into question the conclusions in this paragraph as well as the first and last paragraphs on page 57.

59

Scottsdale Water has targeted improvements in the amount of water used by Multi-Family Residential (MFR) customers and their HOAs to irrigate their common areas ...

What about single family residential HOA common areas? What about MFR without HOAs?

59

Target: Reduce irrigation water use for HOA properties by 10% by 2033 (from 2022 levels)

The 2022 baseline is still TBD. Is the 2022 data still unavailable?

60

Advanced Water Treatment Facility

60

Another portion of the ARPW is delivered to ~~turf facilities~~ golf courses through the Reclaimed Water Distribution System (RWDS).

Transparency.
(If any facilities other than golf courses are receiving RWDS water, say: golf courses and _____.)

60

Indicator: Return flow percentage ~~or wastewater captured in the sewer collection system~~

"Or" is confusing. It raises the question: are they two different things?

- If they're different, explain the difference.
- If "wastewater captured in the sewer collection system" is a definition of "return flow percentage," define it in the glossary, not the indicator.

60

Option 1 Target: Increase return flow percentage by 10% by 2033 (from 20?? levels)
Option 2 Target: Increase return flow percentage to 43% of total potable water demand by 2033

What are we aiming to increase by 10% *from*? The indicator lists the 2022 percentage as 33%, Figure 4 indicates a 33% "average" over an unspecified period of time, and the paragraph above the graphic speaks of "increas[ing] the return flow percentage over what has been seen in the last 10 years."

- Whatever the baseline is, state it in the target (option 1). Or state the percentage to be achieved (option 2).
- If the baseline is not "from 2022 levels," revise the indicator accordingly.

61

Target: Maintain ~~treated~~ groundwater deliveries to Safe Yield levels

Why "treated"? "Treated" begs the question: Are there *untreated* groundwater deliveries?

- If the answer is no, delete "treated."
- If the answer is yes, explain. Are those deliveries not counted in Safe Yield calculations?

61

Figure 5: SINCE THE LATE 1990s 250,000 ACRE-FEET OF WATER BANKED

Conversely, the city website states Scottsdale has recharged over 70 billion gallons since 1988. That's a big difference: 11 billion gallons/35 acre-feet ***less*** over 10 years ***more***. What is the correct amount?

gallons	acre-feet	timespan	source
70,000,000,000	214,822	since 1988	website
81,462,857,973	250,000	since late 1990s	plan

65

WTR 2.1 Remove non-functional/non-recreational turf at city facilities and retrofit municipal irrigation systems to smart controllers.

- These are two very different actions and should be listed and tracked separately.
- Both should state a specific time horizon for completion.
- Do any facilities not under Parks & Rec's domain have non-functional turf or irrigation systems? If so, add Facilities and/or the appropriate department(s) to "Lead."

65

WTR 2.2 Monitor leaks and implement advanced drip irrigation systems.

- These are two very different actions and should be listed and tracked separately.
- Monitor leaks: Should include **indoor** leaks too. Accordingly, add "Facilities" to "Lead."
- Implement advanced drip irrigation systems:
  - Do any facilities not under Parks & Rec's domain require such systems? If so, add the appropriate department(s) to "Lead."
  - State a specific time horizon for completion.

65

WTR 2.3 Maintain high-efficiency toilets and faucets in city buildings.

- "Maintain" is unclear. Maintenance? Installation? Clarify what's to be done.
- If the intent is installation, add a specific time horizon for completion.
- Add "showers" or "showerheads" (for city facilities such as aquatic centers).

65

WTR 2.4 Install new cooling tower controllers in all municipal facilities by 2025.

- Wasn't this completed by January 2023? It appears so from published reports and Water Resources' comments at the November 2023 Work Study. If completed nearly two years ago, good job! This action should be deleted.

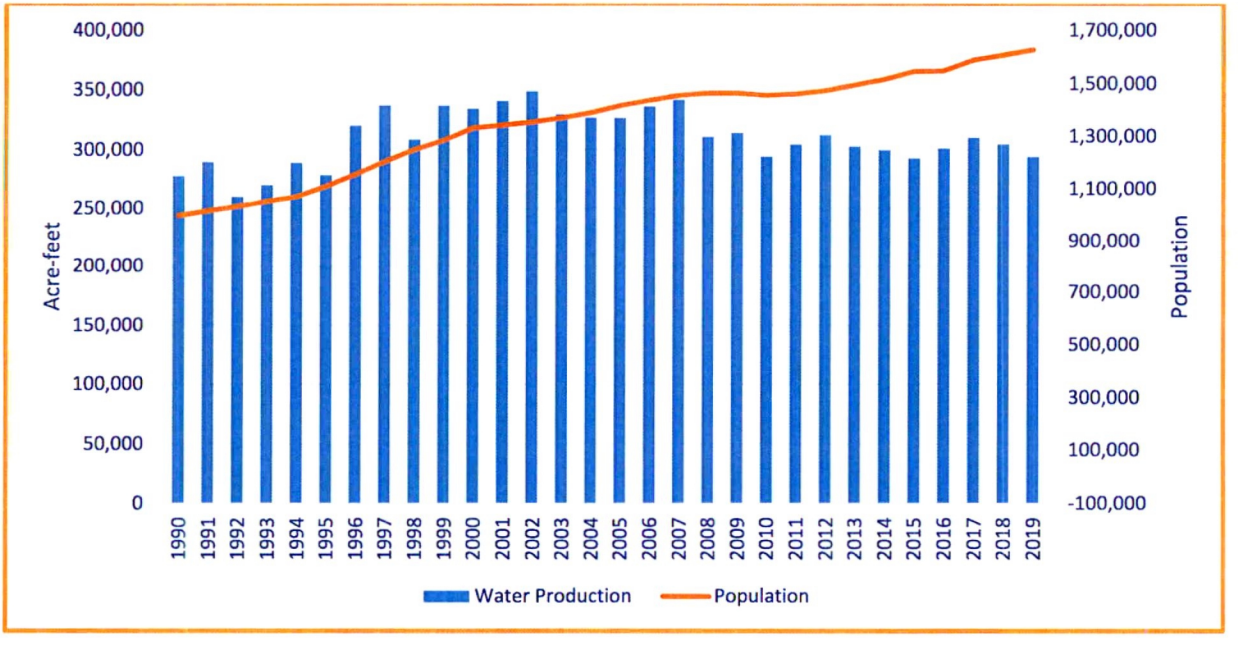


FIGURE 3. PHOENIX WATER PRODUCTION VS POPULATION GROWTH, 1990 - 2019

Example of dual y-axis chart.

1. Citation needed for quote in last paragraph on page 68:

   "What is a Circular Economy?," U.S. Environmental Protection Agency.

2. On page 81, the 2018 Fact Sheet citation should be endnote 2 and the methodology note should be endnote 3.

3. Endnote 2 is the only place in the plan that defines how the municipal and citywide diversion rates will be calculated. The endnote needs to be clarified to serve that purpose. The proposed change also a) provides for organic diversion other than composting and b) removes a "waste" reference. Option C is the preferred option.

Option A This same methodology will be used for calculating the municipal diversion rate ~~for municipal waste~~, but ~~composting and diversion of~~ organic material and brush and bulk ~~items~~ will be included in the citywide diversion rate. without legislative edits: This same methodology will be used for calculating the municipal diversion rate, but organic material and brush and bulk will be included in the citywide diversion rate.

Option B This same methodology will be used for calculating the municipal diversion rate. On the other hand, organic material and brush and bulk will be included in the citywide diversion rate.

Option C This same methodology will be used for calculating the municipal diversion rate. The citywide diversion rate will include organic material and brush and bulk.

During the March 19, 2024 Work Study, multiple council members requested that "waste" be replaced wherever possible. See numbers 4, 5, and 6.

4. For consistency with terms elsewhere in the section and removal of "waste," change:

page	from	to	notes
73	yard	landscaping debris	
74	yard waste	landscaping debris	see redline paragraph below
74	green (yard) waste	green waste (landscaping debris)	see redline paragraph below
75	yard waste	landscaping debris	

5. Places to remove "waste":

page		
69	~~Waste~~ Refuse is transported by the department either directly to the Salt River Landfill ...	
72	diversion indicator	delete "waste"; no replacement needed
72	diversion target (municipal)	delete "waste"; no replacement needed; repeat on pg 12
73	first sentence	delete "in the waste stream"; no replacement needed

73 A study from the State of Oregon looked at ways to prioritize prevention of ~~food waste~~ wasted food, generating a helpful hierarchy … (Figure 4).

[Note: The title of the hierarchy (figure 4) is "Wasted Food Hierarchy." Oregon has championed the term "wasted food" to replace "food waste."]

73 … still important ~~waste~~ material management tools.

73 brush & bulk target change to one of these options and repeat on pg 12:

Achieve a diversion rate from ~~the~~ brush and bulk ~~waste stream~~ of 50% …
Achieve a brush and bulk diversion rate ~~from the brush and bulk waste stream~~ of 50% …

74 Single-family residents can dispose of ~~yard waste~~ landscaping debris, including grass clippings, tree trimmings and other organic material, during their monthly brush and bulk pickup. Usually, this ~~waste~~ debris is mixed with other materials, either before pickup or in the city's collection vehicles. The city is currently exploring ways to separate brush from bulk ~~waste~~ as part of the transfer station expansion.

. . .

The Salt River Landfill maintains a separate green ~~(yard)~~ waste (landscaping debris) disposal area where loads with minimal non-organic contamination are diverted from the landfill. ~~For organic waste, C~~ontamination leads to increased costs or even entire loads being redirected back to the landfill.

6. Even after making the changes recommended above, there will remain dozens of references to "waste" – the most conspicuous of which is the section title. Here are several alternatives similar in length to Air Quality and Extreme Heat:

Beyond Waste	Materials Management
Waste Not	Waste Diversion
Resource Recovery	Waste to Resource

7. It must be made clear that the reduction in the first target on page 71 is a reduction in the black container only. This is one way to do so:

Indicator: Pounds of landfill refuse per single-family household (black container)

8. WST 3.1 Establish a green or organic waste drop-off program.
What do we intend to establish a drop-off program for? "Organic waste" is now defined in the Glossary. What does "green" mean? If the intention is a drop-off program for any and all organic (biodegradable) material, delete "green or." Otherwise, clarify what the alternative "green" is. For example, is it green landscaping debris?

9. page 12 Reduce landfill refuse citywide by 90% by 2040
page 71 Reduce landfill refuse collected citywide by 90% by 2040

Missing word on page 12 or an unnecessary word on page 71.

pg black and red = current text and redlined changes
blue = reasons, explanation, sources

5

The Scottsdale Water Campus ... permitted as a pilot program for ~~advanced water purification~~ Advanced Recycled Purified Water.

To be consistent with current terminology and the changes made on pages 21, 60 and 110.

6

Extreme heat acts as a threat multiplier

Missing word also needed on page 23.

6

The cumulative effect of multiple days of extreme daytime highs ~~also means that~~ makes nighttime temperatures ~~were~~ uncomfortably high, combining to create a deadly weather phenomenon.

Correction mimics the correction already made on pages 14, 24, and 94 (with or without "also").

6

Figure 1 is not cited to anywhere in the text, e.g., in the air quality paragraph on page 7.

8

The indicators and baseline data for each priority show "where we are" and are tied to targets that ~~are~~ reflect "where we want to be."

Same change applies to page 32.

11

Staff administers several residential and commercial incentive rebate programs, offers residential outdoor efficiency checks~~,~~ and a commercial audit program, manages ordinance compliance ...

Missing word. Correction mimics the correction already made on page 56.

12

Citation needed on page 17 for the quote in the last sentence of the paragraph on page 12.
Ditto with the same quote on page 68.
Citation: "What is a Circular Economy?," U.S. Environmental Protection Agency.

12

12 Reduce landfill refuse citywide by 90% by 2040
71 Reduce landfill refuse collected citywide by 90% by 2040

Missing word on page 12 or an unnecessary word on page 71. Coordinate with page 71.

13

~~Particulate matter, classified as small (PM-2.5) or large (PM-10), usually occurs as blowing dust or smoke from fires or fireworks.~~ REPLACE WITH:
Most fine particulates (PM-2.5) form when pollutant gases emitted by gasoline and diesel engines, power plants and industrial processes react in the atmosphere. Fine particulates are also emitted directly from vehicles, smokestacks, fires and fireworks. Coarse particles (PM-10) sources include road dust kicked up by traffic, construction and demolition, blowing dust, industrial processes, agricultural operations and biomass burning.

The characterization that PM "usually occurs as blowing dust or smoke from fires or fireworks" ignores the Valley's very real, ongoing sources of particulate pollution. In doing so, it feeds the narrative that a) 'nothing can be done' because we can't control dust storms, b) unhealthy air occurs only when certain limited events happen (e.g., haboobs, holidays), and c) "no-burn days" and discouraging fireworks will solve the problem. That message minimizes the problem and stifles any meaningful effort toward improvement.

American Lung Association's 2024 "State of the Air" report ranks Metro Phoenix 9th worst among U.S. cities for year-round (annual) PM-2.5 pollution. Such a ranking in that category does not result from occasional events like Christmas Day fireplace use and dust storms.

sources for replacement language:

www.epa.gov/system/files/documents/2024-02/pm-naaqs-overview.pdf
www.epa.gov/pm-pollution/particulate-matter-pm-basics
www.epa.gov/no2-pollution/basic-information-about-no2
www.epa.gov/so2-pollution/sulfur-dioxide-basics

13

Ground-level ozone is created when nitrogen oxides, volatile organic compounds, and sunlight react~~,~~ ~~making ozone primarily a summer issue~~. Because of sunlight's role in ozone formation, ozone levels exceed federal health standards more often in spring through fall when longer days provide more hours of sunlight.

Ozone exceedances in the Valley quite commonly occur in April and September and even occur in March and October. This April, we had one ozone exceedance and three ozone High Pollution Advisories (HPAs). In May, we had seven ozone exceedances and seven ozone HPAs. In September, we had seven ozone exceedances and three ozone HPAs. In fact, we had more ozone exceedances in May and September than in June. From October 1 to 9, we had three ozone exceedances and four ozone HPAs.

13

13 Increase number of publicly available charging ports four-fold by 2027 and ten-fold by 2030 (from 2023 levels)

87 Increase the number of publicly available charging ports four-fold by 2027 and ten-fold by 2030 (from 2023 levels)

Coordinate pages 13 and 87.

14

Increased heat results in added energy use and higher air conditioning costs.

Missing word as already corrected on page 94.

15

1. Produce an annual progress report ~~that includes city achievements and data~~.
2. Formally update the plan every three years.
3. Track spending and savings.

On page 35, three steps are described; all three should be listed here. Regarding #1: either make it general (by deleting the stricken text) or include all aspects, not just "city [municipal] achievements and data."

Air Quality Index (AQI) – ~~The U.S. AQI is EPA's index for reporting air quality. For each of six pollutants an AQI value of 100 generally corresponds to an ambient air concentration that equals the level of the short-term national ambient air quality standard for protection of public health.~~

Replace current definition with:

Air Quality Index (AQI) - The AQI is a scale developed by EPA to report air quality to the public as it relates to health. The higher the AQI value, the greater the level of air pollution and the greater the health risk. AQI values are calculated by converting measured pollutant concentrations for each of the major air pollutants regulated by the Clean Air Act to a uniform index based on their health effects. An AQI value of 50 or less is considered good air quality with little or no potential to affect public health. An AQI value above 100 means a pollutant level is higher than the national health standard (known as the short-term National Ambient Air Quality Standard) and air quality is considered unhealthy.

Note: The parenthetical in the last sentence could be deleted. However, see reason #3.

Reasons:

1. The AQI was developed to report air quality a) **to the public** and b) **as it relates to health**. The six levels of the index (not mentioned here for brevity) are distinguished by **health effects**. It's all about public health! That doesn't come through in the current definition.
2. What the current definition says about an AQI value of 100 is oversimplified to the point of being misleading. AQI values between 51 and 100 are Moderate. AQI values ≥ 101 are unhealthy.
3. The term "National Ambient Air Quality Standard" is used three times on page 84 and is not defined in the Glossary.
4. The proposed definition is a more informative and understandable explanation.

Green Building – The practice of increasing … In this plan, green buildings are defined as those that comply with IgCC, LEED, Scottsdale Green Building Program or Scottsdale Green Housing Rehabilitation Program ~~(Green Rehab) guidelines~~.

Reasons:

1. Because this definition literally defines what qualifies as a "green building" for the green building target (page 47), it is important that the "Scottsdale Green Housing Rehabilitation Program" be accurately described.
2. The Scottsdale Green Housing Rehabilitation Program is a separate program from the Scottsdale Green Building Program – run by a different city department and different city personnel.
3. The Scottsdale Green Housing Rehabilitation Program is not referred to as "Green Rehab" in the program's two documents (Guidelines and Standards) or on its webpage. That term is only used in this plan.
4. If "guidelines" is intended to refer to all four qualifiers, it should be deleted as the qualifiers include a code, a rating system, a checklist and a standard. If "guidelines" is intended to refer to the Scottsdale Green Housing Rehabilitation Program, it should either be deleted or capitalized and changed to "Guidelines and Standards" (the *two* documents that comprise the Program requirements).

Megawatt hour (Wh) – A measure of energy consumption equal to using 1,000,000 watts for one hour (use).

Reason: missing word

Particulate Air Pollution - A mixture of ~~large~~ coarse and fine solid particles and liquid droplets ~~found~~ suspended in the air. Coarse particles (known as PM-10) range from greater than 2.5 to 10 micrometers (µm) in diameter. Fine particles (known as PM-2.5) are 2.5 µm and smaller in diameter. Once inhaled, these particles can lodge deep in the lungs and may enter the bloodstream, causing serious health effects. Particle size is directly linked to their potential to cause health problems, with PM-2.5 posing the greatest risk. Primary particles are emitted directly from a source, such as construction sites, unpaved roads, smokestacks or fires. Secondary particles form in atmospheric reactions involving sulfur dioxides, nitrogen oxides and other chemicals emitted from diesel- and gasoline-powered vehicles and equipment, power plants and industrial facilities. Most PM-2.5 pollution is secondary particles. Particulate pollution is the main cause of the Valley's "brown cloud."

Reasons:

1. PM-2.5 and PM-10 are mentioned several times in the plan and should be included in the definition.
2. PM-2.5 and PM-10 are two of Scottsdale's three major air pollutants, and as such, warrant a better explanation.
3. PM-2.5 and PM-10 are very different, and therefore, should not be lumped together under the very general term "particulate" without differentiation. The proposed definition provides that differentiation.
4. People can relate to the "brown cloud." PM is visible air pollution. Ozone is invisible.

Sources:

www.epa.gov/pmcourse/what-particle-pollution

www.epa.gov/pm-pollution/particulate-matter-pm-basics

pg black and red = current text and redlined changes
blue = reasons, explanation, sources

23

Extreme heat acts as a threat multiplier

Missing word also needed on page 6.

27

Another study in the journal Science evaluated the economy-wide impacts of different future warming scenarios and found that Maricopa County would see a 5-10% drop in gross domestic product by the end of the century (Figure 4).[13] THE SAME STUDY ESTIMATES MARICOPA COUNTY WILL SEE A 15-20% INCREASE IN ENERGY COSTS. The Atlantic Council similarly examined broad economic impacts and calculated that losses from decreased labor productivity would exceed $5 million per year by 2050 in Maricopa County and that occupational injuries due to human heat stress could be as high as 20,000 per year.[14] ~~THE SAME STUDY ESTIMATES MARICOPA COUNTY WILL SEE A 15-20% INCREASE IN ENERGY COSTS.~~

"The same study" is the study published in Science (citation 13), not the Atlantic Council report (citation 14).

32

The indicators and baseline data for each priority show "where we are" and are tied to targets that ~~are~~ reflect "where we want to be."

Same change applies to page 8.

35

1. Produce an annual report that includes updates on implementation of actions, progress toward ~~sustainability~~ achieving targets, ~~including~~ indicator and target data, ~~on the indicators~~ and a section specifically chronicling municipal achievements and data. The reports will be presented annually to City Council and the Scottsdale Environmental Advisory Commission and will discuss possible amendments to the plan.

   Annual reports must include data on targets as well (not just indicators).

38

8. "Yale Climate Opinion Maps ~~2021~~ 2023 ..."

   The citation was partially corrected in the last draft, but the year was missed.

page 47

The number of green buildings – those that comply with IgCC, LEED, Scottsdale Green Building Program or ~~Green Rehab~~ ~~guidelines~~ Scottsdale Green Housing Rehabilitation Program – has been steadily increasing and is expected to rise more quickly with the adoption of mandatory green construction codes.

Reasons:

1. Because this sentence lists what qualifies as a "green building" for the green building target, it is important that the "Scottsdale Green Housing Rehabilitation Program" be accurately labeled.
2. The Scottsdale Green Housing Rehabilitation Program is a separate program from the Scottsdale Green Building Program – run by a different city department and different city personnel.
3. The Scottsdale Green Housing Rehabilitation Program is not referred to as "Green Rehab" in the program's two documents (Guidelines and Standards) or on its webpage. That term is only used in this plan.
4. If "guidelines" is intended to refer to all four qualifiers, it should be deleted as the qualifiers include a code, a rating system, a checklist and a standard. If "guidelines" is intended to refer to the Scottsdale Green Housing Rehabilitation Program, it should either be deleted or capitalized and changed to "Guidelines and Standards" (the *two* documents that comprise the Program requirements).

additional General Plan references:

- add S 8 (hazardous material) to Waste
- add EP 8 to Heat + Water + Waste
- add CONSV 1 to Heat + Water + Waste

Coalition of Greater Scottsdale

The Coalition of Greater Scottsdale
8711 E Pinnacle Peak Road
PMB 220 Scottsdale, AZ 85255-3517
www.CoalitionofGreaterScottsdale.org
info@cogsaz.org

7 November 2024

To: Scottsdale City Council

Re: 25 November 2024 Agenda Item:#3 Scottsdale Community Sustainability Plan

COGS will support the Sustainability Plan with the inclusion of the 2024 updates of statistical data and the recommended text edits provided by the SEAC Commissioners.

Respectfully submitted,

COGS Board of Directors,

Andrew Schenk
Cathy McKeever
Copper Phillips
Jim Davis
Marilynn Atkinson
Stan Morganstern
Shea Stanfield
Sonnie Kirtley

From: Bob Pejman
To: City Council; McNeilly, Lisa; City Manager Mailbox; Jan Dubauskas
Subject: Please include this ND post as community input in your next Sustainability Council Report
Date: Saturday, August 31, 2024 3:46:04 PM

External Email: Please use caution if opening links or attachments!

[redacted] Holiday Park · 47m · ⊕ •••



Demo day for Olive Garden. It's the end of an era at the corner of Scottsdale and Osborn roads.

What really sucks is this company demolished the entire building with blinds, windows, fixtures, roofing and mechanical that could have all been salvaged and repurposed for others.

WHY DON'T OUR CITIES START MAKING THIS A REQUIREMENT FOR REDEVELOPMENT??? So much stuff going in to a landfill that someone else could've used 😢

From: notifications@cognitoforms.com on behalf of City of Scottsdale
To: McNeilly, Lisa
Subject: Sustainability Plan Comment - JohnHarlan
Date: Wednesday, June 12, 2024 3:55:51 PM

External Email: Please use caution if opening links or attachments!

Entry Details

NAME	John Harlan
EMAIL	johnrharlan@cox.net
COMMENTS	I have read the draft. This plan will lead to more and more government control of our lives at increasing cost both to Scottsdale government and to individual property owner with no direct effect on global warming and no benefits to Scottsdale nor it citizens. I strongly oppose the this plan.
YES, I WOULD LIKE TO BE EMAILED ABOUT UPCOMING EVENTS.	Yes

Kurth, Rebecca

From: Craig Bennett <craigbennett6@gmail.com>
Sent: Monday, November 18, 2024 9:42 AM
To: City Council
Cc: Craig Bennett
Subject: Scottsdale Sustainability Plan

⚠ **External Email: Please use caution if opening links or attachments!**

Scottsdale is an amazing city that I have enjoyed living in for the last 14 years. But it is changing and not for the better.

While we do need to protect our environment in our city we also need to maintain the good quality of life that Scottsdale is known for over the last 25 years.

Controlled growth is key to assure this quality of life . Prohibiting high density towering residential and office spaces will help in this regard. We do not want to become LA with all of it's traffic, crime, pollution, high regulation, and high cost problems, and we can prevent that from happening with smart controlled growth. That is why I moved here from San Diego 14 years ago, to get away from all those issues that had migrated to San Diego from LA.

The 15 minute city, mass transit investments, road diet plans, high density buildings create congestion and all it's problems. Let the free market work but keep the quality of life foremost in your minds.

Prioritize quality of life in all your decisions and the sustainability plan does not do this.

Craig Bennett

Committeeman

Kurth, Rebecca

From: Roger Chamberlain <roger.w.chamberlain@gmail.com>
Sent: Monday, November 18, 2024 8:44 AM
To: City Council
Subject: Vote No on Scottsdale Sustainability Plan

⚠ **External Email: Please use caution if opening links or attachments!**

I urge each of you to vote no on this project as strongly indicated by the desires of Scottsdale citizens in the recent election.

Respectfully Yours,

Roger Chamberlain

6361 E Seniga Circle,

Scottsdale, AZ 85266

Kurth, Rebecca

From: DAVID PORTER <dporter44@cox.net>
Sent: Monday, November 18, 2024 8:40 AM
To: City Council
Subject: Vote NO on the Scottsdale Sustainability Plan

⚠ **External Email: Please use caution if opening links or attachments!**

The voters of Scottsdale voted for change. They do not approve of your current direction. Some of you have been voted out and now you want to vote to approve projects and plans that the voters do not want. No votes for any new projects, programs or appointments should take place until the new mayor and city council is seated. You were elected to represent the people....REPRESENT THE PEOPLE OF SCOTTSDALE!!! Vote NO!!! Do your job.

Dave Porter
9427 E Sonoran Sunset Pass
Scottsdale, AZ. 85255

Sent from my Verizon, Samsung Galaxy smartphone
Get Outlook for Android

Kurth, Rebecca

From: Theresa Dowell <teedowell@aol.com>
Sent: Monday, November 18, 2024 7:53 AM
To: City Council
Subject: Vote NO on Scottsdale Sustainability Plan

⚠ **External Email: Please use caution if opening links or attachments!**

PLEASE VOTE NO ON TH IS PLAN. IT IS NOT WHAT THE PEOPLE WANT.

Theresa E. Dowell

Kurth, Rebecca

From: Ann Brown <ann@usbrowns.us>
Sent: Monday, November 18, 2024 7:51 AM
To: City Council
Subject: AXON-ZN-2020#2 and Scottsdale Sustainability Plan

⚠ External Email: Please use caution if opening links or attachments!

Council Members,
As a Scottsdale resident, I urge you to vote "NO" on both of these issues.

Thank you,
Ann L Brown
10553 E Raintree Dr.
480-652-0502

Kurth, Rebecca

From: Coral Weinberg <Coral@azweinberg.com>
Sent: Monday, November 18, 2024 7:28 AM
To: City Council
Subject: Vote NO on Scottsdale Sustainability Plan

⚠ External Email: Please use caution if opening links or attachments!

That says it all!

Coral Quiet Weinberg, MD
Sent from my iPad

Kurth, Rebecca

From: Mike Reisman <mikereism@gmail.com>
Sent: Monday, November 18, 2024 6:30 AM
To: City Council
Subject: Vote NO on Scottsdale Sustainability Plan

⚠ **External Email: Please use caution if opening links or attachments!**

VOTE NO ON THIS PLAN

The Plan calls for deep restrictions on residential water, electricity and garbage use for single-family properties, yet does not do this for multi-family and high density housing properties.

TOTALLY UNFAIR.

Mike Reisman

Kurth, Rebecca

From: Paulette Maslick <maslickfam@aol.com>
Sent: Monday, November 18, 2024 6:50 AM
To: City Council
Subject: vote NO on sustainability plan

⚠ External Email: Please use caution if opening links or attachments!

Vote NO!!! The residents of Scottsdale do not want this. Please listen to the voters on this plan...vote NO!

Thank you,
Paulette Maslick
9361 East Sky Line Drive
Scottsdale. 85262
Sent from my iPad

Kurth, Rebecca

From: David Rudolph <roborudy480@gmail.com>
Sent: Monday, November 18, 2024 6:46 AM
To: City Council
Subject: SCOTTSDALE SUSTAINABILITY PLAN

⚠ External Email: Please use caution if opening links or attachments!

VOTE NO

Kurth, Rebecca

From: Janet perry <luckyjp2014@yahoo.com>
Sent: Monday, November 18, 2024 6:24 AM
To: City Council
Subject: No sustainability program

⚠ **External Email: Please use caution if opening links or attachments!**

No vote

Sent from Yahoo Mail for iPhone

Kurth, Rebecca

From: pauline richards <pnrichards@cox.net>
Sent: Friday, November 15, 2024 4:05 PM
To: City Council
Subject: Re: Please poll the council

⚠ **External Email: Please use caution if opening links or attachments!**

Please move the Scottsdale Community Sustainability Plan discussion and vote to a council meeting in Jan 2025. Many Scottsdale citizens will be out of town for the Thanksgiving week. Thank you.

Pauline Richards
7036 N via de Amor
85258

On Friday, November 15, 2024 at 03:27:58 PM MST, Barry Graham <bsgraham@gmail.com> wrote:

---------- Forwarded message ---------
From: **Graham, Barry** <BGraham@scottsdaleaz.gov>
Date: Fri, Nov 15, 2024 at 3:25 PM
Subject: Please poll the council
To: Lane, Benjamin <BLane@scottsdaleaz.gov>

Ben,
I just received agenda for 11/25 meeting. Please poll council to move it to a council meeting in Jan 2025. Thank you.

REGULAR AGENDA

9. **Scottsdale Community Sustainability Plan**
Requests:
1. Adopt **Resolution No. 13286** approving the Scottsdale Extreme Heat strategies and declaring the document entitled ""*Extreme Heat*" to be a public record; or,
2. Adopt **Resolution No. 13299** approving the Scottsdale Community Sustainability Plan (including the Extreme Heat, Water, and Waste elements) and declaring the document entitled "*Scottsdale Community Sustainability Plan*" to be a public record.

Presenter(s): Lisa McNeilly, Sustainability Director
Staff Contact(s): Erin Perreault, Planning and Development Services Director, 480-312-7093, eperreault@scottsdaleaz.gov

Barry Graham | Vice Mayor
City of Scottsdale
3939 N. Drinkwater Blvd. | Scottsdale 85251
BGraham@Scottsdaleaz.gov | **scottsdaleaz.gov**

Kurth, Rebecca

From: James H Davis <jimdavisestancia@gmail.com>
Sent: Sunday, November 17, 2024 1:48 PM
To: City Council
Subject: AXON 13-ZN-2020#2

⚠ **External Email: Please use caution if opening links or attachments!**

Scottsdale City Council: **We strongly oppose the approval of Axon's rezoning request and the construction of an additional 1950 apartments in the proposed location** - or any location in Scottsdale.

We as 20 year residents of Scottsdale have seen an avalanche of new high-density residential units in Scottsdale and an additional ~ 15,000 at various states within the pipeline. The increased population density will strangle Scottsdale infra-structure, challenge Scottsdale's potable water sustainability, clog our traffic arteries, further block Scottsdale's previous exciting views, add to the residential high-density fiscal drag on our city's financial resources and maybe most of all detract from our tourism attraction - a life blood of Scottsdale.

Regardless of Axon's financial contribution to Scottsdale, it will be outweighed by the drag of an additional 1950 apartment dwellers.

Respectfully,

Jim Davis and Francine Hitchcock
27483 N 103rd Way, 85262

Kurth, Rebecca

From: Melissa Masles <mmasles88@gmail.com>
Sent: Monday, November 18, 2024 1:21 PM
To: City Council
Subject: Vote NO on Scottsdale Sustainability Plan

⚠ **External Email: Please use caution if opening links or attachments!**

Dear Lame Duck Council,
This plan makes no sense in any kind of common sense way. The only reason it is back on your agenda is so you can sneak it by right before you leave office.

Please vote NO.

Melissa S. Masles
6389 E. Evening Glow Dr.
Scottsdale, AZ. 85266

Kurth, Rebecca

From: Cynthia S <sampson.cynthia@gmail.com>
Sent: Monday, November 18, 2024 1:17 PM
To: City Council
Subject: Sustainability Plan - Vote NO - it is discriminatory !!!

⚠ **External Email: Please use caution if opening links or attachments!**

The Plan calls for major restrictions on residential water, electricity and garbage use for single-family properties, but places NO such restrictions on multi-family and high density housing properties.

PLEASE vote no on unfair, discriminatory Sustainability Plan!!!

Sincerely,
Cynthia Sampson
Cell: 480.227.4657

From: Morales, Isol
To: Kurth, Rebecca
Subject: FW: Please vote YES
Date: Thursday, November 21, 2024 9:51:03 AM

From: Sandy Glass <sandra.r.glass@gmail.com>
Sent: Thursday, November 21, 2024 8:07 AM
To: Mayor David D. Ortega <dortega@scottsdaleaz.gov>
Subject: Please vote YES

⚠ **External Email: Please use caution if opening links or attachments!**

On the Sustainability Plan for Scottsdale. I hope Scottsdale will be a leader on recognizing the issues related to climate change and plan accordingly. I urge your YES vote. Please ensure my email message reached all Scottsdale City Council members. Thank you for your support and, Mr. Ortega, for your time of service on the Council.

--

Sandy Glass
sandra.r.glass@gmail.com

Kurth, Rebecca

From: Amy Springmann <arizonie@hotmail.com>
Sent: Tuesday, November 19, 2024 11:04 PM
To: City Council
Subject: NO on Sustainability Plan

⚠ **External Email: Please use caution if opening links or attachments!**

The proposed Sustainability Plan will inappropriately mandate and monitor the behavior of Scottsdale citizens and increase costs to them. It is not the role of government to control and alter the behavior of its citizens. I understand that this plan has good intentions, but it contains very concerning government overreach.

This plan needs to be rejected as it mandates too much government interference in our daily lives. Scottsdale citizens are an educated & informed populace that acts responsibly and takes of the environment. We don't need or want overstepping and costly government mandates manipulating us.

Amy Springmann
7545 E Windrose Drive
Scottsdale AZ 85260

Kurth, Rebecca

From: David Ostermeyer <dave61744@icloud.com>
Sent: Wednesday, November 20, 2024 8:51 AM
To: City Council
Subject: Vote NO on Scottsdale Sustainability Plan

⚠ **External Email: Please use caution if opening links or attachments!**

stop approval of the Scottsdale Sustainability Plan

Dave & Cathy Ostermeyer
41428 N. 109THN PL.
Scottsdale, AZ 85262

Kurth, Rebecca

From: Marcus <marcus.tork@protonmail.com>
Sent: Tuesday, November 19, 2024 9:49 AM
To: City Council
Subject: Vote NO on Scottsdale Sustainability Plan

⚠ **External Email: Please use caution if opening links or attachments!**

Good morning City Councilmen & Councilwomen,

I'm a full-time Scottsdale resident raising a family here, and urge you to stop approval of the Scottsdale Sustainability Plan.

Earlier this year, this was tabled by the City Council because of public backlash over 'woke' provisions that are deeply and widely unpopular with we residents. Much has been made lately about 'saving democracy'. Democratic process is certainly to be respected, and when the will of the People is known - as it is on this plan - it is the duty of public servants such as the City Council to honor residents' wishes.

The proposed deep restrictions on residential water, electricity and garbage use for single-family properties, and no such restrictions on multi-family and high density housing properties is broadly opposed by us residents. We do not want this.

Please, NO on Scottsdale Sustainability Plan, and yes to preserving elements supportive of single-family properties that make Scottsdale the unique place that it is.

Sincerely,
Marcus Tork
Full-time Scottsdale Resident

Kurth, Rebecca

From: pb415linker <pb415linker@cox.net>
Sent: Tuesday, November 19, 2024 4:36 PM
To: City Council
Subject: Your Legacy

⚠ **External Email: Please use caution if opening links or attachments!**

How you vote during the last few meetings you remain in office will be your legacy.

The citizens of Scottsdale have voted NO to how the Council has conducted themselves during the past few years.

Please vote NO on Sustainability Plans and NO Controversial LAME DUCK VOTES.

Thank you for your service.

Bruce and Paula Linker
7959 E. Desert Cove Av
Scottsdale 85260
Residents since 1996

Yahoo Mail: Search, Organize, Conquer

Kurth, Rebecca

From: NANCY RUDOLPH <rudy1339@icloud.com>
Sent: Tuesday, November 19, 2024 10:32 AM
To: City Council
Cc: Nancy Ruth Rudolph
Subject: Vote NO on Scottsdale Sustainability Plan

⚠ External Email: Please use caution if opening links or attachments!

This "Sustainability Plan" is ridiculous, thoughtless, and cruel to single family homeowners. I request that you vote "NO" on your "Sustainability Plan".

Nancy Rudolph
8518 E Vista Bonita Dr.
Scottsdale, AZ, 85255

Kurth, Rebecca

From: nkuntz10@gmail.com
Sent: Tuesday, November 19, 2024 3:21 PM
To: City Council
Subject: "Vote NO on Scottsdale Sustainability Plan"

⚠ **External Email: Please use caution if opening links or attachments!**

This is not the time to be pushing the leftist liberal agenda through with no consideration of what your Scottsdale Citizens have just declared.
Most of those on the council for this have been defeated.

This is not in the best interest of Scottsdale! There may have been money incentives, but please have the integrity to listen to the "Will of The People". I heard a lot about DEMOCRACY during the past election. Primarily from the side those in favor of this plan align themselves with. If that is what you believe in, then the people rejecting the defeated council persons, are saying they reject your Sustainability Plans.

Please do the Citizens a favor and leave office without doing anymore harm to our communities.

Regards,
Noella Kuntz
9418 E Hidden Green Dr
Scottsdale, AZ 85262

Kurth, Rebecca

From: kathy jackman <delmontkathy@yahoo.com>
Sent: Tuesday, November 19, 2024 9:44 AM
To: City Council
Subject: Fwd: Vote NO on Scottsdale Sustainability Plan

⚠ **External Email: Please use caution if opening links or attachments!**

Sent from my iPhone

Begin forwarded message:

From: kathy jackman <delmontkathy@yahoo.com>
Date: November 19, 2024 at 8:00:58 AM MST
To: City Council <CityCouncil@scottsdaleaz.gov>
Subject: Vote NO on Scottsdale Sustainability Plan

As the owner of a single family residence in North Scottsdale, I am appalled at a Sustainability Plan that would punish homeowners like me with increased expenses and restrictions. North Scottsdale single family homes have made our part of town an attractive place to live and raise a family. It seems to me that greedy developers have taken over and have placed their influence on the City Council , or the other possible alternative is that the Council has wasted or spent our taxes unwisely and needs to make up for it by wanting to place the burdens they have created on single family homeowners. Please find another way to smartly budget our hard earned money and don't overbuild and punish people like us that have built this community.

Thank you,

Kathy Jackman
8527 E. Tether Trail
Scottsdale, AZ 85255

818 425-8629

Kurth, Rebecca

From: Jean Cobb <jcobb.10509@gmail.com>
Sent: Tuesday, November 19, 2024 9:37 AM
To: City Council
Subject: No to Scottsdale sustainability plan

⚠ External Email: Please use caution if opening links or attachments!

I strongly vote no to the Scottsdale sustainability plan as they are trying to ramrod it through. No, no no.
Sent from my iPhone. Jean Cobb 10040 E. Happy Valley Rd., #206, Scottsdale, AZ 85255.

Kurth, Rebecca

From: tdmasles@reagan.com
Sent: Tuesday, November 19, 2024 9:36 AM
To: City Council
Subject: "Vote NO on Scottsdale Sustainability Plan"

⚠ **External Email: Please use caution if opening links or attachments!**

City Council,

Again I say you are the reason you got defeated in this last election.
Overwhelmingly, the citizens of Scottsdale have expressed to you that this is just bad for the community. It's either greed or just mismanagement. Now as your administration leaves, voting for this is arrogant and punitive. I would ask you to please:

"Vote NO on Scottsdale Sustainability Plan"

Tom Masles
6389 E Evening Glow Drive
Scottsdale, AZ 85266

Kurth, Rebecca

From: Mary Beth Gasser <mbg29@msn.com>
Sent: Tuesday, November 19, 2024 8:58 AM
To: City Council
Subject: Vote NO on Scottsdale Sustainability Plan

⚠ **External Email: Please use caution if opening links or attachments!**

Once again, writing to you for a NO vote on the Sustainability Plan that is up for vote in the City Council. Too much development is pulling our resources and this plan will then limit residents that are living in this community. As a 30-year resident, I am not happy with the amount of development that has been approved in this community which has made it extremely difficult to navigate with the high levels of traffic and safety issues. Please consider a NO vote for the residents of this community. The residents that gave you the vote on your campaign promises.

Thank you,

Mary Beth Gasser
10405 E Cortez Drive
Scottsdale, AZ 85259

Mary Beth Gasser, PT
Gasser International, LLC
602.292.1335

Kurth, Rebecca

From: kathy jackman <delmontkathy@yahoo.com>
Sent: Tuesday, November 19, 2024 8:01 AM
To: City Council
Subject: Vote NO on Scottsdale Sustainability Plan

⚠ **External Email: Please use caution if opening links or attachments!**

As the owner of a single family residence in North Scottsdale, I am appalled at a Sustainability Plan that would punish homeowners like me with increased expenses and restrictions. North Scottsdale single family homes have made our part of town an attractive place to live and raise a family. It seems to me that greedy developers have taken over and have placed their influence on the City Council , or the other possible alternative is that the Council has wasted or spent our taxes unwisely and needs to make up for it by wanting to place the burdens they have created on single family homeowners. Please find another way to smartly budget our hard earned money and don't overbuild and punish people like us that have built this community.

Thank you,

Kathy Jackman
8527 E. Tether Trail
Scottsdale, AZ 85255

818 425-8629

Kurth, Rebecca

From: Jim Griffin <grifbiz56@gmail.com>
Sent: Tuesday, November 19, 2024 7:58 AM
To: City Council
Subject: Vote No on Scottsdale Sustainability Plan

⚠ External Email: Please use caution if opening links or attachments!

James Griffin
Scottsdale Citizen

Kurth, Rebecca

From: debbiehawk@aol.com
Sent: Tuesday, November 19, 2024 6:00 AM
To: City Council
Subject: Scottsdale Sustainability

⚠ **External Email: Please use caution if opening links or attachments!**

Dear Council,
I am a Scottsdale resident and vote no on this proposal
Debra Hawkins
9717 N 105th Place
Scottsdale 85258

Sent from the all new AOL app for iOS

Kurth, Rebecca

From: Martha Mckeand <martha.mckeand1@gmail.com>
Sent: Monday, November 18, 2024 8:04 PM
To: City Council
Subject: Vote NO on Scottsdale sustainability plan

⚠ External Email: Please use caution if opening links or attachments!

Sent from my iPhone

Kurth, Rebecca

From: gbassod@aol.com
Sent: Monday, November 18, 2024 7:15 PM
To: City Council
Subject: Vote NO on Scottsdale sustainability Plan

⚠ **External Email: Please use caution if opening links or attachments!**

Dear Council Members: Please vote no on Scottsdale Sustainability Plan. The voters have voiced their opinion with the latest election results. I support a clean environment but it should be appoached at a slower pace and better determine the costs and consequences it will have. A gradual phase-in plan would be better and this takes time. So let the new Council manage the plan.

Sincerely,
Gail

Kurth, Rebecca

From: akever kever <akever@cox.net>
Sent: Monday, November 18, 2024 7:01 PM
To: City Council
Subject: Vote no on Scottsdale Sustainability Plan!!!

⚠ External Email: Please use caution if opening links or attachments!

Andrea L. Kever
4918 N. 76th Place
Scottsdale, AZ 85251

Sent from my iPad

Kurth, Rebecca

From: COLLEEN STEELE <colleen@colleensteele.com>
Sent: Monday, November 18, 2024 6:46 PM
To: City Council
Subject: Vote NO on Scottsdale Sustainability Plan

⚠ **External Email: Please use caution if opening links or attachments!**

Attn: City Council

I urge you to vote no on the Scottsdale Sustainability Plan.
Please don't restrict our residential water and other utilities on single family homes.
It is more mindful to place such restrictions on the apartments that are going up.
I appreciate your consideration.

COLLEEN STEELE
Scottsdale resident and owner
10055 E Mountainview Lake Dr 1024
Scottsdale AZ 85258

Kurth, Rebecca

From: Kathleen Fischer <katcfischer@gmail.com>
Sent: Monday, November 18, 2024 4:30 PM
To: City Council
Subject: VOTE NO ON SCOTTSDALE SUSTAINABILITY PLAN

⚠ External Email: Please use caution if opening links or attachments!

PLEASE VOTE NO on the Scottsdale Sustainability Plan.

This plan is not what we need in Scottsdale. No ROAD DIETS!! NO mandatory composting!

Please Vote No!

Gratefully,
Kathleen Fischer
10260 E White Feather Ln, Unit 1020
Scottsdale, AZ 85262

Kurth, Rebecca

From: Nancy Cisar <ncdesertdogs2@gmail.com>
Sent: Monday, November 18, 2024 4:11 PM
To: City Council
Subject: Scottsdale Sustainability plan

⚠ External Email: Please use caution if opening links or attachments!

I am encouraging you to vote NO on the Scottsdale sustainability Plan!! It makes no sense to allow a 1975 multiple-family unit build with no restrictions and then put restrictions on single family homes. Where is your thinking?? Do you want restrictions on your water. gas, plans for hiking, making more parks, etc in order to allow many single families to move in? We are all hard working people who want to live in Scottsdale. We are proud to live here and love where we are. We are unaccepting go migrants, people barely making minimum wage. We need our spaces respected. The board merely wants the money from the businesses in taxes. Multiple units like this do not generate taxes for our street and land projects. Who will protect the people, police and fire?? Who will school all the children?? Our schools are already low on teachers because they do not want to teach in such terrible conditions that are not supported by our administrators.
Time to say NO to al this. Thank you
Nancy Cisar

From:	Eberhardt, Cindi
Sent:	Friday, November 22, 2024 9:39 AM
To:	City Council
Cc:	McNeilly, Lisa; ubrady.az@gmail.com; Andrew S; Thompson, Jim; Scott, Sherry; Lane, Benjamin; Andrews, Sonia; Murphy, Bill; Stockwell, Brent; Perreault, Erin; Caton, Greg; Tyler, Karen
Subject:	Scottsdale Environmental Advisory Commission Recommendation RE: Sustainability Plan
Attachments:	SEAC Recommendation Letter Community Sustainability Plan November 2024 _executed.pdf

To ensure compliance with the Open Meeting Law, recipients of this message should not forward it to other members of the public body. Members of the public body may reply to this message, but they should not send a copy of the reply to other members.

Greetings, Honorable Mayor Ortega and members of the City Council,

At the November 20, 2024, Scottsdale Environmental Advisory Commission (SEAC) meeting, the commission voted on a recommendation related to the Community Sustainability Plan. By a vote of 6-0, SEAC voted to approve the attached letter and requested that it be shared with City council (which was signed and executed yesterday).

Thank you and enjoy your weekend.

Respectfully,

Cindi L. Eberhardt, CPM
Director of Operations | City of Scottsdale
o 480-312-2438 **c** 602-505-8333

Planning & Development Services
7447 E. Indian School Road, Ste. 105
Scottsdale, AZ 85251

ScottsdaleAZ.gov



STRATEGIC | RESPONSIBILITY | ARRANGER | BELIEF | ACHIEVER

Scottsdale Environmental Advisory Commission
Office of Environmental Initiatives
City of Scottsdale
7447 E Indian School Rd STE 125
Scottsdale, AZ 85251

Staff Liaison: Lisa McNeilly
Email **lmcneilly@scottsdaleaz.gov**
PHONE 480-312-2831
FAX 480-312-7314

November 21, 2024

Honorable Mayor Ortega and Members of the City Council,

After learning that the City Council could consider possible abbreviated sustainability plan options, the Scottsdale Environmental Advisory Commission (SEAC) at its November 20, 2024 meeting, voted 6-0 on the following recommendations:

1. SEAC reaffirms its recommendation to City Council to adopt the May 21, 2024 draft Community Sustainability Plan, revised to incorporate the clarifications recommended in SEAC's October 23, 2024 letter to City Council.
2. SEAC urges the City Council to **reject** any motion to approve a plan that removes any section and/or targets because such a plan would fall below the minimum requirements for a Sustainability Plan. As City Council is aware, our environmental issues are complex and inter-connected.

The May 21, 2024 draft Community Sustainability Plan (Plan) and associated clarifications represent the culmination of nearly three years of collaborative efforts among SEAC commissioners and city staff. The Plan has been presented to the community and was positively received by a majority of citizens who participated in multiple community workshops and/or submitted comments. As such, the Plan represents a solid foundation which can be built upon as we collectively build a healthy and livable city that protects citizen's quality of life, maintains or improves economic prosperity, and reflects the community values and environmental stewardship our city has championed.

Respectfully,

Ute Brady

Ute Brady, Chair
ubrady.az@gmail.com

Andrew Scheck

Andrew Scheck, Vice-Chair
andrew.scheckny@gmail.com

CITY OF SCOTTSDALE

Scottsdale Community Sustainability Plan

Item 20 – December 3, 2024

Community Sustainability Plan: Background

- General Plan 2035 – policy/implementation community identified priorities
- 2022 and 2024 Organization Strategic Plans – Council priorities
- ASU's Walton Sustainability Solutions Service
- City Council meetings – Council/Community Feedback on Draft Plan
- Scottsdale Environmental Advisory Commission – Commission Feedback



Background (continued)

- Council-directed September 2024 community outreach meetings
- Opportunity to share ideas
- Almost 70 people attended, sharing 200 comments
- Feedback posted on-line






Edits

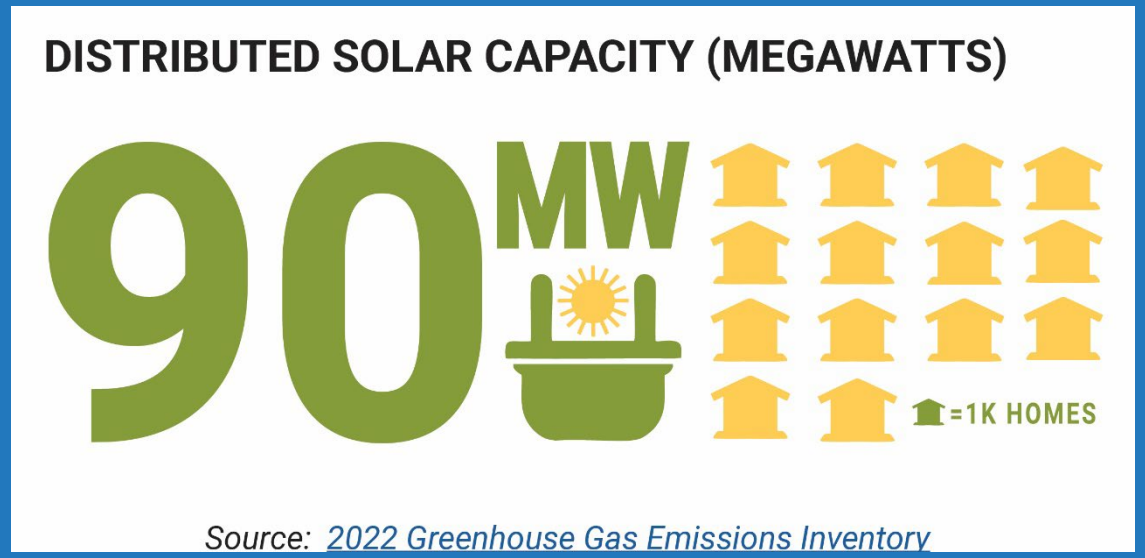
- Additional community dialogue
- Clarifications from Scottsdale Environmental Advisory Commission
- Other minor updates

Energy

NRG1 Reduce energy use and greenhouse gas emissions.

NRG2 Improve municipal energy performance.

NRG3 Reduce energy impacts of the built environment through sustainable building practices and policies.



Water

WTR 1 Ensure water system resiliency.

WTR 2 Reduce municipal water use.

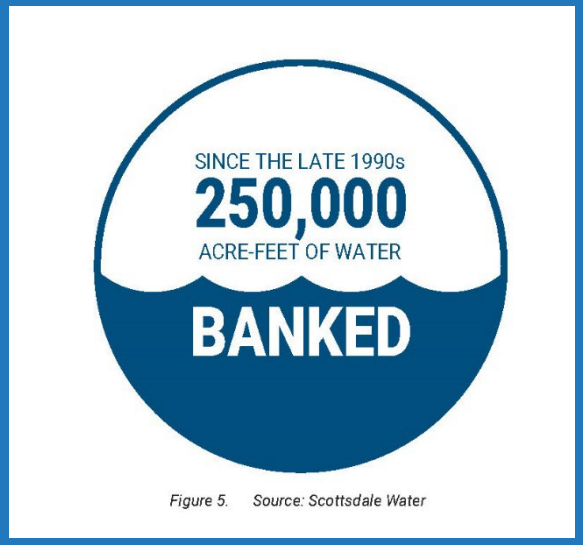


Figure 5. Source: Scottsdale Water

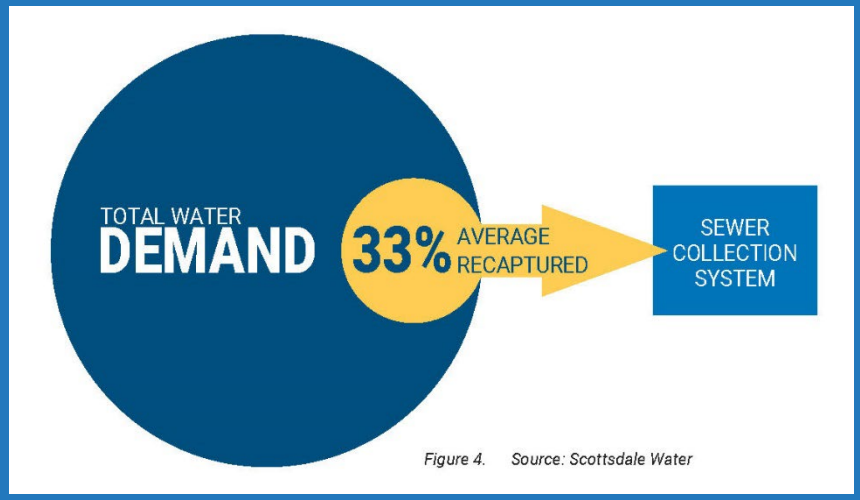


Figure 4. Source: Scottsdale Water

Beyond Waste

WST 1 Increase diversion rates.

WST 2 Strengthen local markets for recycled content, recyclable and reusable materials.

WST 3 Expand opportunities for diverting organic waste from the landfill.

WST 4 Reduce waste generation.

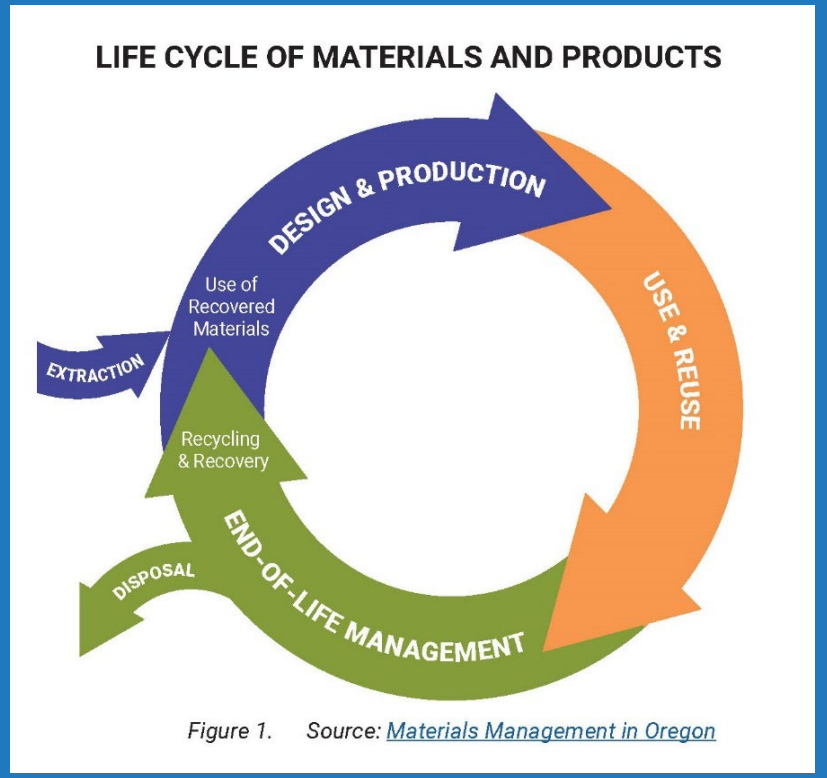
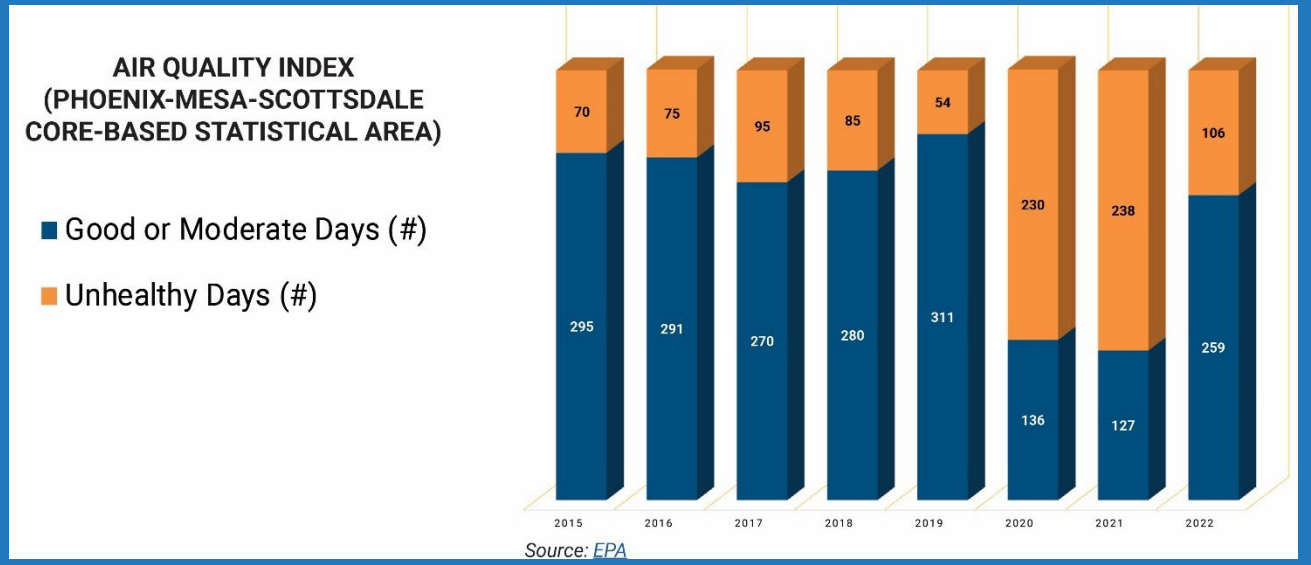


Figure 1. Source: *Materials Management in Oregon*

Air Quality

AQ 1 Clean Scottsdale's air.

AQ 2 Support adoption of electric and other alternative fuel vehicles.



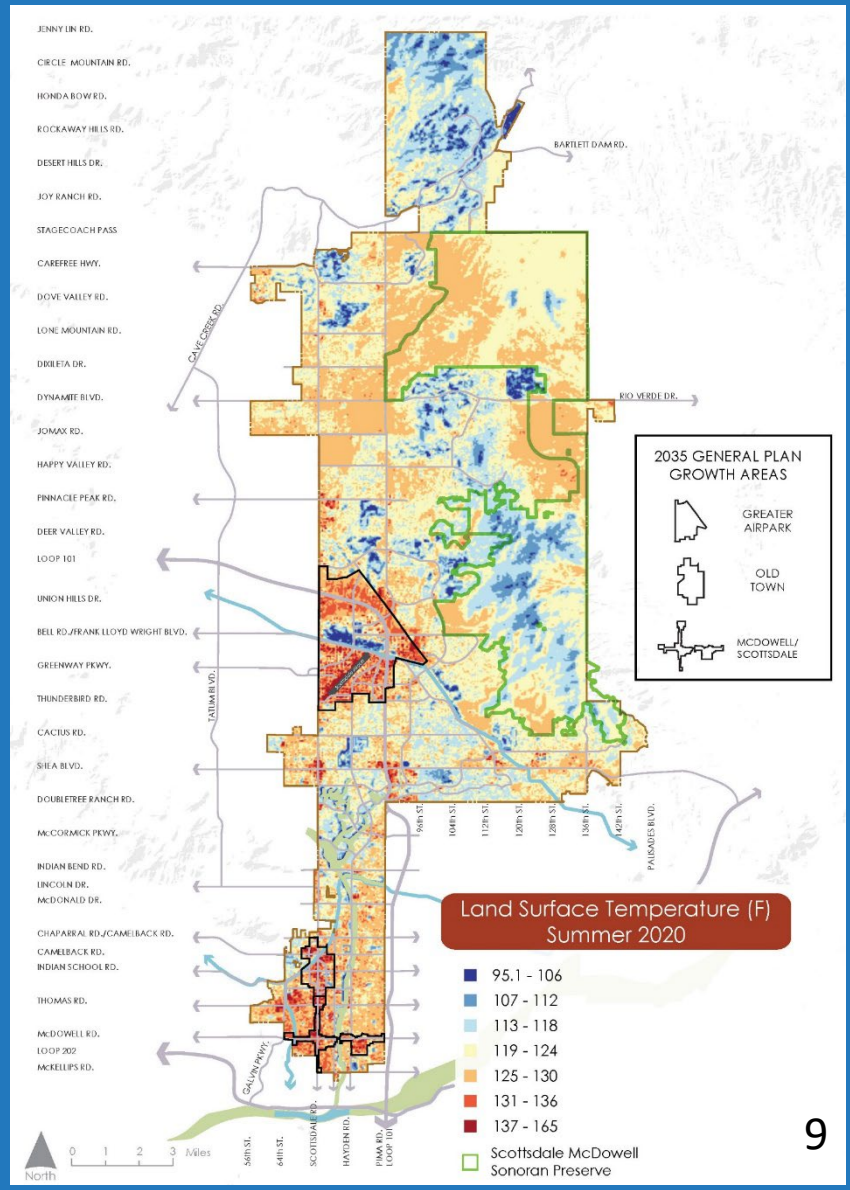
Extreme Heat

HT 1 Expand heat relief communication and education.

HT 2 Protect people from the health effects of extreme heat.

HT 3 Identify urban design improvements including structured shade and built environment.

HT 4 Plant more trees and implement other nature-based solutions.



City Council: Possible Action

Adopt Resolution No. 13308 approving the Scottsdale Community Sustainability Plan.

Meeting Date: December 3, 2024

Item No. 20 – Scottsdale Community Sustainability Plan

Additional Public Comments – Part 1

Additional Public Comments – Part 2

Additional Public Comments – Part 3