Community & Economic Development Division
Office of Environmental Initiatives

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Scottsdale, Arizona 85251

To: Honorable Mayor and City Council

From: Lisa McNeilly, Sustainability Director

Date: March 5, 2024 ****UPDATED 3/13/2024***

Subject: **Scottsdale Community Sustainability Plan.** Presentation, discussion, and possible direction to staff regarding draft sections of the Community Sustainability Plan.

The Scottsdale Community Sustainability Plan is a component of the implementation of the General Plan 2035 and is highlighted in the city's 2023 Organization Strategic Plan. The plan will strengthen the city's commitment to a more sustainable, resilient and thriving future.

Staff are seeking City Council direction on three draft elements of the Community Sustainability Plan (energy, waste and extreme heat) and on next steps. The draft text (Attachment 1) reflects feedback received from SEAC at their meetings and in writing, as well as input from staff and other stakeholders. Presentation materials will be forwarded as they are available.

City Council feedback at Work Study Sessions in March and July 2023 resulted in a sharp focus on the five priorities (energy, water, waste, air quality, and extreme heat), a push to develop baseline metrics and set numeric targets, and the need to include the costs and benefits of action. Additionally, City Council shared direction on the new framework, proposed targets and the introduction, air quality and water sections at a November 2023 Work Study Session.

The Scottsdale Environmental Advisory Commission (SEAC) has devoted time at their meetings (27 to date) to share their valuable input and review plan drafts. Input from this seven-member public body has continued to shape the aspirations and contents of the plan.

Attachments

1. Community Sustainability Plan: Energy, Waste and Extreme Heat (Draft) **Pages 3, 5, 6 and 8 updated to conform to the recommendations from the Scottsdale Environmental Advisory Commission approved at their February 21, 2024 Regular Meeting (see edits in red) **
2. July 10, 2023 City Council Marked Agenda, Scottsdale Community Sustainability Plan
3. November 13, 2023 City Council Marked Agenda, Scottsdale Community Sustainability Plan
4. Public comment received since November 2023 (including written comments received from members of the Scottsdale Environmental Advisory Commission)

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 the pollutants and greenhouse gases associated with burning fossil fuels.

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 more than 3.9 million megawatt hours (MWh) of electricity in 2022, which is 50% more than the amount used per capita 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.

City-wide, 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.

CITY-WIDE ELECTRICITY USE
(THOUSANDS MEGAWATT HOURS - MWh)

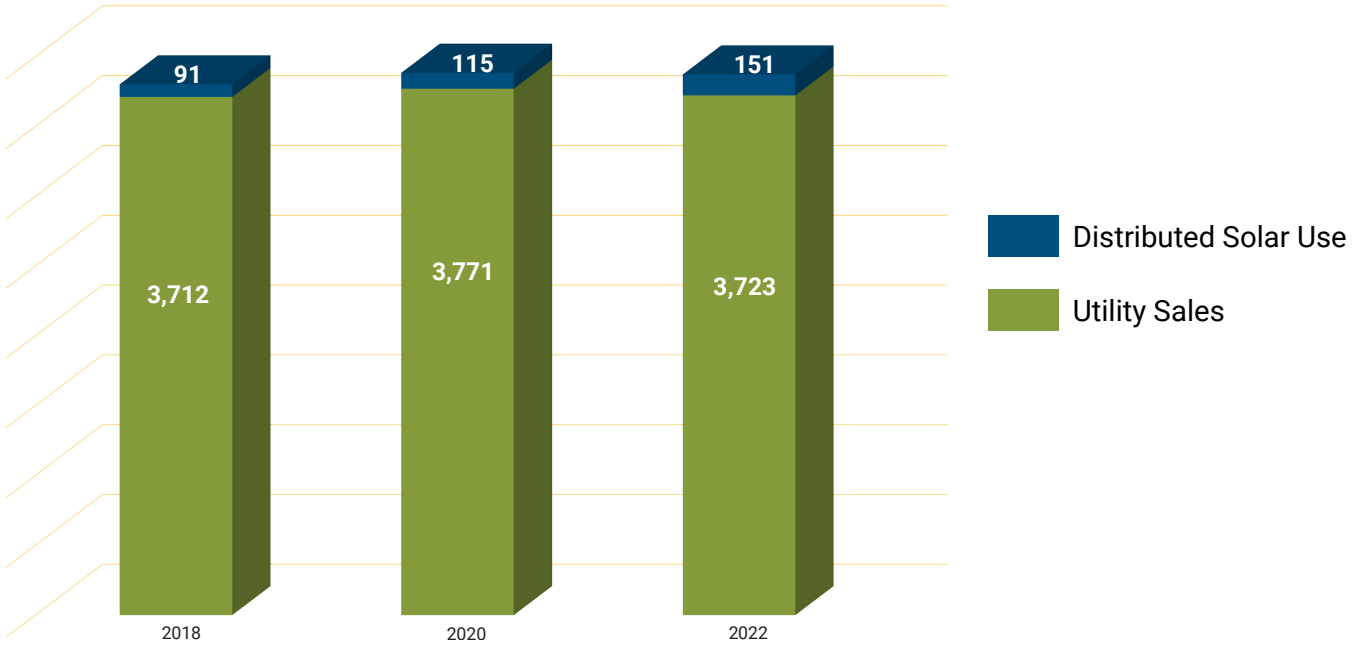


Figure 1. Source: ASU/NAU Scottsdale GHG Inventory

INDICATOR

City-wide electricity use (2022 = 3,874,290 megawatt hours)

TARGET

Pending Council Direction

Reduce city-wide electricity use per square foot by 15% by 2035 (relative to 2022) *(Staff Recommendation)*

Achieve 70% city-wide clean energy use by 2030 *(SEAC Recommendation)*

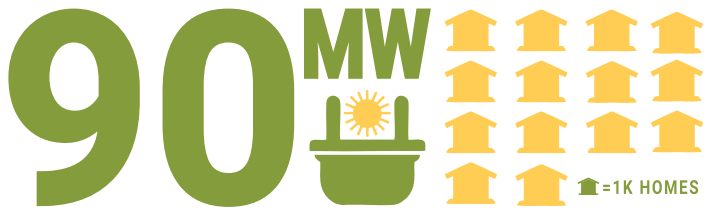


Figure 2. Source: ASU/NAU Scottsdale GHG Inventory

INDICATOR

Distributed solar capacity (2022 = 90.1 megawatts city-wide; 350 kilowatts municipal)

TARGET

Pending Council Direction

Increase distributed solar capacity city-wide to 180 MW by 2030 and to 300 MW by 2040; increase municipal solar installations to 3MW by 2030 *(Staff Recommendation)*

Increase distributed solar capacity city-wide to 180 MW by 2030 and to 500 MW by 2040; increase municipal solar capacity to 5 MW by 2030 *(SEAC Recommendation)*

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 27% to 625,185 therms, due to new or repaired facilities coming online. **City-wide natural gas use rose slightly (up 2.6%) to 49,779,824 therms.**

INDICATOR

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

TARGET

Pending Council Direction

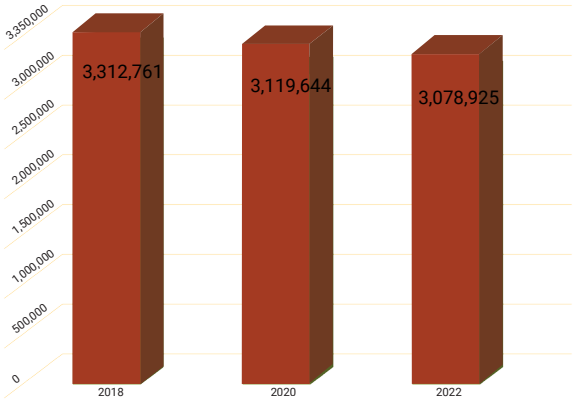
Reduce municipal electricity use by 10% by 2035 (relative to 2022) through efficiency measures *(Staff Recommendation)*

Reduce municipal electricity use by 15% by 2035 (relative to 2022) through efficiency measures *(SEAC Recommendation)*

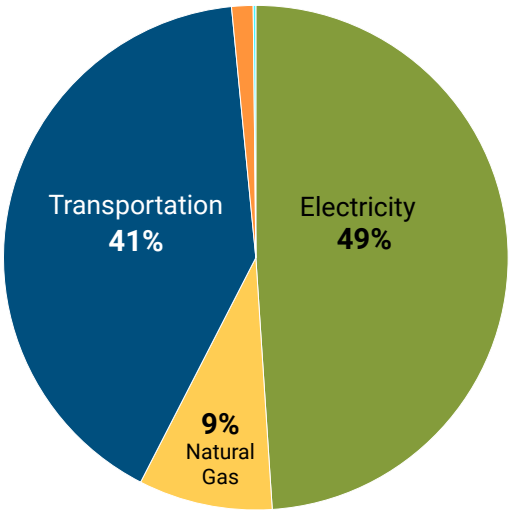
Between 2018 and 2022, city-wide greenhouse gas emissions decreased by 7% to 3,078,925 MT CO_2e.[1] The majority of these emissions were the result of electricity use (49%), with transportation (41%) also being an important contributor. Other sources include natural gas (9%), solid waste and wastewater (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.

CITY-WIDE GREENHOUSE GAS EMISSIONS (MT CO_2e)



CITY-WIDE GREENHOUSE GAS EMISSIONS BY SOURCE (2022)



Less than 2% each:
Solid Waste/Wastewater, Refrigerant Loss

Figure 3. Source: ASU/NAU Scottsdale GHG Inventory

INDICATOR

City-wide greenhouse gas emissions
(2022 = 3,078,925 metric tons CO_2 equivalent)

TARGET

~~*Pending Council Direction*~~

Reduce greenhouse gas emissions (relative to 2022) by 45% by 2035 and 90% by 2050 ~~*(Staff Recommendation)*~~

~~Reduce greenhouse gas emissions (relative to 2022) by 45% by 2030 and 90% by 2040 *(SEAC Recommendation)*~~

During the same time period, emissions from Scottsdale's municipal operations decreased roughly 10% to 184,299 MT CO_2e (or 6% of the city-wide total).[1] Because the city's emissions are mostly driven by electricity use in buildings (61%), 2020 emissions were markedly lower during pandemic-related shutdowns but also reflect existing efforts to improve the energy efficiency of our buildings. Waste-related emissions (23%) play a larger role than city-wide, due to municipal collection of residential waste and treatment of water. Other sources of emissions are transportation (8%), natural gas (3%), refrigerant loss (3%) and transmission and distribution (T&D) losses (2%).

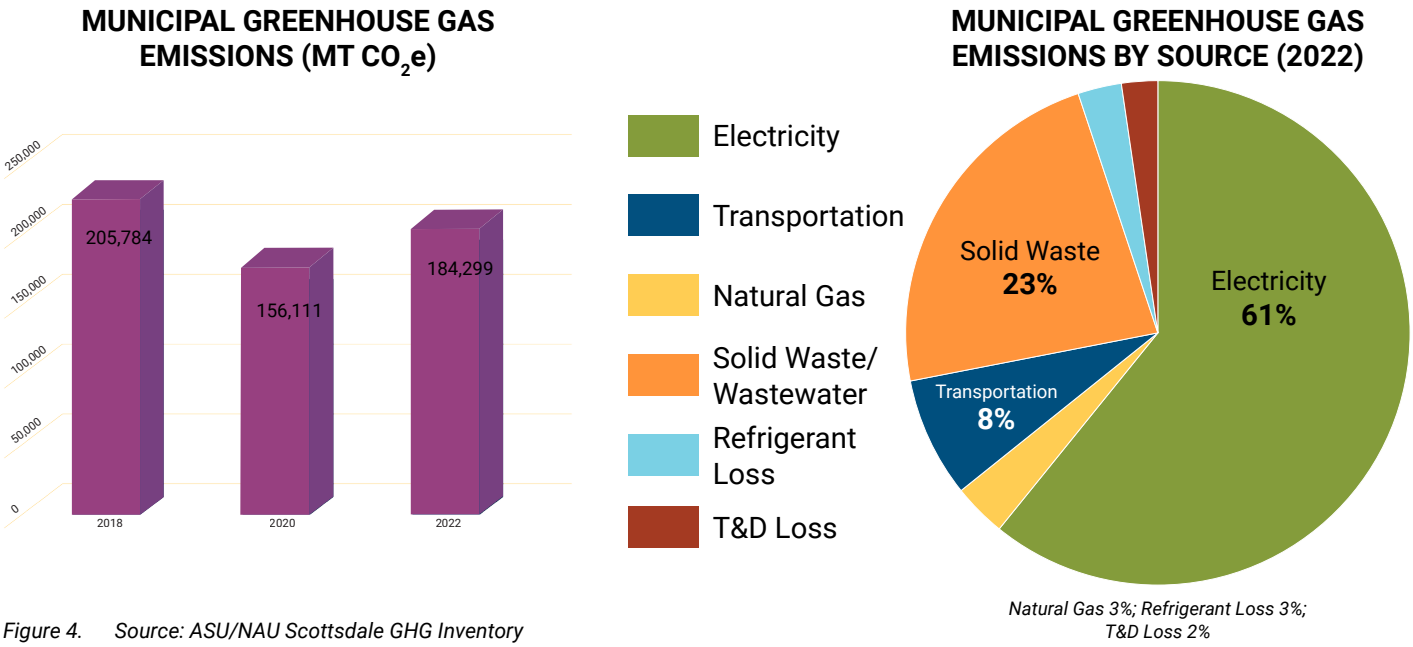


Figure 4. Source: ASU/NAU Scottsdale GHG Inventory

INDICATOR

Municipal greenhouse gas emissions (2022 = 184,299 metric tons CO_2 equivalent)

TARGET

~~*Pending Council Direction*~~

Reduce greenhouse gas emissions (relative to 2022) by 45% by 2035 and 90% by 2050
~~*(Staff Recommendation)*~~

~~Reduce greenhouse gas emissions (relative to 2022) by 45% by 2030 and 90% by 2040~~
~~*(SEAC Recommendation)*~~

1. Scottsdale's city-wide 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 city-wide 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.

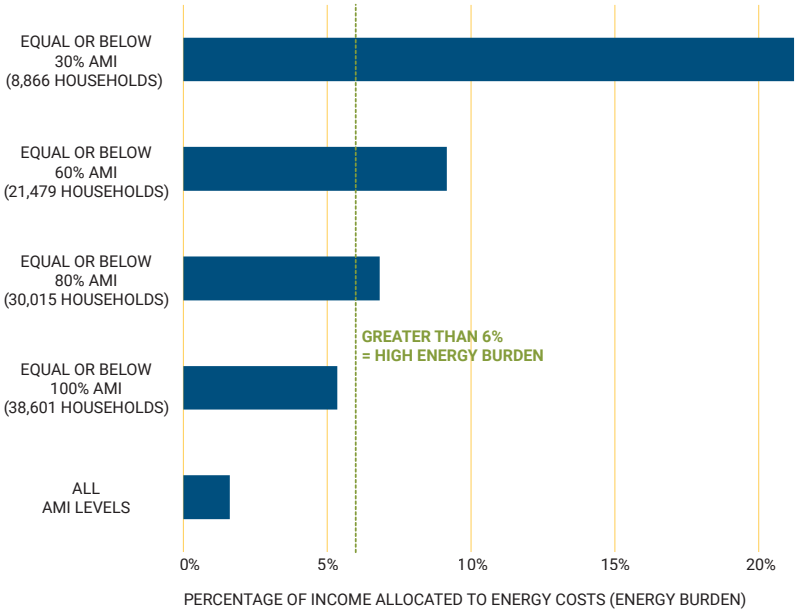
As part of the process to estimate the inventory of greenhouse gas emissions, Scottsdale also developed a forecasting model to analyze current trends at the community, state and national levels and use this information to estimate future community-level GHG emissions in Scottsdale. The model builds on 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 city-wide 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. 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 below 30% 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 (2022 = 21% for households below 30% 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 (https://www.energy.gov/scep/slsc/lead-tool); data accessed August 2023

The number of green buildings – those that comply with IgCC, LEED, Scottsdale Green Building Program or Green Rehab 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 = 1,588 out of 96,703 or 2% of total)

TARGET

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

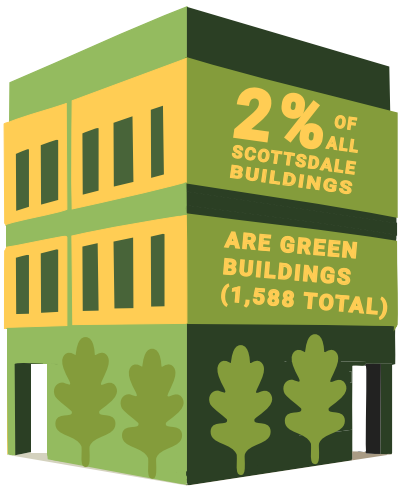


Figure 7. Sources: City of Scottsdale, FEMA

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

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 a city-wide energy management system and track city 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.

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.

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.

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
NRG 1.3	Provide education for homeowners about solar financing options.	1-3 years	**Lead**: OEI	$	Cost savings Lower emissions
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	$-$$$	Cost savings Lower emissions/ energy burden
NRG 1.6	Update greenhouse gas inventory at least every three years.	3-10 years	**Lead**: OEI	$$	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

ACTION		TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
STRATEGY NRG 2 Improve municipal energy performance.					
NRG 2.1	Employ a city-wide energy management system and track city 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.	On-going	**Lead**: Facilities, Transportation & Streets	$$-$$$	Municipal savings Lower emissions
NRG 2.5	Dedicate staff resources to managing energy programs.	3-10 years	**Lead**: Facilities	$$	Municipal savings Lower emissions
NRG 2.6	Develop a master plan for solar development on city-owned properties, including battery and other storage capacity.	3-10 years	**Lead**: Facilities	$$-$$$	Municipal savings Lower emissions
NRG 2.7	Share information on savings achieved through municipal solar installations.	1-3 years	**Lead**: Facilities	$	Municipal savings Lower emissions
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
NRG 2.9	Continue to participate in utility demand response programs.	On-going	**Lead**: Facilities, Water	$	Municipal savings Lower emissions
NRG 2.10	Join EPA Green Power Partnership.	1-3 years	**Lead**: OEI	$	Lower emissions

ACTION		TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
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.	3-10 years	**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
NRG 3.3	Strengthen enforcement of all building codes.	On-going	**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
NRG 3.5	Continue LEED Gold requirement for new civic structures.	On-going	**Lead**: OEI, Plan Review	$$-$$$	Cost savings Local jobs

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

4 "State Solar Spotlight: Arizona," Solar Energy Industries Association. https://www.seia.org/sites/default/files/2022-09/Arizona%20State-Factsheet- 2022-Q3.pdf.

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

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

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WASTE

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

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. Garbage 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]

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 (yard) waste. Finally, as part of the base residential 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 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.

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.

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 solid waste and recycling 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.

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 waste (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 waste 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.

SINGLE-FAMILY HOUSEHOLD LANDFILL WASTE (POUNDS PER HOME/FISCAL YEAR)

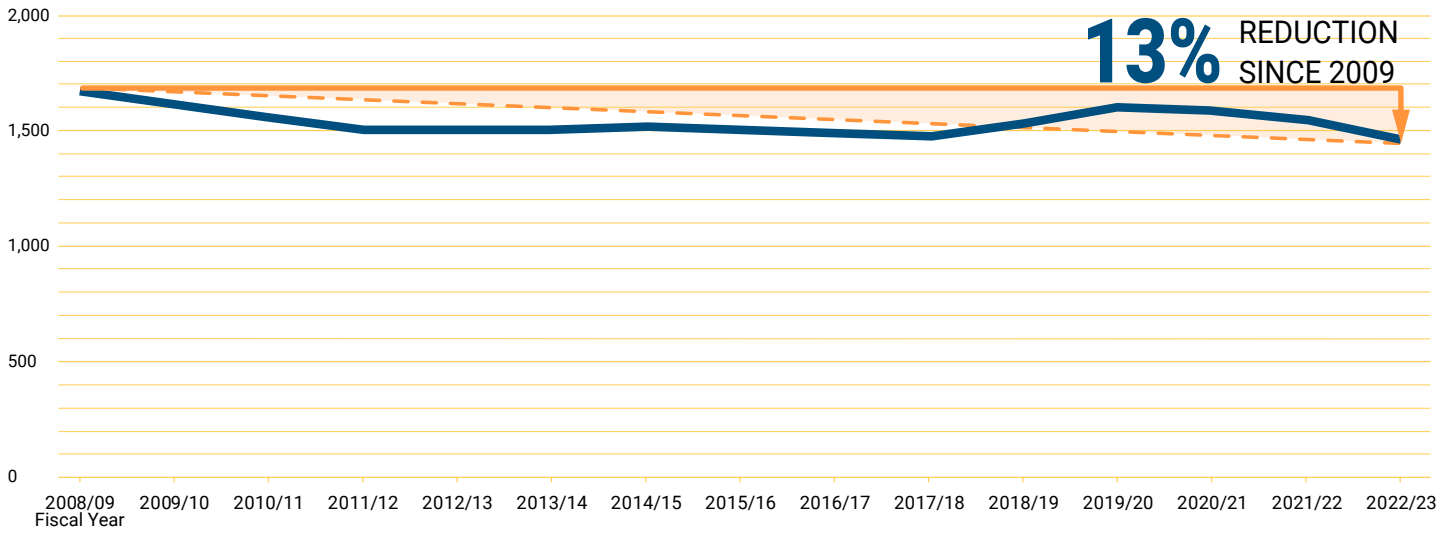


Figure 1. Source: Scottsdale Solid Waste Services

INDICATOR

Pounds of landfill waste per single-family household (2022-2023 = 1,465 pounds)

TARGET

Pending Council Direction

Reduce landfill waste per single-family household from 2022 levels by 25% by 2030 and by 90% by 2050 *(Staff Recommendation)*

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

INDICATOR

Tons of landfill waste collected city-wide (TBD)

TARGET

Pending Council Direction

Reduce landfill waste collected city-wide by 90% by 2050 *(Staff Recommendation)*

Reduce landfill refuse collected city-wide by 90% by 2040 *(SEAC Recommendation)*

INDICATOR

Tons of municipal landfill waste collected (TBD)

TARGET

Pending Council Direction

Reduce municipal landfill waste by 25% from 2024 levels by 2030 and 90% by 2045 *(Staff Recommendation)*

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

Scottsdale Solid Waste Services provide weekly recycling pickup for approximately 84,000 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.

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[2]. 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.

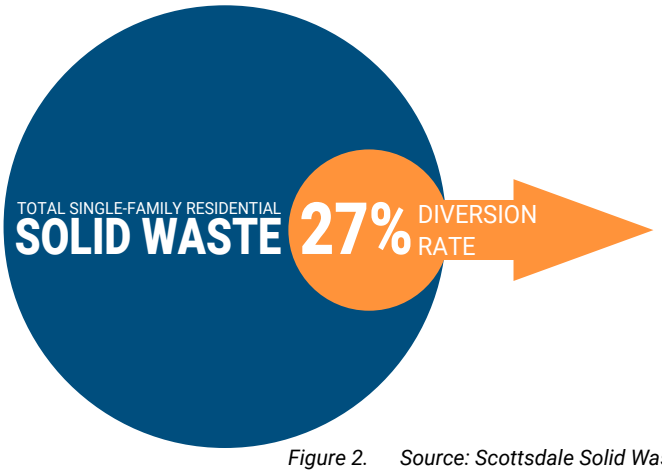


Figure 2. Source: Scottsdale Solid Waste Services

INDICATOR

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

TARGETS

Pending Council Direction

Staff Recommendations:

- Achieve a 35% diversion rate (single family households) by 2030
- Achieve a 90% diversion rate (city-wide) by 2050
- Achieve a 35% diversion rate for municipal waste by 2030 and a 90% diversion rate by 2045

SEAC Recommendations:

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

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

But there is more to sustainable materials management than recycling. Source reduction, or waste prevention, 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 waste 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.

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.

Organic material – mostly yard and food waste – in the waste stream is another great opportunity for diversion. Horse manure is one organic diversion opportunity available to Scottsdale, both because of the WestWorld equestrian center and Scottsdale's many horse properties. 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.

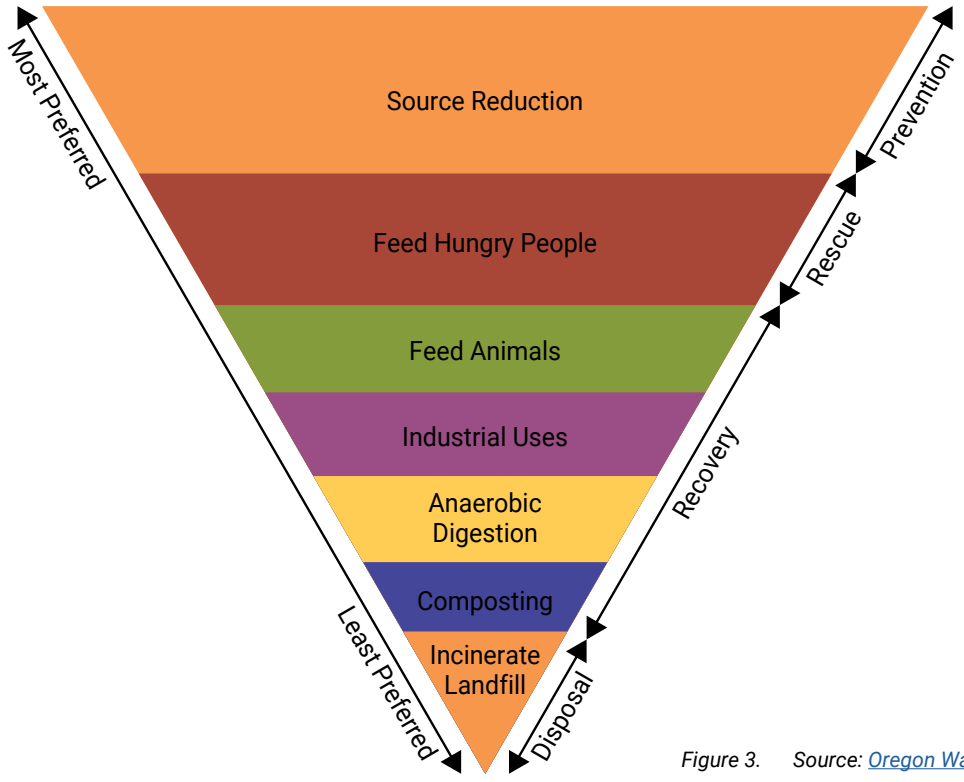


Figure 3. *Source: Oregon Wasted Food Study*

INDICATOR

Tons of organic waste diverted from landfill (TBD)

TARGETS

Achieve a 50% diversion rate from the brush and bulk waste stream by 2030 and a 90% diversion rate by 2040

Divert 15,000 tons annually of city-wide 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)*

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, generating a helpful hierarchy from prevention to rescue, recovery and disposal (*Figure 3*). Some of these actions are difficult to quantify but are still important waste management tools.

Single-family residents can dispose of yard waste, including grass clippings, tree trimmings and other organic material, during their monthly brush and bulk pickup. Usually, this waste 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 are problematic 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 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 of waste 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

Recycling contamination rate (2019 = 14%)

TARGET

Maintain a recycling contamination rate below 10% by 2025 and below 5% by 2045

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.
- 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”

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 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.

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	$-$$	Less waste
WST 1.5	Develop a green event program and resources for event planners.	On-going	**Lead**: Solid Waste **Partners**: Event planners	$	Less waste
WST 1.6	Host an expo with vendors to promote and educate about green event options.	1-3 years	**Lead**: Solid Waste **Partners**: Event planners, city-owned venues, vendors	$-$$	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	$-$$$	Less waste Local jobs
WST 2.2	Attract circular economy companies and entrepreneurs.	3-10 years	**Lead**: Economic Development	$	Less waste Local jobs
WST 2.3	Encourage innovative reuse of materials.	1-3 years	**Lead**: Solid Waste **Partners**: Residents, businesses	$	Less waste Local jobs
STRATEGY WST 3 **Expand opportunities for diverting organic waste from the landfill.**					
WST 3.1	Establish a green or organic waste drop-off program.	3-10 years	**Lead**: Solid Waste **Partners**: Capital Projects	$$$+	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

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	$-$$	Less waste
WST 4.2	Expand reuse of surplus municipal goods.	1-3 years	**Lead**: Purchasing **Partners**: Solid Waste, City departments	$	Less waste Municipal savings
WST 4.3	Educate on the benefits of reusable and compostable packaging and bags.	On-going	**Lead**: Solid Waste **Partners**: OEI, Communications	$-$$	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 This same methodology will be used for calculating the diversion rate for municipal waste, but composting and diversion of brush and bulk items will be included in the city-wide diversion rate.

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

EXTREME HEAT

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

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. Opting to stay 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 destruction 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]

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.

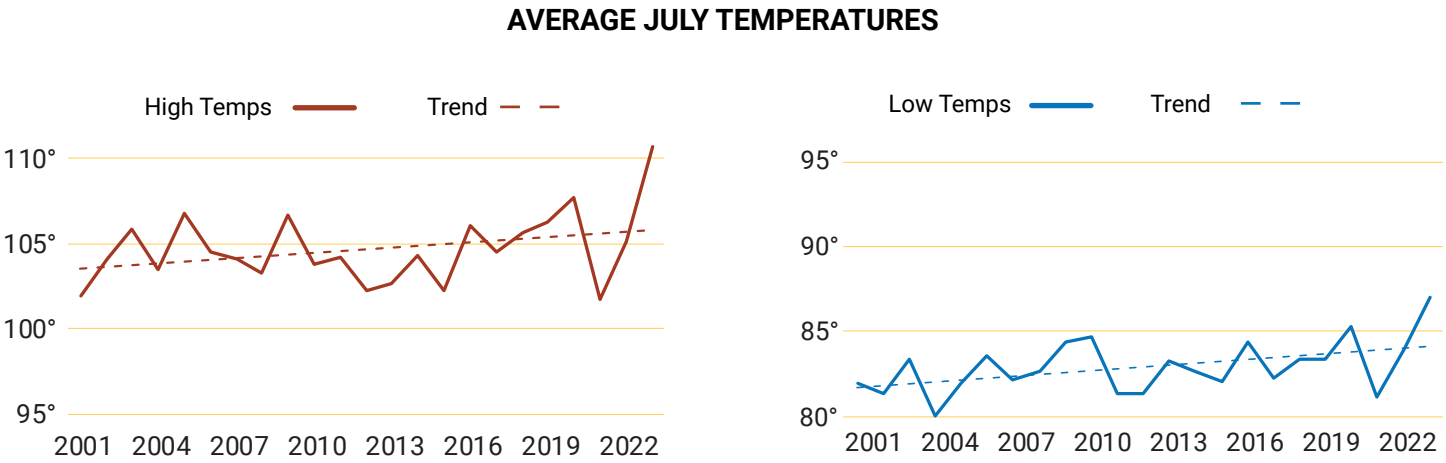


Figure 1. Source: Air temperature data from National Weather Service (https://www.weather.gov/wrh/Climate?wfo=psr)

The number of excessively hot days and nights is also increasing, indicating that 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.

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: NOAA Online Weather Data

INDICATOR

Average temperatures, July

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

TARGET

Reduce day- and night-time air temperatures by 2030

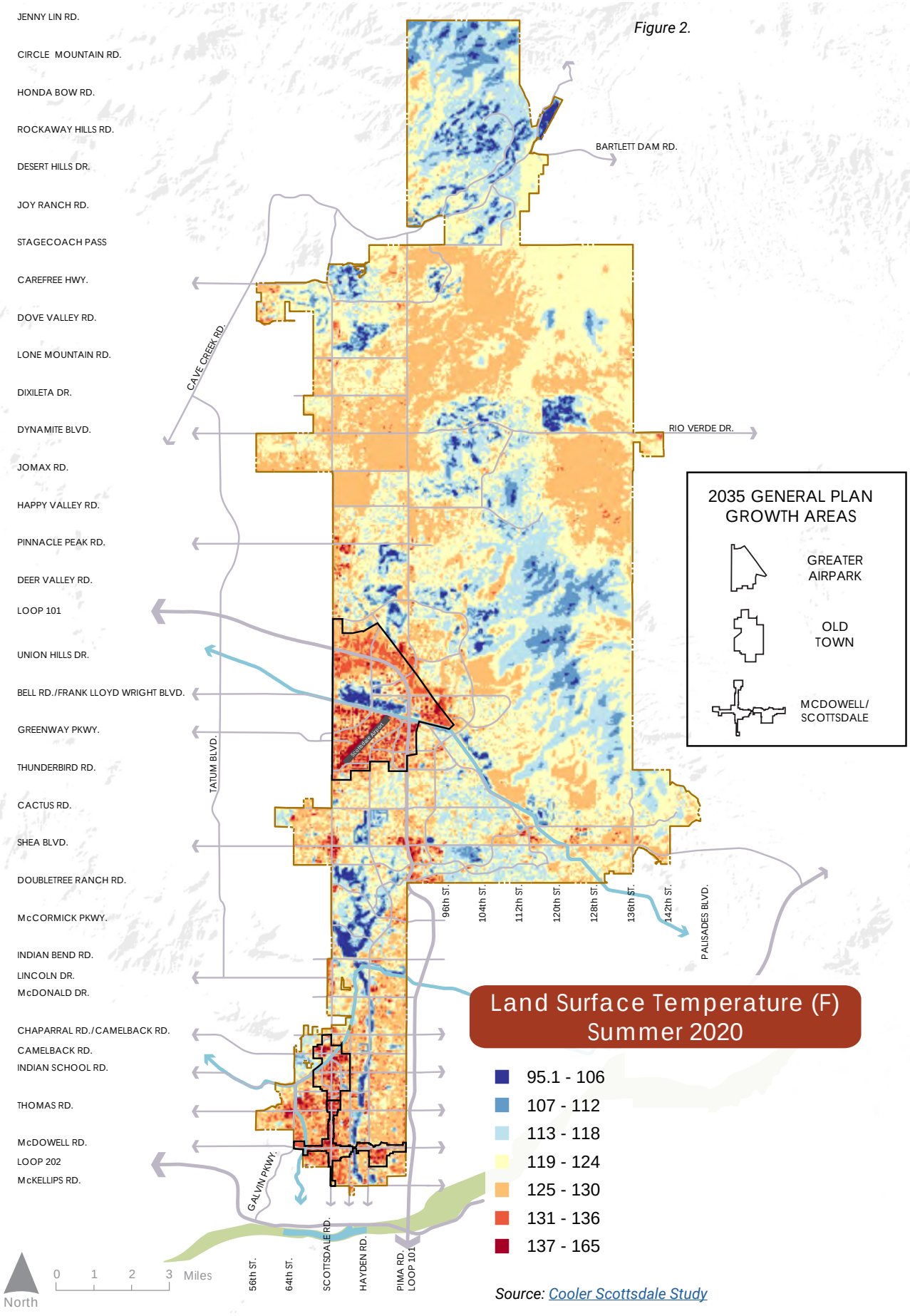
TARGET

Reduce 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 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]

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 hospitalization 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. 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. Incidents per 100,000 population

	2018	2019	2020	2021	2022
Heat Deaths					
Maricopa County Residents	3.24	3.81	6.19	6.05	7.41
Scottsdale Residents	3.66	1.60	3.92	3.14	2.75
Heat Illnesses					
Maricopa County Residents	52.99	52.86	49.45	54.02	67.01
Scottsdale Residents	34.14	38.31	32.16	32.55	39.61

Table 2. Source: Maricopa County Department of Health

INDICATOR

Heat-related morbidity and mortality resulting in hospitalization, per 100,000 population

(2022 deaths = 2.75)
(2022 illnesses = 39.6)

TARGET

Reduce hospitalizations for heat-related related health events (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 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.

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:

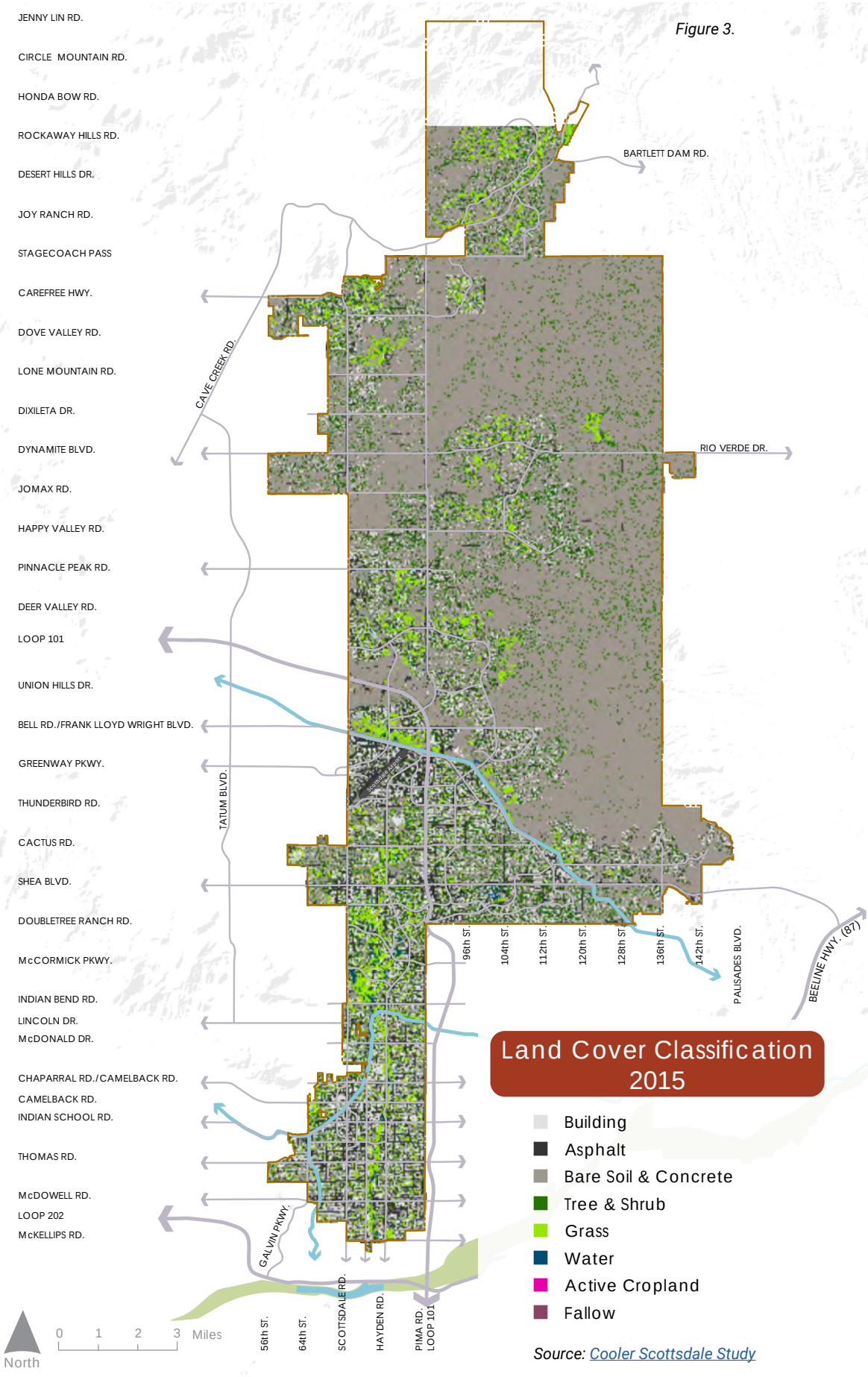
- Approximately 55°F lower under mature, fully leafed trees in Old Town and on Waterfront
- Approximately 30°F lower under mature, desert-adapted trees
- Up to 50°F lower under bus stops with full, wide shade structures

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 and buildings (33%) or bare soil and concrete (45%). The amount of green landscape varies across the city, and tree canopy 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]

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 2023 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

Percentage of tree & shrub canopy

(2015 = 13%)

TARGET

Pending Council Direction

Increase tree & shrub canopy to 15% by 2040 *(Staff Recommendation)*

Increase tree & shrub canopy to 20% by 2030 and to 25% by 2040 *(SEAC Recommendation)*

INDICATOR

TBD

TARGET

Pending Council Direction

Increase structured shade city-wide by 15% by 2030 and by 20% by 2040 *(SEAC Recommendation)*

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

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.

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 Oldtown 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.

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.	On-going	**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

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	$$$	Health Equity
HT 2.6	Develop a more robust and detailed plan for large scale heat disaster response including power grid failure.	3-10 years	**Lead**: Emergency Management	$	Safety
HT 2.7	Review municipal guidelines for heat protection for employees.	1-3 years	**Lead**: OEI **Partners:** Facilities, Parks & Rec	$	Health
STRATEGY HT 3 Identify urban design improvements including structured shade and built environment.					
HT 3.1	Support private/public strategies to reduce hot surfaces.	1-3 years	**Lead**: OEI **Partners:** Planning & Development, developers, residents	$	Health
HT 3.2	Promote cool infrastructure technologies and options.	On-going	**Lead**: Planning & Development/OEI **Partners:** Developers, residents	$	Health Cost savings
HT 3.3	Promote shading for site hardscape on existing commercial and multifamily developments.	1-3 years	**Lead**: Planning & Development **Partners:** Developers, businesses	$-$$$	Health Cost savings
HT 3.4	Identify areas most impacted by the heat island effect and prioritize mitigation for these areas.	On-going	**Lead**: OEI	$	Health
HT 3.5	Coordinate heat and shade work with other active plans.	On-going	**Lead**: OEI/Planning & Development	$	Health

ACTION		TIME HORIZON	LEAD AGENCY(IES) & PARTNERS	COSTS	BENEFITS
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	$$$	Health Air quality
HT 4.2	Encourage use of desert-adapted trees to support heat reduction and water conservation strategies.	On-going	**Lead**: OEI/Parks & Rec **Partners:** Planning & Development, Scottsdale Water	$$$	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	$$$	Health Air quality
HT 4.4	Study options to improve proper tree maintenance and replacement near commercial and multifamily buildings.	On-going	**Lead**: Parks & Rec **Partners:** OEI, Planning & Development	$-$$$	Health Air quality
HT 4.5	Partner to plant more trees.	On-going	**Lead**: Parks & Rec **Partners:** OEI, Planning & Development	$-$$$	Health Air quality

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.

SCOTTSDALE
CITY COUNCIL MEETING
MEETING NOTICE AND AGENDA

COUNCIL

David D. Ortega, Mayor
Tammy Caputi
Tom Durham
Barry Graham
Betty Janik
Kathleen S. Littlefield
Solange Whitehead

Monday, July 10, 2023

City Council meetings are also televised on Cox Cable Channel 11 and streamed online at ScottsdaleAZ.gov (search "live stream). Unless an exception is made, or unless otherwise noted, the Council will not begin discussion on any new items after 10:00 p.m. Items that are not heard will be continued to the next scheduled Council meeting (July 11, 2023).

In-person spoken public comment is being accepted on Items 1 through 15. To sign up to speak on these items, please click here.

In-Person spoken public comment is also being accepted on non-agendized items that are within the Council's jurisdiction. Scottsdale citizens, business owners, and/or property owners may speak on items that are within the Council's jurisdiction but are not on the agenda, with a total of 15 minutes at the beginning and 15 minutes at the end of the meeting dedicated to comment on non-agendized items. To sign up to speak in-person on a non-agendized item that is within the Council's jurisdiction, please click here.

Requests for in-person public comment may be submitted online or at the City Council meeting. Registration for in-person public comment is available online by completing a Request to Speak form. In-Person Public Comment Request to Speak forms for Consent, Regular, and Non-Agendized items must be submitted online no later than 90 minutes before the start of the meeting. Additionally, in-person meeting attendees may submit a Request to Speak form utilizing the kiosk located in the foyer area of City Hall for each agenda item they wish to address. Forms must be submitted and received before the Mayor announces the agenda item.

Written public comment may be submitted in-person by completing a yellow written public comment card or electronically by completing a Written Public Comment form. Written public comment received during the meeting will be shared with the Council. Written comments that are submitted electronically at least 90 minutes before the meeting will be emailed to the Council and posted online prior to the meeting. A written public comment may be submitted electronically by clicking here.

5:00 P.M. **Marked Agenda**

REGULAR CITY COUNCIL MEETING
City Hall Kiva Forum, 3939 N. Drinkwater Boulevard

Call to Order – 5:07 P.M.

Roll Call – All present

One or more members of the Council may be attending the Council Meeting by telephone, video, or Internet conferencing, pursuant to A.R.S. §38-431(4).

Pledge of Allegiance – Councilmember Graham

Mayor's Report

Mayor Ortega asked for a moment of silent reflection for the people of Ukraine as they continue their fight for freedom and democracy.

Mayor Ortega read a proclamation to honor the City's "What Works Cities" Gold Certification, which is only held by 62 cities worldwide. It is a data-driven program that various departments in the City have participated in for many years.

City Manager's Report – City Manager Jim Thompson introduced a "Fast Five" video produced by the City Communication's Office which provided updates on several City events and offerings. He also introduced a video that recognized the Scottsdale Airport as part of the 28th Annual Scottsdale History Hall of Fame ceremony.

Fast Five Video Update

- **Scottsdale History Hall of Fame Video – Scottsdale Airport**
  Note: The Council may make comments or ask questions to the presenter(s); however, no Council action will be taken.

Possible Executive Session

Notice is hereby given that, at any time during tonight's meeting, the Council may make a motion to recess into Executive Session to discuss and consult with the attorneys and representatives of the public body to obtain legal advice on any applicable item on tonight's agenda. If authorized by a majority vote of the Council, the Executive Session will be held immediately after the vote and will not be open to the public. A.R.S. §38-431.03(A)(3). The public meeting will resume following the Executive Session.

Public Comment – None

Public Comment time is reserved for Scottsdale citizens, business owners, and/or property owners to comment on non-agendized items that are within the Council's jurisdiction. No official Council action can be taken on these items. Advocacy for or against a candidate or ballot measure during a Council meeting is not allowed pursuant to State law and is therefore not deemed to be within the Council's jurisdiction.

Public Comment time is also the designated time for presenting a citizen petition. There is no limit on the number of petitions a citizen may present; however, each citizen is limited to a total time of three minutes to present and speak to the petition(s). A Request to Speak **form** must be submitted together with the petition(s) before the Mayor announces the second Public Comment period.

Speakers may address the Council once under Public Comment at the beginning or the end of the meeting, but not both. Public Comment is limited to a total of 15 minutes at the beginning and 15 minutes at the end of the meeting. **Speakers are limited to three minutes to address the Council during "Public Comment."**

MINUTES

Request: Approve the following Council meeting minutes from June 2023:

a. **Regular Meeting Minutes of June 13, 2023**
b. **Special Meeting Minutes of June 13, 2023**

– Vice Mayor Littlefield made a motion to approve the Regular Meeting Minutes of June 13, 2023 and Special Meeting Minutes of June 13, 2023. Councilmember Graham seconded the motion,

which carried 7/0, with Mayor Ortega; Vice Mayor Littlefield; and Councilmembers Caputi, Durham, Graham, Janik, and Whitehead voting in the affirmative.

CONSENT AGENDA ITEMS 1-12

How the Consent Agenda Works: The Council may take one vote to act on all of the items on the Consent Agenda or may remove items for further discussion. Items not removed from the Consent Agenda will be considered in one motion. Items removed for clarification or discussion by the Council will be acted on as appropriate.

– There was no public comment on the Consent Agenda.

– Councilmembers Graham and Janik requested additional information on Item 2 [Tournament Players Club (TPC) Golf Course 36" Gravity Sewer Engineering Services Contract] and Item 12 [Arizona Canal Bank Improvements Capital Improvement Plan (CIP) Budget Appropriation and Cash Transfers]. Additionally, Councilmember Graham requested additional information on Item 7 [Scottsdale Airport Lease Agreement].

– Councilwoman Janik made a motion to approve Consent Agenda Items 1 through 12. Vice Mayor Littlefield seconded the motion, which carried 7/0, with Mayor Ortega; Vice Mayor Littlefield; and Councilmembers Caputi, Durham, Graham, Janik, and Whitehead voting in the affirmative.

1. **Kaufax Residence Abandonment (3-AB-2022) – Approved on Consent.**
   Request: Adopt **Resolution No. 12749** authorizing the abandonment of portions of No. 69th Street, E. Mark Lane, and N. 70th Street, adjacent to Parcel Nos. 216-68-099-A, 216-68-097A, 216-68-099B, and 216-68-097B with Single-Family Residential, Environmentally Sensitive Lands, Foothills Overlay (R1-70/ESL/FO) zoning designation.
   Location: 28357 and 28221 N. 69th Street; 28228 and 28212 N. 70th Street
   Staff Contact(s): Erin Perreault, Planning, Economic Development, and Tourism Executive Director, 480-312-7093, eperreault@scottsdaleaz.gov

2. **Tournament Players Club (TPC) Golf Course 36" Gravity Sewer Engineering Services Contract**
   – City Engineer Alison Tymkiw gave a PowerPoint presentation.
   – Approved on Consent.
   Request: Adopt **Resolution No. 12849** authorizing Engineering Services Contract No. 2023-079-COS with GHD, Inc., in the amount of $1,347,899, for the development of design documents for the TPC 36" gravity sewer.
   Staff Contact(s): Dan Worth, Public Works Director, 480-312-5555, daworth@scottsdaleaz.gov

3. **Granite Reef Wash – Phase 2B Engineering Services Contract – Approved on Consent.**
   Request: Adopt **Resolution No. 12802** authorizing Engineering Services Contract No. 2023-054-COS with Kimley-Horn, Inc., in the amount of $1,636,335, for design engineering services for the Granite Reef Wash – Phase 2B.
   Staff Contact(s): Dan Worth, Public Works Director, 480-312-5555, daworth@scottsdaleaz.gov

4. **Paiute Park Bathrooms Replacement Project Construction Bid – Approved on Consent.**
   Request: Adopt **Resolution No. 12853** to authorize:
   1. Construction Bid Award No. IFB-092022-021 with EDGE Construction, LLC, the lowest responsive bidder, in the amount of $829,000, for construction services for the Paiute Park restroom project.
   2. A Fiscal Year 2023/24 Budget Transfer, of up to $120,000, from the adopted Community Services Division, Community Development Block Grant (CDBG) Fund Operating Budget to the Paiute Park Bathrooms (PI09) Capital Improvement Project (CIP) to be funded by the CIP CDBG Fund.

   Locations: 3210 N. 66th Street
   Staff Contact(s): Dan Worth, Public Works Director, 480-312-5555, daworth@scottsdaleaz.gov

5. **Scottsdale Airport Perimeter Road Improvements Project Construction Bid – Approved on Consent.**

Request: Adopt **Resolution No. 12858** to authorize:

1. Construction Bid Award No. IFB-032023-071 with J. Banicki Construction, Inc., including the base bid and adding alternate bids 1 and 2, in the amount of $1,212,134.50, for construction services in connection with the Airport Perimeter Road Improvements Project.
2. A Fiscal Year 2023/24 Appropriation Contingency Transfer, of up to $650,000, from the Airport Future Grants Contingency (ZB53) to the Airport Perimeter Road Construction (AI03) capital project to be funded by the Operating Aviation Fund undesignated, unreserved ending fund balance.
3. A Fiscal Year 2023/24 Cash Transfer, of up to $650,000, from the Operating Aviation Fund undesignated, unreserved ending fund balance to the Airport Perimeter Road Construction (AI03) capital project.

Location: 15000 N. Airport Drive

Staff Contact(s): Gary Mascaro, Aviation Director, 480-312-7735, gmascaro@scottsdaleaz.gov

6. **Scottsdale Airport Drive Improvements Project Construction Bid – Approved on Consent.**

Request: Adopt **Resolution No. 12876** to authorize:

1. Construction Bid Award No. IFB-032023-074 with J. Banicki Construction, Inc., the lowest responsive bidder, in the amount of $901,015.55, for construction services in connection with the Airport Drive Improvements project.
2. A Fiscal Year 2023/24 Appropriation Contingency Transfer, of up to $125,000, from the Airport Match Contingency (ZB52) to the Rehabilitate Airport Drive (AJ02) capital project to be funded by the Operating Aviation Fund undesignated, unreserved ending fund balance.
3. A Fiscal Year 2023/24 Cash Transfer, of up to $125,000, from the Operating Aviation Fund undesignated, unreserved ending fund balance to the Rehabilitate Airport Drive (AJ02) capital project

Location: 15000 N. Airport Drive

Staff Contact(s): Gary Mascaro, Aviation Director, 480-312-7735, gmascaro@scottsdaleaz.gov

7. **Scottsdale Airport Lease Agreement**

– Aviation Director Gary Mascaro gave a presentation.

– Approved on Consent.

Request: Adopt **Resolution No. 12859** authorizing Lease Agreement No. 2023-087-COS-LA with Aerobat Ventures, LLC for the lease of North General Aviation Box Hangar Space at the Scottsdale Airport.

Staff Contact(s): Gary Mascaro, Aviation Director, 480-312-7735, gmascaro@scottsdaleaz.gov

8. **Library Assistance Program Intergovernmental Agreement – Approved on Consent.**

Request: Adopt **Resolution No. 12869** to authorize:

1. Agreement No. 2023-087-COS-IGA with the Maricopa County Library District for the Library Assistance Program.
2. The Library Director, or designee, as an agent of the City, to accept new library materials, valued at up to $463,478, from the Maricopa County Library District's Library Assistance Program for Fiscal Year 2023/24, as stipulated in Intergovernmental Agreement No. 2023-087-COS, and take such other actions as necessary to carry out the intent of this Resolution.

Staff Contact(s): Melissa Orr, Interim Library Director, 480-312-2165, morr@scottsdaleaz.gov

9. **Historic Old Town Festoon Lighting Funding – Approved on Consent.**

Request: Adopt **Resolution No. 12889** authorizing a Fiscal Year 2023/24 Tourism Development Fund Operating Contingency transfer, in the amount of $206,720, to the Old Town Streetlight Replacements (SI05) Capital Improvement Project to be funded by the Tourism Development Fund.

Staff Contact(s): Karen Churchard, Tourism and Events Director, 480-312-2890, kchurchard@scottsdaleaz.gov

10. **Infrastructure Reimbursement Agreement – Approved on Consent.**
Request: Adopt **Resolution No. 12854** to authorize:
1. Infrastructure Reimbursement Agreement No. 2023-084-COS with CND-Preserve Ranch, LLC, doing business as David Weekley Homes, for cost reimbursement, in the estimated amount of $2,248,375, to design and construct a portion of Infrastructure Improvement Plan (IIP) project IIP-012 (128th Street Water Transmission Mains).
2. The City Manager, or designee, to execute any such documents and take any such other actions as necessary to carry out the intent of this Resolution and Agreement.

Staff Contact(s): Brian Biesemeyer, Water Resources Executive Director, 480-312-5683, bbiesemeyer@scottsdaleaz.gov

11. **Salt River Project – Central Arizona Project (SRP-CAP) Interconnection Facility Cost-Sharing Agreement – Approved on Consent.**
Request: Adopt **Resolution No. 12886** to authorize:
1. Agreement No. 2023-120-COS with the Salt River Project Agricultural Improvement and Power District (SRP) and cost-share partners for the technical review of the proposed SRP-CAP Interconnection Facility.

Staff Contact(s): Brian Biesemeyer, Water Resources Executive Director, 480-312-5683, bbiesemeyer@scottsdaleaz.gov

12. **Arizona Canal Bank Improvements Capital Improvement Plan (CIP) Budget Appropriation and Cash Transfers**
– City Engineer Alison Tymkiw gave a PowerPoint presentation.
– Approved on Consent.
Request: Adopt **Resolution No. 12885** to authorize:
1. A Fiscal Year 2023/24 Old Town Improvements Capital Contingency Budget Appropriation Transfer, of up to $1,600,000, to a newly created CIP project to be titled *"Arizona Canal Bank Improvements"* to be funded by the Downtown Cultural Trust Operating Fund and Old Town/Downtown Special Improvements CIP Fund.
2. A Fiscal Year 2023/24 Cash Transfer, of up to $900,000, from the Downtown Cultural Trust Operating Fund, and up to $700,000, from the Old Town/Downtown Special Improvement CIP Fund to the Arizona Canal Bank Improvements project.

Staff Contact(s): Dan Worth, Public Works Director, 480-312-5555, daworth@scottsdaleaz.gov and Judy Doyle, Budget Director, 480-312-2603, jdoyle@scottsdaleaz.gov

REGULAR AGENDA ITEMS 13-15

How the Regular Agenda Works: The Council takes action on each item on the Regular Agenda.

13. **Care Homes Text Amendment (1-TA-2022) – Councilmember Graham made a motion to grant the staff's request for a continuance to a date to be determined. Councilwoman Janik seconded the motion, which carried 7/0, with Mayor Ortega; Vice Mayor Littlefield; and Councilmembers Caputi, Durham, Graham, Janik, and Whitehead voting in the affirmative.**
Request: Adopt **Ordinance No. 4590** to amend the City of Scottsdale Zoning Ordinance (Ordinance No. 455) for the purpose of amending Article I, Section 1.806 (Disability Accommodation); Article I, Section 1.920 (Request for Disability Accommodation); Article III, Section 3.100 (Definitions); Article V, Section 5.012 (Single-Family Residential, R1-190 – Use Regulations); and Article V, Section 5.102 (Single-Family Residential, R1-43 – Use Regulations) to clarify what constitutes a care home and modify the process and criteria for obtaining a disability accommodation.
Presenter(s): Greg Bloemberg, Principal Planner
Staff Contact(s): Erin Perreault, Planning, Economic Development, and Tourism Executive Director, 480-312-7093, eperreault@scottsdaleaz.gov

14. **Water Conservation Code Amendment**

Request: Adopt **Ordinance No. 4606** amending Scottsdale Revised Code, Chapter 49, Water, Sewers, and Sewage Disposal, Article VII and Division 1, Water Conservation, by adding Section 49-248, Limitation on water intensive landscape/turf areas on new Single-Family Residential homes, to limit water intensive landscapes/turf areas on new single-family residential homes to rear yards only.
Presenter(s): Brian Biesemeyer, Water Resources Executive Director and Gretchen Baumgardner, Water Policy Manager
Staff Contact(s): Brian Biesemeyer, Water Resources Executive Director, 480-312-5683, bbiesemeyer@scottsdaleaz.gov
– Water Policy Manager Gretchen Baumgardner gave a PowerPoint presentation.

– There was no public comment on Item 14.

– Councilwoman Whitehead made a motion to adopt Ordinance No. 4606. Mayor Ortega seconded the motion, which carried 7/0, with Mayor Ortega; Vice Mayor Littlefield; and Councilmembers Caputi, Durham, Graham, Janik, and Whitehead voting in the affirmative.

15. **Water and Wastewater Infrastructure Improvement Plan Amendment and Water and Wastewater Development Fees Code Amendment**

Requests:
1. Adopt **Resolution No. 12871** authorizing a minor amendment to the Infrastructure Improvement Plan adopted in July 2021 to increase certain project costs based on updated engineering estimates; and declaring the amendment to be a public record.
2. Adopt **Ordinance No. 4603** authorizing the newly modified Water and Wastewater Development Fees and amendments to Scottsdale Revised Code, Chapter 49, Water, Sewer, and Sewage Disposal, Article III, Water and Wastewater Development Fees, Section 49-82, Collection of Development Fees, with new fees effective 30 days after adoption of this Ordinance.

Presenter(s): Brian Biesemeyer, Water Resources Executive Director
Staff Contact(s): Brian Biesemeyer, Water Resources Executive Director, 480-312-5683, bbiesemeyer@scottsdaleaz.gov
– Water Resources Executive Director Brian Biesemeyer gave a PowerPoint presentation.

– There was no public comment on Item 15.

– Councilwoman Whitehead made a motion to adopt Resolution No. 12871 and Ordinance No. 4603. Councilmember Durham seconded the motion, which carried 7/0, with Mayor Ortega; Vice Mayor Littlefield; and Councilmembers Caputi, Durham, Graham, Janik, and Whitehead voting in the affirmative.

Public Comment – None
Public Comment time is reserved for Scottsdale citizens, business owners, and/or property owners to comment on non-agendized items that are within the Council's jurisdiction. No official Council action can be taken on these items. Advocacy for or against a candidate or ballot measure during a Council meeting is not allowed pursuant to State law and is therefore not deemed to be within the Council's jurisdiction.

Public Comment time is also the designated time for presenting a citizen petition. There is no limit on the number of petitions a citizen may present; however, each citizen is limited to a total time of three minutes to present and speak to the petition(s). A Request to Speak **form** must be submitted together with the petition(s) before the Mayor announces the second Public Comment period.

Speakers may address the Council once under Public Comment at the beginning or the end of the meeting, but not both. Public Comment is limited to a total of 15 minutes at the beginning and 15 minutes at the end of the meeting. **Speakers are limited to three minutes to address the Council during "Public Comment."**

CITIZEN PETITIONS ITEM 16

Citizen Petitions: This portion of the agenda is reserved for the submission and/or consideration of citizen petitions. There is no limit on the number of petitions a citizen may submit; however, **each citizen is limited to a total time of three minutes to speak to his/her petition(s)**. A Request to Speak **form** must be submitted, together with the petition(s), ***before*** the second Public Comment period begins.

16. Receipt of Citizen Petitions – None
Request: Accept and acknowledge receipt of citizen petitions. Any member of the Council may make a motion, to be voted on by the Council, to: (1) Direct the City Manager to agendize the petition for further discussion; (2) direct the City Manager to investigate the matter and prepare a written response to the Council, with a copy to the petitioner; or (3) take no action.
Staff Contact(s): Ben Lane, City Clerk, 480-312-2411, blane@scottsdaleaz.gov

WORK STUDY SESSION

Work Study Sessions: Work study sessions provide a less formal setting for the Mayor and Council to discuss specific topics, at length, with each other and City staff. Work study sessions provide an opportunity for staff to receive direction from the Council and for the public to observe these discussions.

Public Comment: To provide an opportunity for public input yet continue to maximize the amount of time available for the Council to have focused discussions, spoken comment (maximum of five speakers) is being accepted on the item(s) on tonight's work study session agenda. To sign up to speak, please click **here**. **Request to speak forms must be submitted no later than 90 minutes before the start of the meeting.**

- **Scottsdale Environmental Advisory Commission Vice Chair Natalie Chrisman Lazarr spoke in support of revisions made to the scope and framework of the Sustainability Plan, endorsed incorporation of the net zero energy strategic plan, and engagement of the community.**
- **Scottsdale Environmental Advisory Commissioner Andrew Scheck expressed support for the Sustainability Plan and proposed taking aggressive steps to make a significant difference in lowering temperatures, lessening drought conditions, and improving air quality.**
- **Scottsdale resident Dan Ishac suggested three significant changes to the Sustainability Plan: simplify the language and focus on energy water and waste; eliminate the secondary and tertiary goals and activities; and include benchmarking/measurements, including a cost-benefit analysis.**

If you have thoughts or suggestions on the work study session item(s) you would like the Council to consider, you are encouraged to submit your written comment(s) electronically by clicking **here**. Written comments that are submitted electronically at least 90 minutes before the meeting will be emailed to the Council and posted online prior to the meeting.

1. Sustainability, Net Zero Energy, and Heat Mitigation Plans Update
Request: Presentation, discussion, and possible direction to staff regarding the development of the Community Sustainability, Net Zero Energy, and Heat Mitigation Plans.
Presenter(s): Lisa McNeilly, Sustainability Director

Staff Contact(s): Erin Perreault, Planning, Economic Development, and Tourism Executive Director, 480-312-7093, eperreault@scottsdaleaz.gov

– Sustainability Director Lisa McNeilly gave a PowerPoint presentation.

– There was consensus by the Council on the following:

- **Focus on these pathways: energy, heat, air quality, water, and waste.**
- **Use narratives that will tell a story about why sustainability is important as it explains the "what, why, when, where and how" that is necessary to establish an understanding of the situation and the importance of addressing it.**
- **Avoid repetition of items already discussed in other documents, such as the General Plan.**
- **Need to do community outreach to obtain support for the Sustainability Plan.**

– Councilmembers made the following suggestions:

- **Use simple or plain language instead of focusing on priorities, strategies, actions, and flowcharts.**
- **Use examples focusing on children and pets in the narratives.**
- **Every section of the Sustainability Plan should have an educational component.**
- **Provide data for quantitative results rather than qualitative results.**
- **Identify future goals for one year, two years, three years, five years, 10 years, 20 years, and 50 years.**
- **In any type of return-on-investment analysis, need to factor in quality of life in addition to the financial component.**
- **Continue focusing on priorities, strategies, actions, and flowcharts.**
- **Identify potential obstacles related to plan implementation and determine methods for addressing these obstacles.**
- **Focus on the urgent issues and identify key indicators to assess baseline conditions and monitor progress.**
- **Incorporate the engagement and education strategies and actions within each priority with citizens, the Scottsdale Environmental Advisory Commission, and other community groups.**
- **Invest in creating a digital platform that facilitates dynamic modeling and future projections.**
- **Be mindful of the implementation timeline and do not let perfection stand in the way of progress.**
- **Include benefits provided by treating wastewater for potability purposes; increasing covered walkways; encouraging light-colored roofs; and avoiding water overspray from sprinklers.**
- **The General Plan 2035 is an aspirational document supported by separate plans, such as the Transportation Action Plan, Character Area Plans, and Drought Management Plan that are regularly updated. It is important to adopt a Sustainability Plan that will also be regularly updated and support the General Plan 2035.**

Adjournment – 7:38 P.M.

– Councilmember Graham made a motion to adjourn the Regular Meeting and Work Study Session. Councilwoman Janik seconded the motion, which carried 7/0, with Mayor Ortega; Vice Mayor Littlefield; and Councilmembers Caputi, Durham, Graham, Janik, and Whitehead voting in the affirmative.

SCOTTSDALE

CITY COUNCIL MEETING

AMENDED MEETING NOTICE AND AGENDA

[REWORDED ITEM NO. 15]

COUNCIL

David D. Ortega, Mayor
Tammy Caputi
Tom Durham
Barry Graham
Betty Janik
Kathleen S. Littlefield
Solange Whitehead

Monday, November 13, 2023

City Council meetings are also televised on Cox Cable Channel 11 and streamed online at ScottsdaleAZ.gov (search "live stream). Unless an exception is made, or unless otherwise noted, the Council will not begin discussion on any new items after 10:00 p.m. Items that are not heard will be continued to the next scheduled Council meeting (November 20, 2023).

In-person spoken public comment is being accepted on Items 1 through 16. To sign up to speak on these items, please click here.

In-Person spoken public comment is also being accepted on non-agendized items that are within the Council's jurisdiction. Scottsdale citizens, business owners, and/or property owners may speak on items that are within the Council's jurisdiction but are not on the agenda, with a total of 15 minutes at the beginning and 15 minutes at the end of the meeting dedicated to comment on non-agendized items. To sign up to speak in-person on a non-agendized item that is within the Council's jurisdiction, please click here.

Requests for in-person public comment may be submitted online or at the City Council meeting. Registration for in-person public comment is available online by completing a Request to Speak form. In-Person Public Comment Request to Speak forms for Consent, Regular, and Non-Agendized items must be submitted online no later than 90 minutes before the start of the meeting. Additionally, in-person meeting attendees may submit a Request to Speak form utilizing the kiosk located in the foyer area of City Hall for each agenda item they wish to address. Forms must be submitted and received before the Mayor announces the agenda item.

Written public comment may be submitted in-person by completing a yellow written public comment card or electronically by completing a Written Public Comment form. Written public comment received during the meeting will be shared with the Council. Written comments that are submitted electronically at least 90 minutes before the meeting will be emailed to the Council and posted online prior to the meeting. A written public comment may be submitted electronically by clicking here.

5:00 P.M. **MARKED AGENDA**

REGULAR CITY COUNCIL MEETING

City Hall Kiva Forum, 3939 N. Drinkwater Boulevard

PERSONS WITH A DISABILITY MAY REQUEST A REASONABLE ACCOMMODATION BY CONTACTING THE CITY CLERK'S OFFICE AT (480-312-2412). REQUESTS SHOULD BE MADE 24 HOURS IN ADVANCE, OR AS EARLY AS POSSIBLE TO ALLOW TIME TO ARRANGE ACCOMMODATION. FOR TTY USERS, THE ARIZONA RELAY SERVICE (1-800-367-8939) MAY CONTACT THE CITY CLERK'S OFFICE (480-312-2412).

FOR ADDITIONAL INFORMATION VISIT: WWW.SCOTTSDALEAZ.GOV/COUNCIL/MEETING-INFORMATION

Call to Order – 5:01 P.M.

Roll Call – All present

One or more members of the Council may be attending the Council Meeting by telephone, video, or Internet conferencing, pursuant to A.R.S. §38-431(4).

Pledge of Allegiance – Councilwoman Caputi

Mayor's Report

– Mayor Ortega asked for a moment of silent reflection for the people of Ukraine as they continue their fight for freedom and democracy.

– Mayor Ortega invited everyone to attend the Dog's Day Out event occurring on Tuesday, November 16th at the Scottsdale Civic Center. This is the next event in the "Fall in Love with Scottsdale" series of events occurring throughout the month of November.

City Manager's Report – City Manager Jim Thompson introduced a "Fast Five" video produced by the City's Communications Office which provided updates on several City events and offerings.

- **Fast Five Video Update**
  Note: The Council may make comments or ask questions to the presenter(s); however, no Council action will be taken.

Possible Executive Session
Notice is hereby given that, at any time during tonight's meeting, the Council may make a motion to recess into Executive Session to discuss and consult with the attorneys and representatives of the public body to obtain legal advice on any applicable item on tonight's agenda. If authorized by a majority vote of the Council, the Executive Session will be held immediately after the vote and will not be open to the public. A.R.S. §38-431.03(A)(3). The public meeting will resume following the Executive Session.

Public Comment – Philip Huerta requested a paint variance for his property. Patricia Deojay discussed concerns with taxes, streets, and high-density development. David Liddell discussed the Rawhide Wash and fencing requirements for his property. Jason Alexander encouraged civil dialogue for residents participating in Council meetings and discussed the Academy of Citizen Engagement NIMBY Survey Research Report results, which examines community attitudes related to growth and development.
Public Comment time is reserved for Scottsdale citizens, business owners, and/or property owners to comment on non-agendized items that are within the Council's jurisdiction. No official Council action can be taken on these items. Advocacy for or against a candidate or ballot measure during a Council meeting is not allowed pursuant to State law and is therefore not deemed to be within the Council's jurisdiction.

Public Comment time is also the designated time for presenting a citizen petition. There is no limit on the number of petitions a citizen may present; however, each citizen is limited to a total time of three minutes to present and speak to the petition(s). A Request to Speak **form** must be submitted together with the petition(s) before the Mayor announces the second Public Comment period.

Speakers may address the Council once under Public Comment at the beginning or the end of the meeting, but not both. Public Comment is limited to a total of 15 minutes at the beginning and 15 minutes at the end of the meeting. **Speakers are limited to three minutes to address the Council during "Public Comment."**

MINUTES

Request: Approve the following Council meeting minutes from October 2023:

a. **Special Meeting Minutes of October 10, 2023**
b. Executive Session Minutes of October 10, 2023
c. **Regular Meeting Minutes of October 10, 2023**

– Councilwoman Janik made a motion to approve Special Meeting Minutes of October 10, 2023; Executive Session Minutes of October 10, 2023; and Regular Meeting Minutes of October 10, 2023. Vice Mayor Whitehead seconded the motion, which carried 7/0, with Mayor Ortega; Vice Mayor Whitehead; and Councilmembers Caputi, Durham, Graham, Janik, and Littlefield voting in the affirmative.

CONSENT AGENDA ITEMS 1-14

How the Consent Agenda Works: The Council may take one vote to act on all of the items on the Consent Agenda or may remove items for further discussion. Items not removed from the Consent Agenda will be considered in one motion. Items removed for clarification or discussion by the Council will be acted on as appropriate.

– Councilmember Graham requested additional information on Item 10 [Scottsdale Community Partners Agreement].

– Mayor Ortega opened public comment on the Consent Agenda items.

– Jeff Caldwell, Phoenix resident, spoke on Item 11 [Kiva New Film Screening & Indigenous Fashion Review Event], expressing concerns with event costs.

– Mayor Ortega closed public comment on the Consent Agenda items.

– Vice Mayor Whitehead made a motion to approve Consent Agenda Items 1 through 14, except Item 9 [Partners for Paiute Neighborhood Center Agreement] which was moved to the Regular Agenda. Councilwoman Janik seconded the motion, which carried 7/0, with Mayor Ortega; Vice Mayor Whitehead; and Councilmembers Caputi, Durham, Graham, Janik, and Littlefield voting in the affirmative.

1. **Old Town Gypsy Liquor License (71-LL-2023) – Approved on Consent.**
Request: Consider forwarding a recommendation of approval to the Arizona Department of Liquor Licenses and Control for a Series 10 (beer and wine store) State liquor license for a new location and owner.
Location: 3950 N. Brown Avenue
Staff Contact(s): Tim Curtis, Current Planning Director, 480-312-4210, tcurtis@scottsdaleaz.gov

2. **Fusion 5 Liquor License (72-LL-2023) – Approved on Consent.**
Request: Consider forwarding a recommendation of approval to the Arizona Department of Liquor Licenses and Control for a Series 12 (restaurant) State liquor license for an existing location with a new owner.
Location: 6989 N. Hayden Road, Suite A9
Staff Contact(s): Tim Curtis, Current Planning Director, 480-312-4210, tcurtis@scottsdaleaz.gov

3. **Canopy by Hilton Scottsdale Liquor License (73-LL-2023) – Approved on Consent.**
Request: Consider forwarding a recommendation of approval to the Arizona Department of Liquor Licenses and Control for a Series 11 (hotel/motel) State liquor license for an existing location with a new owner.
Location: 7142 E. 1st Street
Staff Contact(s): Tim Curtis, Current Planning Director, 480-312-4210, tcurtis@scottsdaleaz.gov

4. **The Syndicate Raintree Liquor License (74-LL-2023) – Approved on Consent.**
Request: Consider forwarding a recommendation of approval to the Arizona Department of Liquor Licenses and Control for a Series 7 (beer and wine bar) State liquor license for a new location and owner.
Location: 8688 E. Raintree Drive
Staff Contact(s): Tim Curtis, Current Planning Director, 480-312-4210, tcurtis@scottsdaleaz.gov

5. **Revel Legacy Bingo License (3-BI-2023) – Approved on Consent.**
Request: Consider forwarding a recommendation of approval to the Arizona Department of Revenue for a bingo license for Revel Legacy.
Location: 8890 E. Legacy Boulevard
Staff Contact(s): Tim Curtis, Current Planning Director, 480-312-4210, tcurtis@scottsdaleaz.gov

6. **26 Oaks Final Plat (6-PP-2021) – Approved on Consent.**
Request: Approve the final plat for a new 26-lot residential subdivision with Townhouse Residential (R-4) and Multi-Family Residential (R-5) zoning on a ±3.7-acre site.
Location: 2340 and 2322 N. Hayden Road
Staff Contact(s): Erin Perreault, Planning, Economic Development, and Tourism Executive Director, 480-312-7093, eperreault@scottsdaleaz.gov

7. **Solid Waste Transfer Station Expansion and Renovation Engineering Services Contract – Approved on Consent.**
Request: Adopt **Resolution No. 12970** authorizing Engineering Services Contract No. 2023-169-COS with HDR Engineering, Inc., in the amount of $1,733,978, to provide engineering and design services for the expansion and renovation of the Solid Waste Transfer Station.
Location: 8417 E. Union Hills Drive
Staff Contact(s): Dan Worth, Public Works Director, 480-312-5555, daworth@scottsdaleaz.gov

8. **Raintree Drive and Northsight Boulevard Intersection Improvements – Phase 2A Engineering Services Contract – Approved on Consent.**
Request: Adopt **Resolution No. 12977** authorizing Engineering Services Contract No. 2023-187-COS with Dibble & Associates Consulting Engineers, Inc., in the amount of $49,839, for design engineering services for the Raintree Drive and Northsight Boulevard Intersection Improvements – Phase 2A.
Staff Contact(s): Dan Worth, Public Works Director, 480-312-5555, daworth@scottsdaleaz.gov

9. **Partners for Paiute Neighborhood Center Agreement**
Request: Adopt **Resolution No. 12966** authorizing Agreement No. 2023-165-COS with Partners for Paiute Neighborhood Center, to work cooperatively in support of human services programs, social services, and other activities supporting youth, families, and seniors; and recreational, educational, and cultural programming.
Staff Contact(s): Judy Doyle, Community Services Assistant Executive Director, 480-312-2691, jdoyle@scottsdaleaz.gov

– Community Services Manager Rachel Smetana gave a presentation on the proposed Partners for Paiute Neighborhood Center Agreement.

– There was no public comment on this item.

– Mayor Ortega made a motion to adopt Resolution No. 12966 authorizing Agreement No. 2023-165-COS with Partners for Paiute Neighborhood Center, to work cooperatively in support of human services programs, social services, and other activities supporting youth, families, and seniors; and recreational, educational, and cultural programming. Councilmember Durham seconded the motion, which carried 7/0, with Mayor Ortega; Vice Mayor Whitehead; and Councilmembers Caputi, Durham, Graham, Janik, and Littlefield voting in the affirmative.

10. **Scottsdale Community Partners Agreement – Approved on Consent.**
Request: Adopt **Resolution No. 12943** authorizing Agreement No. 2023-147-COS with Scottsdale Community Partners, to work cooperatively in support of human services programs, social services, and other activities supporting youth, families, and seniors.
Staff Contact(s): Judy Doyle, Community Services Assistant Executive Director, 480-312-2691, jdoyle@scottsdaleaz.gov

– Scottsdale Community Partners Executive Director Jenny Adams gave a presentation.

11. **Kiva New Film Screening & Indigenous Fashion Review Event – Approved on Consent.**
Request: Adopt **Resolution No. 12980** to authorize:
1. Funding, not to exceed $35,000, from the portion of the Fiscal Year 2023/24 Tourism Development Fund that is allocated toward event retention and development for the Kiva New Film Screening & Indigenous Fashion Review event.
2. Event Funding Agreement No. 2023-191-COS with Jeffrey Ferns doing business as Tarra Lazos Creative.

Staff Contact(s): Karen Churchard, Tourism and Events Director, 480-312-2890, kchurchard@scottsdaleaz.gov

12. **Emergency Portable Backup Communications Equipment Grant – Approved on Consent.**
Request: Adopt **Resolution No. 12981** to authorize:
1. Acceptance of a grant from the U.S. Department of Justice, in the amount of $89,000, for the purchase of emergency portable backup communications equipment.
2. The Fire Chief, or designee, to conduct all negotiations and to execute and submit all documents and other necessary or desirable instruments in connection with the acceptance of the grant.
3. A Budget Transfer, of up to $89,000, from the Fiscal Year 2023/24 Future Grants Budget and/or Grant Contingency Budget to a newly created cost center to record the related grant activity.

Staff Contact(s): Tom Shannon, Fire Chief, 480-312-1821, tshannon@scottsdaleaz.gov

13. **Evacuation Planning Software-as-a-Service (SaaS) Agreement – Approved on Consent.**
Request: Adopt **Resolution No. 12967** authorizing SaaS Agreement No. 2023-166-COS with Genasys, Inc., for evacuation planning software in an annual amount of $25,000.
Staff Contact(s): Tom Shannon, Fire Chief, 480-312-1821, tshannon@scottsdaleaz.gov

14. **Human Resources Management Code Amendment – Approved on Consent.**
Request: Adopt **Ordinance No. 4615** amending Scottsdale Revised Code, Chapter 14, Human Resources Management, Article II, Compensation and Classification, Section 14-23(b), Workweeks, to set the work period for 56-hour fire personnel at 27 days.
Staff Contact(s): Tom Shannon, Fire Chief, 480-312-1821, tshannon@scottsdaleaz.gov

REGULAR AGENDA ITEMS 15-16

How the Regular Agenda Works: The Council takes action on each item on the Regular Agenda.

***15. **The Parque Rezoning (13-ZN-2022)**

Requests:

1. Adopt **Ordinance No. 4612** approving a zoning district map amendment from General Commercial (C-4) to Planned Airpark Core Development – Airpark Mixed Use Residential, Planned Shared Development Overlay (PCP-AMU-R PSD) including a development plan with bonus development standards for building height and floor area ratio to allow a mixed-use development with approximately 1,236 dwelling units (now 1,182 dwelling units*), 223 hotel keys (now a minimum of 140 hotel keys; for a combined maximum number of dwelling units and/or hotel units not to exceed 1,322*), and 253,000 square feet of commercial floor area on a ±32.29 gross acre site.
   Per a Memorandum from the City Attorney's Office dated November 8, 2023
2. Adopt **Resolution No. 12936** declaring the document titled *"The Parque Development Plan"* to be a public record.
3. Adopt **Resolution No. 12937** authorizing Development Agreement No. 2023-144-COS with Crackerjax Land Company, LLC.

Location: 16001 N. Scottsdale Road
Presenter(s): Bryan Cluff, Planning and Development Area Manager
Staff Contact(s): Erin Perreault, Planning, Economic Development, and Tourism Executive Director, 480-312-7093, eperreault@scottsdaleaz.gov

– Planning and Development Area Manager Bryan Cluff gave a PowerPoint presentation on the proposed The Parque Rezoning.

– Applicant Representative John Berry with Berry Riddell, LLC, and Project Co-Owner George Kurtz gave a PowerPoint presentation.

– Mayor Ortega opened public comment on this item.

– The following individuals spoke in support of this item:

- **Susan Quinn, Scottsdale resident**
- **Dan Ishac, Scottsdale resident**
- **Andrew Scheck, Scottsdale resident**
- **Jesse Westad, Scottsdale resident**
- **Ori Eisen, Scottsdale resident**
- **Jessica Jankowski, Scottsdale resident**
- **Michal Joyner, Scottsdale resident**
- **Landen Klein, Scottsdale resident**
- **John Doering and Amber Enright, co-founders of Scottsdale Living Business Edition**
- **Mike Dandrea, Scottsdale resident**
- **Jason Alexander, Scottsdale resident**
- **James Keeley, Scottsdale resident**
- **Lee Ann Witt, Scottsdale resident**

– The following individuals spoke in opposition to this item:

- **Caroline Bissell, Scottsdale resident**
- **Frank Accetta, Scottsdale resident**

– The following individual was not in opposition to this item, but expressed concerns:

- **Jeff Caldwell, Phoenix resident**

– Mayor Ortega closed public comment on this item.

– Councilwoman Janik made a motion to:

1) **Adopt Ordinance No. 4612 approving a zoning district map amendment from General Commercial (C-4) to Planned Airpark Core Development - Airpark Mixed Use Residential, Planned Shared Development Overlay (PCP-AMU-R PSD) including a development plan with bonus development standards for building height and floor area ratio to allow a mixed-use development with approximately 1,236 dwelling units (now 1,182 dwelling units*), 223 hotel keys (now a minimum of 140 hotel keys; for a combined maximum number of dwelling units and/or hotel units not to exceed 1,322*), and 253,000 square feet of commercial floor area on a ±32.29 gross acre site.**
   Per a Memorandum from the City Attorney's Office dated November 8, 2023.
2) **Adopt Resolution No. 12936 declaring the document titled *"The Parque Development Plan"* to be a public record; and**
3) **Adopt Resolution No. 12937 authorizing Development Agreement No. 2023-144-COS with Crackerjax Land Company, LLC.**

Vice Mayor Whitehead seconded the motion, which carried 5/2, with Mayor Ortega; Vice Mayor Whitehead; and Councilmembers Caputi, Durham, and Janik voting in the affirmative and Councilmembers Graham and Littlefield dissenting.

– Recess Regular Meeting at 7:42 P.M.

– Reconvene Regular Meeting at 7:58 P.M.

16. **Organizational Strategic Plan**

Request: Accept the Organizational Strategic Plan reflecting the City Council priorities for 2024 as discussed at the April 13, 2023 City Council Retreat.
Presenter(s): Brent Stockwell, Assistant City Manager
Staff Contact(s): Brent Stockwell, Assistant City Manager, 480-312-7288, bstockwell@scottsdaleaz.gov

– Management Associate Stephanie Zamora and Assistant City Manager Brent Stockwell gave a PowerPoint presentation on the proposed Organizational Strategic Plan.

– Mayor Ortega opened public comment on this item.

– Jeff Caldwell, Phoenix resident, expressed concerns regarding the net zero energy plan.

– Mayor Ortega closed public comment on this item.

– Vice Mayor Whitehead made a motion to accept the Organizational Strategic Plan reflecting the City Council priorities for 2024 as discussed at the April 13, 2023 City Council Retreat. Councilwoman Janik seconded the motion, which carried 7/0, with Mayor Ortega; Vice Mayor Whitehead; and Councilmembers Caputi, Durham, Graham, Janik, and Littlefield voting in the affirmative.

Public Comment – None
Public Comment time is reserved for Scottsdale citizens, business owners, and/or property owners to comment on non-agendized items that are within the Council's jurisdiction. No official Council action can be taken on these items. Advocacy for or against a candidate or ballot measure during a Council meeting is not allowed pursuant to State law and is therefore not deemed to be within the Council's jurisdiction.

Public Comment time is also the designated time for presenting a citizen petition. There is no limit on the number of petitions a citizen may present; however, each citizen is limited to a total time of three minutes to present and speak to the petition(s). A Request to Speak **form** must be submitted together with the petition(s) before the Mayor announces the second Public Comment period.

Speakers may address the Council once under Public Comment at the beginning or the end of the meeting, but not both. Public Comment is limited to a total of 15 minutes at the beginning and 15 minutes at the end of the meeting. **Speakers are limited to three minutes to address the Council during "Public Comment."**

CITIZEN PETITIONS ITEM 17

Citizen Petitions: This portion of the agenda is reserved for the submission and/or consideration of citizen petitions. There is no limit on the number of petitions a citizen may submit; however, **each citizen is limited to a total time of three minutes to speak to his/her petition(s)**. A Request to Speak **form** must be submitted, together with the petition(s), ***before*** the second Public Comment period begins.

17. Receipt of Citizen Petitions – None
Request: Accept and acknowledge receipt of citizen petitions. Any member of the Council may make a motion, to be voted on by the Council, to: (1) Direct the City Manager to agendize the petition for further discussion; (2) direct the City Manager to investigate the matter and prepare a written response to the Council, with a copy to the petitioner; or (3) take no action.
Staff Contact(s): Ben Lane, City Clerk, 480-312-2411, blane@scottsdaleaz.gov

MAYOR AND COUNCIL ITEM 18

18. Boards, Commissions, and Task Force Nominations (Note: Appointments scheduled for December 2023)
How the Board and Commission Nomination Process Works: The Council will review applications submitted for the board and commission openings under consideration. From this applicant pool, the Council will select nominees for further consideration.

- Board of Adjustment (two vacancies) **– Councilwoman Caputi nominated Alexander Hayes and Azam Qayum and Councilwoman Janik nominated Jay Leopold.**
- Development Review Board (three vacancies) **– Councilwoman Janik nominated Jeff Brand, Ali Fakih, and Michael Wills; Councilwoman Littlefield nominated Scott Tiedemann; Mayor Ortega nominated Julie Berry and Ed Peaser; Councilmember Durham nominated Jon Griffin; Councilmember Graham nominated Thomas Kube and Roger Strassburg; and Councilwoman Caputi nominated Danielle Davis.**
- Environmental Advisory Commission (one vacancy) **– Councilwoman Littlefield nominated Alisa McMahon and Mayor Ortega nominated Lauren Click.**
- Judicial Appointments Advisory Board (two citizen member vacancies) **– Mayor Ortega nominated Aurea Flores and Janice Shimokubo and Councilmember Durham nominated Kristina Jensen.**
- McDowell Sonoran Preserve Commission (one vacancy) **– Vice Mayor Whitehead nominated Stephen Coluccio.**
- Neighborhood Advisory Commission (one vacancy) **– Councilmember Durham nominated Louise Lamb.**
- Tourism Development Commission (two Scottsdale Hotelier vacancies) **– Councilmember Graham nominated Lance Marrin.**

- Transportation Commission (one vacancy) **– Councilwoman Caputi nominated Mailen Pankiewicz; Councilwoman Littlefield nominated Darren Wolf; and Councilmember Durham nominated Kevin Konczal.**

Note: The only Council action to be taken on Item No. 18 is to select nominees for appointment consideration at a future Council meeting.

WORK STUDY SESSION

Work Study Sessions: Work study sessions provide a less formal setting for the Mayor and Council to discuss specific topics, at length, with each other and City staff. Work study sessions provide an opportunity for staff to receive direction from the Council and for the public to observe these discussions.

Public Comment: To provide an opportunity for public input yet continue to maximize the amount of time available for the Council to have focused discussions, spoken comment (maximum of five speakers) is being accepted on the item(s) on tonight's work study session agenda. To sign up to speak, please click **here**. **Request to speak forms must be submitted no later than 90 minutes before the start of the meeting.**

- **Mikayla Cutlip Qian, Healthy Services Program Manager of The Nature Conservancy of Arizona, commented on the draft Sustainability Plan and methods to mitigate heat, including cool roofs and tree canopies.**
- **Ute Brady, Scottsdale resident, commented on the development of the Sustainability Plan to date and made several recommendations including incorporating more local data in the air quality section of the Plan and increasing target goals.**

If you have thoughts or suggestions on the work study session item(s) you would like the Council to consider, you are encouraged to submit your written comment(s) electronically by clicking **here**. Written comments that are submitted electronically at least 90 minutes before the meeting will be emailed to the Council and posted online prior to the meeting.

1. **Water Resources and Colorado River Update**

Request: Presentation, discussion, and possible direction to staff regarding the Colorado River Basin drought and shortage.
Presenter(s): Gretchen Baumgardner, Water Policy Manager
Staff Contact(s): Brian Biesemeyer, Water Resources Executive Director, 480-312-5683, bbiesemeyer@scottsdaleaz.gov

– Water Policy Manager Gretchen Baumgardner gave a PowerPoint presentation on the Water Resources and Colorado River Update.

– Councilmembers made the following observations and suggestions:

- **Scottsdale's culture of water conservation is gaining momentum.**
- **Scottsdale monitors the federal decisions that could impact the conveyance of water through the Central Arizona Project system that is not federal water and our water portfolio.**
- **Explore the option of including commercial businesses in the Water Smart Program.**

2. **Scottsdale Community Sustainability Plan**

Request: Presentation, discussion, and possible direction to staff regarding draft sections of the Community Sustainability Plan.
Presenter(s): Lisa McNeilly, Sustainability Director
Staff Contact(s): Erin Perreault, Planning, Economic Development, and Tourism Executive Director, 480-312-7093, eperreault@scottsdaleaz.gov

– Sustainability Director Lisa McNeilly and Water Policy Manager Gretchen Baumgardner gave a PowerPoint presentation on the proposed Scottsdale Community Sustainability Plan.

– There was Council consensus on the following items:

- **Proceed with the staff recommendations related to the following Water Targets: Residential Use, Municipal Use, Homeowner Association Use, Commercial Use, Return Flow, and Banking & Treatment.**
- **Council to provide feedback on the Golf Course Use Water Target at a later date.**
- **For the Air Quality Unhealthy Air Days Target, have the target be "Reduce unhealthy air days in Scottsdale by 2030".**
- **Proceed with the staff recommendation related to the following Air Quality – Municipal Fleet Target: "Reduce the municipal fleet fuel use by 10% from 2023 levels by 2030 & 40% by 2050".**
- **Proceed with the staff recommendation related to the following Air Quality – Municipal Fleet Target: "Quadruple number of publicly available charging ports from 2023 levels three years after adoption of plan; add 10x by 2030".**

– Councilmembers made observations and suggestions on the following sections of the draft Sustainability Plan:

Introduction:

- **This section is easily understandable related to the plan timeline and costs.**

Water Targets:

- **The water use by golf courses should not exceed current allotments.**
- **Expeditiously develop guidelines for water use by golf courses.**
- **Certain water targets seem aggressive.**
- **Appreciate that water conservation measures are voluntary.**
- **Explore charging different water rates based on day versus night consumption.**
- **Set water targets should not be reduced.**
- **Agree with the Water Strategies & Actions benchmarks.**

Air Quality Targets:

- **Look for methods to measure air quality standards with neighboring cities.**
- **Air quality should be about what we can control, so it does not diminish the City's credibility.**

Health-Related Targets:

- **Collect additional data for this target.**
- **The target should not be to cut hospitalizations, but rather cut all asthma-based treatments, which is a broader categorization.**
- **Change the target to be "Cut Hospitalizations for pollution related health events (per 100,000 population) in Scottsdale by 25%".**
- **Investigate methods to collect data that is accessible and free.**
- **The hospitalization target is aspirational and should be included in the Introduction section rather than the Health-Related Targets section.**
- **Heart-disease illnesses make up largest portion of types of death and this is not normally related to air quality. Need a better indicator for this measure.**

Air Quality – Municipal Fleet Targets:

- **Should continue to follow vehicle replacement schedule.**

- **Disagree that replacing existing vehicles with alternative fuel vehicles will lead to savings.**

Adjournment – 10:03 P.M.
– Mayor Ortega made a motion to adjourn the Regular Meeting and Work Study Session. Councilmember Graham seconded the motion, which carried 7/0, with Mayor Ortega; Vice Mayor Whitehead; and Councilmembers Caputi, Durham, Graham, Janik, and Littlefield voting in the affirmative.

The Nature Conservancy
Protecting nature. Preserving life.

Mikayla Cutlip Qian, Arizona Healthy Cities Program
The Nature Conservancy in Arizona
Phoenix Conservation Center
1819 E. Morten Avenue, Suite 100
Phoenix, Arizona 85020

Tel (623) 435-3173 nature.org/arizona

March 19, 2023

Honorable Mayor Ortega and City Council
Scottsdale City Hall
3939 N Drinkwater Blvd
Scottsdale, AZ 85251

Re: Support for the City of Scottsdale Community Sustainability Plan Update

Dear Mayor Ortega and Scottsdale City Council Members,

The Nature Conservancy (TNC) writes enthusiastically in support of the City of Scottsdale's proposed updates to the Community Sustainability Plan. Extreme heat is already one of the deadliest consequences of climate change, and communities need to urgently enhance their preparedness and institutional capacity to adapt.

Not only is there a strong economic case to invest in heat mitigation, these efforts also importantly improve the physical safety and quality of life for Scottsdale residents and visitors. The City of Scottsdale has a history of prioritizing sustainability and recognizes extreme heat as a key priority in the Community Sustainability Plan update. Additionally, the 2022 report prepared by ASU, *Identifying Strategies for a Cooler Scottsdale*, identified an "increase tree canopy, particularly along frequently traveled pedestrian walkways" as a broad goal to be considered for use in the city's future planning.

We support your policy prioritization and continued investment in heat mitigation through investment in tree canopy and underscore the value of planting native and desert-adapted trees in priority areas to provide shade and additional ecosystem benefits for both people and nature.

TNC has been working since 2014 on heat mitigation in Greater Phoenix, the hottest large metropolitan area in the United States. Through TNC's ongoing work to bring nature-based solutions to address urban challenges in Maricopa County, we recognize the importance of municipalities setting measurable canopy goals. We are therefore excited to see Scottsdale's defined tree canopy goals in the proposed updates to the Community Sustainability Plan.

TNC has a strong track record of working both at the grassroots level with communities to build capacity to adapt to rising temperatures and with municipal partners on programs and policies to support nature-based solutions such as tree canopy and green stormwater infrastructure. We enthusiastically support the proposed updates to the plan and are eager to collaborate with and advise the city as you work toward our shared goals. Please reach out with questions about my support of this work. Thank you for your consideration.

Sincerely,

Mikayla Cutlip Qian

Mikayla Cutlip Qian
Healthy Cities Program Manager, The Nature Conservancy in Arizona

November 2, 2023

Lisa McNeilly
Sustainability Director
City of Scottsdale
3939 N. Drinkwater Blvd.
Scottsdale, AZ 85251

Dear Lisa,

Thank you for the opportunity to comment on the City of Scottsdale's Community Sustainability Plan. With the region's challenges in meeting the EPA National Ambient Air Quality Standards for ozone and dust (PM 10), the Maricopa County Air Quality Department (MCAQD) appreciates the inclusion of the Plan's Air Quality Section.

The collaboration between community members and government agencies is vital in safeguarding the well-being of residents and the environment. With shared goals of a cleaner and healthier future for our residents, we can work together to improve air quality through education, regulation, incentives, and initiatives.

Improving air quality requires collective action, and the inclusion of an Air Quality Section is an important step in raising awareness in the community and helps encourage people to embrace daily habits that contribute to cleaner air.

Sincerely,

Philip McNeely
Director

Air Quality Department
Office of the Director
301 W. Jefferson St., Suite 410
Phoenix, Arizona 85003

P: 602-506-6443
E: Philip.McNeely@maricopa.gov

From: Celina.Bonugli@aps.com
To: McNeilly, Lisa
Cc: Ashton.Futral@pinnaclewest.com; Tymothy.Howitt@aps.com; Judson.Tillinghast@aps.com; Tony.Perez@aps.com; Lindsey.Brist@aps.com
Subject: RE: Scottsdale Community Sustainability Plan
Date: Tuesday, December 19, 2023 1:06:49 PM

External Email: Please use caution if opening links or attachments!

Hi Lisa,

It was great chatting with you last week. As discussed, **here are some ideas for you to consider including in Scottsdale's Sustainability Plan**.

- *Energy*
  - Identify opportunities to contribute to grid needs – capacity, resiliency, reliability, etc.
    - This can take the form of utilizing municipal grid assets (e.g., storage, back-up generators, EVs) for greater grid needs, or even participating in APS DSM programs that allow us to shift or curtail load to meet grid needs (think – the broad spectrum of virtual power plants)
    - Indicators could include:
      - Clean energy generation, and/or contribution
      - Participation in APS DSM programs
  - Explore opportunities to connect and enhance clean energy, air quality and extreme heat actions with battery / storage capacity
    - This goes beyond just storage, potentially pairing storage with RE, EVs, microgrids, resiliency hubs, etc.
  - Explore, and/or improve existing, microgrids that lower GHG emissions
- *Air Quality*
  - Enable public charging access, which remains a significant barrier to EV adoption
    - Permitting: Expediting the permitting process for EV charging, which could mean more staff or reviewing their processes to identify efficiency improvements
    - Building codes: Scottsdale is innovative in requiring new construction to be EV ready, however, consider other elements of building code construction for commercial, perhaps requiring a specific number of parking spaces be EV ready
  - Identify how municipal fleets can be utilized to benefit the community more broadly
    - For example, placing EV chargers on street side parking or city garages that the community can also access
      - Also to note, if the city owns the chargers, they can be a revenue making opportunity from the sale of energy or from allowing advertising on the chargers themselves
  - Create a policy and plan to address high-use vehicles (particularly medium- and heavy-duty), which have a larger impact on air quality (compared to the average individual light-duty vehicle)
    - Consider municipal electrification efforts, such as transit, shuttles, business fleets, etc.
- *Extreme Heat*
  - Work in collaboration with APS to identify key vulnerable communities and educate on existing utility solutions, and/or develop new solutions as needed
  - Identify resiliency hub opportunities in APS territory

There are a couple of additional EV considerations below.

Looking forward to utilizing a city-utility partnership agreement – keep us posted on how your internal conversations go.

Cheers,
Celina

EV Considerations

- The set of targets and indicators are great ones (reducing fleet fuel use and increasing number of publicly available EV charging ports)!
- AQ 2.1 is a quick win, but also will likely have minimal impact, since there are already a variety of resources residents can use to find these stations (vehicle integration, Chargeway, Plugshare, and Charging provider apps like chargepoint, electrify america, EVgo)
- Note: for public charging access, consider how you interact with EV charging – whether it's your own chargers for fleet or the public, or third-party companies installing them

---

From: Bonugli, Celina
Sent: Thursday, November 30, 2023 4:19 PM
To: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Cc: Futral, Ashton <Ashton.Futral@pinnaclewest.com>; Howitt, Tymothy <Tymothy.Howitt@aps.com>; Tillinghast, Judson <Judson.Tillinghast@aps.com>; Perez, Tony <Tony.Perez@aps.com>; Brist, Lindsey <Lindsey.Brist@aps.com>
Subject: RE: Scottsdale Community Sustainability Plan

Great! Invite sent for Tuesday, 12/12, at 9 AM.

Cheers,

Celina

From: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Sent: Wednesday, November 29, 2023 1:25 PM
To: Bonugli, Celina <Celina.Bonugli@aps.com>
Cc: Futral, Ashton <Ashton.Futral@pinnaclewest.com>; Howitt, Tymothy <Tymothy.Howitt@aps.com>; Tillinghast, Judson <Judson.Tillinghast@aps.com>; Perez, Tony <Tony.Perez@aps.com>; Brist, Lindsey <Lindsey.Brist@aps.com>
Subject: RE: Scottsdale Community Sustainability Plan

Thank you, Celina. I look forward to reading the document on partnerships and appreciate any other input you and the team can share.

I would love to talk again – below is my availability the week of 12/11. I'm on leave starting on 12/14.

12/11: Anytime *except* 11/12
12/12: 9-12
12/13: 9-10

Lisa

Lisa McNeilly
Sustainability Director
City of Scottsdale
lmcneilly@scottsdaleaz.gov
(480) 312-2831

From: Celina.Bonugli@aps.com <Celina.Bonugli@aps.com>
Sent: Monday, November 27, 2023 1:57 PM
To: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Cc: Ashton.Futral@pinnaclewest.com; Tymothy.Howitt@aps.com; Judson.Tillinghast@aps.com; Tony.Perez@aps.com; Lindsey.Brist@aps.com
Subject: RE: Scottsdale Community Sustainability Plan

Good morning and happy Thanksgiving.

Thank you for your time on Monday and for being such great partners. I had made a note to share with you the most recent draft of our sustainability plan. It's attached in two parts: one that was recently reviewed by Council (including Air Quality and Water) and the other that is still be developed (including Energy, Solid Waste, and Heat). As I mentioned, we expect to have the plan mostly complete by February/March 2024. Would be interested in your thoughts.

I have also attached our GHG inventory.

Best,
Lisa

Note – an earlier version of this email was kicked back because one file was too big.

Lisa McNeilly
Sustainability Director
City of Scottsdale
lmcneilly@scottsdaleaz.gov
(480) 312-2831

From: WebServices
To: Conner, Tim; Brown, Sam; McNeilly, Lisa; Rodorigo, Karissa
Subject: Scottsdale Environmental Advisory Commission Public Comment
Date: Wednesday, January 10, 2024 7:43:17 PM
Importance: High

Name: Lyla Yango
Address: 11281 E Del Timbre Dr, Scottsdale AZ 85259
Email: lylay00@icloud.com
Phone: (480) 487-9451

Comment:
Hello SEAC! This is Lyla Yango (I've spoken at your past meetings) and I volunteer for Arizonans for Community Choice (AZ4CC). AZ4CC is a statewide advocacy group for the energy model Community Choice Aggregation (CCA). Among CCA's many benefits, it can rapidly decarbonize our energy production. I am inviting all of you to our next CCA education workshop on Thurs, February 1, 2-3:30pm. The zoom link will be sent out a week before Feb 1. We hope to have representatives from 2 aggregator groups in Ohio that represent cities with CCA. OH is one of the first states to pass CCA enabling legislation. The 2 groups are NOPEC (Northeast Ohio Public Energy Council) and SOPEC (Sustainable Ohio Public Energy Council). OH cities with CCAs join NOPEC or SOPEC depending on their preferred source of energy. We'll also update you on our progress with state Republican and Democrat legislators, the Governor's Office of Resiliency, and our continued coalition building with grassroots organizations, energy suppliers, and businesses and data centers. We hope you'll all join us on February 1, and feel free to invite colleagues to attend!

From: Peggy Beltrone
To: McNeilly, Lisa
Subject: Re: Scottsdale Sustainability Plan
Date: Thursday, January 18, 2024 3:34:18 PM

Lisa,
Scottsdale has always been a beacon for other communities in sustainability. My only thought would be how common goals could be advanced faster if your experience could be shared at the EPA level.
Years ago I served on the Local Government federal advisory committee to EPA. I sat on the solid waste subcommittee due to my interest and involvement in rural recycling. We were all elected officials nominated through organizations like the League of Cities and Towns, or in my case, NACO. It was a great shared learning experience and together we helped write EPA policies. I wish there had been someone from Scottsdale on the committee. It would have improved and lifted the ideas. No doubt EPA has a technical advisory committee that would benefit from an energized manager such as yourself. I'm a big believer in having the best at the table. Perhaps you are already involved. This idea may not fit for this point in your life, quarterly travel to meetings all over the country can be disruptive, but keep it in mind. And if you have a council member who would energetically share your stories, there might be a fit at the committee I served on.
Other than that I'll keep an eye on the plan and try to be helpful.
Peggy

> On Jan 18, 2024, at 2:38 PM, McNeilly, Lisa <LMcNeilly@scottsdaleaz.gov> wrote:
>
> Ms. Beltrone,
>
> Thank you so much for your kind words and your interest in sustainability! It is nice to hear that residents are engaged as we write the plan. Please let me know if you have any questions or input as we continue to work on the document.
>
> Best,
> Lisa
>
> Lisa McNeilly
> Sustainability Director
> City of Scottsdale
> lmcneilly@scottsdaleaz.gov
> (480) 312-2831
> <image002.jpg>
>
> **From:** Peggy Beltrone <peggy.beltrone@gmail.com>
> **Sent:** Thursday, January 18, 2024 9:00 AM

To: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Subject: Scottsdale Sustainability Plan

From: Mikayla Cutlip Qian
To: McNeilly, Lisa
Cc: Christian Stumpf
Subject: RE: Heat and sustainability planning in Scottsdale
Date: Wednesday, January 31, 2024 5:43:12 PM
Attachments: image004.png
Scottsdale Sustainability Plan Input_TNC_2024.docx

External Email: Please use caution if opening links or attachments!

Hello Lisa,

Thank you for the opportunity to review the Heat content in the Sustainability Plan update draft. I have attached some feedback from the Healthy Cities Program for your consideration. I'm always here for questions or thoughts should they come up.

Thank you, also, for inviting review of the Energy section. Our Climate team did not have the capacity to review by the end of January, so I have just included Heat content feedback here.

Thank you,
Mikayla Cutlip Qian (she/her)
Healthy Cities Program Manager, The Nature Conservancy in Arizona
Healthy Cities Program | North American Cities Network
Cell: (480) 274-9525

From: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Sent: Wednesday, January 17, 2024 11:55 AM
To: Mikayla Cutlip Qian <mikayla.cutlip@TNC.ORG>
Cc: Christian Stumpf <christian.stumpf@TNC.ORG>
Subject: RE: Heat and sustainability planning in Scottsdale

Thanks, Mikayla, for the quick response. Please do share the draft with your Climate team. I don't need input by tonight, but it would be helpful to share any insights by the end of January, if possible.

Lisa

Lisa McNeilly
Sustainability Director
City of Scottsdale
lmcneilly@scottsdaleaz.gov
(480) 312-2831

From: Mikayla Cutlip Qian <mikayla.cutlip@TNC.ORG>
Sent: Wednesday, January 17, 2024 10:33 AM
To: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Cc: Christian Stumpf <christian.stumpf@TNC.ORG>
Subject: RE: Heat and sustainability planning in Scottsdale

Sent: Friday, November 3, 2023 4:03 AM
To: Mikayla Cutlip <mikayla.cutlip@TNC.ORG>
Cc: Christian Stumpf <christian.stumpf@TNC.ORG>
Subject: RE: Heat and sustainability planning in Scottsdale

Mikayla,

Thanks again for sharing this! I've included some of these points in my presentation for the 13th.

I wanted to share that the agenda/link for public comments is now available here. You'll also be able to find the draft sections of the Sustainability Plan here.

Please let me know if you have any questions.

Best,
Lisa

Lisa McNeilly
Sustainability Director
City of Scottsdale
lmcneilly@scottsdaleaz.gov
(480) 312-2831

From: Mikayla Cutlip <mikayla.cutlip@TNC.ORG>
Sent: Monday, October 30, 2023 2:10 PM
To: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Cc: Christian Stumpf <christian.stumpf@TNC.ORG>
Subject: RE: Heat and sustainability planning in Scottsdale

this term refers to the urbanized areas of Maricopa County) has a cost-benefit ratio of almost 4 to 1.

b. Implementing 100% cool roofs has a cost benefit ratio of more than 5 to 1.

2. An executive summary of the study that summarizes key points.

A key takeaway of this study is that the "cost of inaction" across the five indicators totals $2.3 billion annually under the higher emissions scenario within the 2020-2059 time horizon. Importantly, however, the benefits of investing in cool roofs and expanding the urban tree canopy are estimated to outweigh the costs.

Thank you,

Mikayla Cutlip Qian, MPA
Healthy Cities Program Manager
Office: (623) 435-3173
The Nature Conservancy in Arizona
1819 E. Morten Avenue, Suite 100
Phoenix, AZ 85020
nature.org/healthycitiesAZ

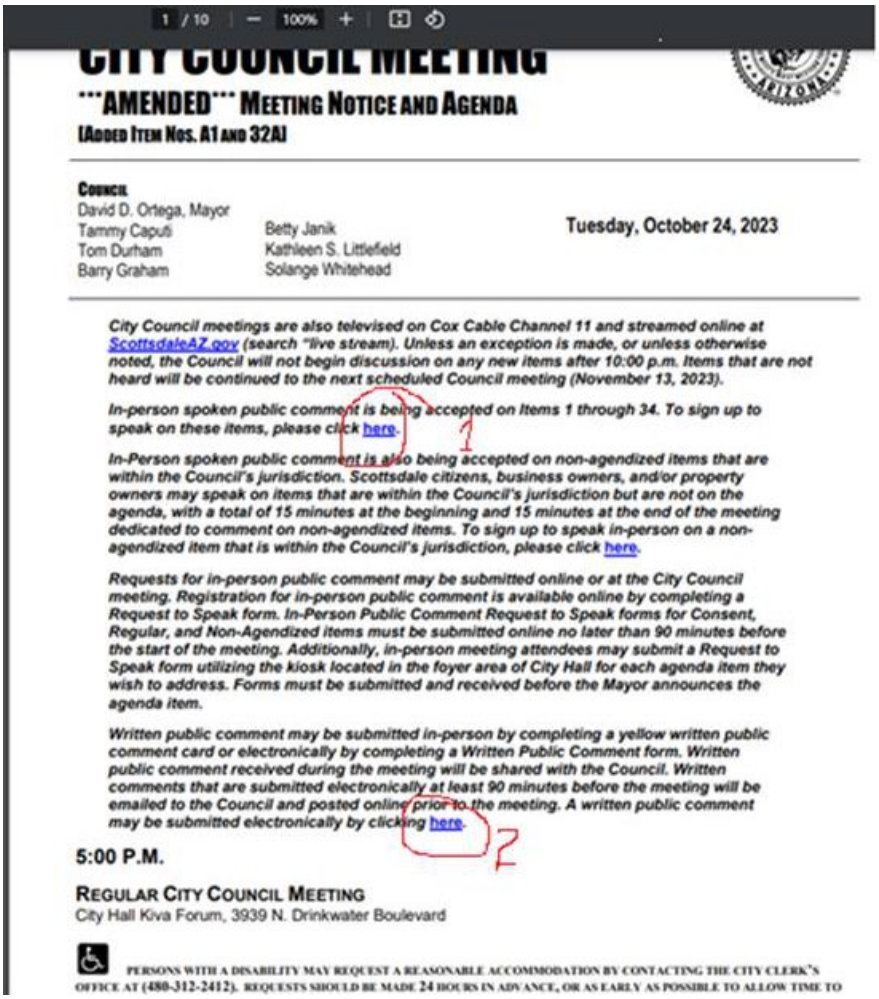
From: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Sent: Friday, October 27, 2023 2:39 PM
To: Mikayla Cutlip <mikayla.cutlip@TNC.ORG>
Cc: Christian Stumpf <christian.stumpf@TNC.ORG>
Subject: RE: Heat and sustainability planning in Scottsdale

Thank you, Mikayla!

It would be great if you could share the additional materials on your Economic Assessment. I do expect that there will be questions from Council about the costs (and benefits), so I want to be as prepared as possible.

Once the agenda for the City Council work study session on 11/13 is posted (which won't happen until next week), you can either sign up to comment in-person or submit written comments. You'll find the agenda here (scroll to 2023 Agendas). I scribbled on a recent agenda below to show where you'll find the links (where 1 = in-person and 2 = written). I will also make a note to forward it to you.

Have a great weekend,
Lisa



1 / 10 — 100%

CITY COUNCIL MEETING

AMENDED MEETING NOTICE AND AGENDA

[ADDED ITEM NOS. A1 AND 32A]

COUNCIL

David D. Ortega, Mayor
Tammy Caputi
Tom Durham
Barry Graham
Betty Janik
Kathleen S. Littlefield
Solange Whitehead

Tuesday, October 24, 2023

City Council meetings are also televised on Cox Cable Channel 11 and streamed online at ScottsdaleAZ.gov (search "live stream). Unless an exception is made, or unless otherwise noted, the Council will not begin discussion on any new items after 10:00 p.m. Items that are not heard will be continued to the next scheduled Council meeting (November 13, 2023).

In-person spoken public comment is being accepted on Items 1 through 34. To sign up to speak on these items, please click here.

In-Person spoken public comment is also being accepted on non-agendized items that are within the Council's jurisdiction. Scottsdale citizens, business owners, and/or property owners may speak on items that are within the Council's jurisdiction but are not on the agenda, with a total of 15 minutes at the beginning and 15 minutes at the end of the meeting dedicated to comment on non-agendized items. To sign up to speak in-person on a non-agendized item that is within the Council's jurisdiction, please click here.

Requests for in-person public comment may be submitted online or at the City Council meeting. Registration for in-person public comment is available online by completing a Request to Speak form. In-Person Public Comment Request to Speak forms for Consent, Regular, and Non-Agendized items must be submitted online no later than 90 minutes before the start of the meeting. Additionally, in-person meeting attendees may submit a Request to Speak form utilizing the kiosk located in the foyer area of City Hall for each agenda item they wish to address. Forms must be submitted and received before the Mayor announces the agenda item.

Written public comment may be submitted in-person by completing a yellow written public comment card or electronically by completing a Written Public Comment form. Written public comment received during the meeting will be shared with the Council. Written comments that are submitted electronically at least 90 minutes before the meeting will be emailed to the Council and posted online prior to the meeting. A written public comment may be submitted electronically by clicking here.

5:00 P.M.

REGULAR CITY COUNCIL MEETING

City Hall Kiva Forum, 3939 N. Drinkwater Boulevard

PERSONS WITH A DISABILITY MAY REQUEST A REASONABLE ACCOMMODATION BY CONTACTING THE CITY CLERK'S OFFICE AT (480-312-2412). REQUESTS SHOULD BE MADE 24 HOURS IN ADVANCE, OR AS EARLY AS POSSIBLE TO ALLOW TIME TO

Lisa McNeilly
Sustainability Director
City of Scottsdale
lmcneilly@scottsdaleaz.gov
(480) 312-2831

From: Mikayla Cutlip <mikayla.cutlip@TNC.ORG>
Sent: Thursday, October 26, 2023 9:46 AM
To: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Cc: Christian Stumpf <christian.stumpf@TNC.ORG>
Subject: RE: Heat and sustainability planning in Scottsdale

Thank you for reaching out – it was a pleasure meeting you a few weeks ago and learning more about Scottsdale's initiatives around heat mitigation.

I am catching up on emails after being out of office, so thank you for your patience. Yes, I am certainly interested in working together to support Scottsdale's planning process, and would appreciate the additional information on the process for submitting comments to the council meeting on 11/13, which I will review with our Director of External Affairs, Christian Stumpf, cc'ed on this email. We have a few supplemental materials on the Economic Assessment (a shortened executive summary as well as a PowerPoint presentation) if any of that would be helpful background for you as you prepare to present to council.

We look forward to working together!

Thank you and take care,
Mikayla

From: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Sent: Tuesday, October 17, 2023 3:57 PM
To: Mikayla Cutlip <mikayla.cutlip@TNC.ORG>
Subject: RE: Heat and sustainability planning in Scottsdale

Oops – hit send too soon.

We had also discussed whether TNC might be able to submit written or verbal comments at the Council meeting. If you're interested, I can send you more information about how to do so.

Lisa

Lisa McNeilly
Sustainability Director
City of Scottsdale
lmcneilly@scottsdaleaz.gov
(480) 312-2831

From: McNeilly, Lisa
Sent: Tuesday, October 17, 2023 3:56 PM
To: mikayla.cutlip@TNC.ORG
Subject: Heat and sustainability planning in Scottsdale

Mikayla,

It was nice to meet you on our call a couple of weeks ago.

With Anna's departure, I wanted to check in with you to see if you were still interested in Scottsdale's planning process? We would love to have TNC as an partner, especially as we work to mitigate heat!

I had mentioned an upcoming Scottsdale City Council meeting, where I'll be presenting the first half of our Community Sustainability Plan. We've referenced the economic study that TNC did in one of the introductory sections – and I know that there is Council interest in hearing more about it. Hopefully, I'll be able to answer any questions they have.

The Council meeting is on 11/13, starting at 5:00 (although I'm last on the agenda). Our Scottsdale Environmental Advisory Commission is reviewing this same portion of the plan tomorrow, and you can see the draft text here and the agenda here.

Look forward to connecting again soon,
Lisa

Lisa McNeilly
Sustainability Director
City of Scottsdale
lmcneilly@scottsdaleaz.gov
(480) 312-2831

From: Anna Bettis <anna.bettis@TNC.ORG>
Sent: Friday, October 13, 2023 1:37 PM
To: Anna Bettis <anna.bettis@TNC.ORG>
Cc: Mikayla Cutlip <mikayla.cutlip@TNC.ORG>; Baltazar Hernandez <b.hernandez@TNC.ORG>
Subject: Farewell - October 24

partners have made over the past several years working with communities to adapt to rising temperatures. It has been incredible to watch the narrative around heat in the Valley shift from "just something that happens to us" to "a challenge that we can address," translating to sizable investments in heat mitigation efforts. I look forward to watching this impact grow in the years to come as partners deploy the unprecedented federal funding for this work that is coming to our region.

I was deeply moved this past Saturday at the graduation for the third cohort of the Urban Heat Leadership Academy that TNC held in collaboration with our community-based organization (CBO) partners Phoenix Revitalization Corporation and Unlimited Potential, where a community member remarked *"I am walking away with a community of teachers and advocates, I know that together we can make a difference to combat this extreme heat, take care of each other, and leave a better future for others."* It is amazing to watch the community of advocates for equity-focused heat mitigation continue to grow.

I am pleased to be leaving the Healthy Cities Program in a strong position, with the completion of our 3-year business plan to expand our efforts and two amazing and capable staff on the team who will continue to move this work forward as TNC works to repost my position:

- **Mikayla Cutlip** our Healthy Cities Program Manager who oversees our efforts to mainstream green stormwater infrastructure and to foster support for nature-based solutions to heat with municipalities. She can be reached at Mikayla.cutlip@tnc.org.
- **Baltazar Hernandez** our Capacity Building Program Manager who oversees our grassroots capacity building efforts (including the Urban Heat Leadership Academy) and forthcoming efforts around tree health. He can be reached at B.hernandez@tnc.org.

My last day with TNC will be Tuesday October 24, 2023. I hope you will join me that afternoon at Aunt Chilada's (7330 N Dreamy Draw Dr, Phoenix, AZ 85020) from 4pm-6pm for a farewell happy hour!

It has truly been a privilege to work with and learn from you all. Please stay in touch. My personal email is abettisbranum@gmail.com and cell is 480-678-5320.

Best,

Anna

Anna Bettis, MSUS, PMP
Arizona Healthy Cities Program Director
The Nature Conservancy
1819 E. Morten Avenue, Suite 100
Phoenix, AZ 85020
Office: 602.322.6999
Cell: 480.678.5320
nature.org/healthycitiesaz


The Nature
Conservancy

The following input is prepared by the Healthy Cities Program at The Nature Conservancy in Arizona (TNC) for the City of Scottsdale's Sustainability Plan Update.

1/31/2024

General Notes

- A significant step in reaching our shared goal of increasing tree canopy is that cities set measurable canopy goals, so we support and are excited to see Scottsdale's defined tree canopy goal of achieving 15% by 2030 and 20% by 2040 in the plan update.
    - Page 6 of Attachment 4 lists a possible target to "increase percentage of tree canopy to 15% by 2030 and 20% by 2040". Does this refer to an average tree canopy for the city, or does it target priority areas? For example, South Scottsdale is noted as having canopy as low as 6%; might this area stand to benefit the most from canopy increase to 15 % and could the possible target emphasize investment in priority areas?

- Will the approval of this updated plan include budget adjustments for the city? I wonder if the city plans to develop an Urban Forestry Manager position (or like), and/or any funding increases or new mechanisms for tree investment and maintenance might be maintained. Here is a link to a source regarding funding opportunities to support tree canopy (p. 24 may be especially helpful): https://www.nature.org/content/dam/tnc/nature/en/documents/Trees4Health_FINAL.pdf

Resources

- The **Urban Heat Leadership Academy** can help Scottsdale's goals of expanding heat relief communication and education and increasing the city's tree canopy as graduates have access to small grants:
    - The Academy is offered annually by TNC and Phoenix Revitalization Corporation in English and Spanish. The hybrid curriculum runs from May-October and is open to residents within Maricopa County at no cost. If folks are interested in participating in the next Academy cohort, please find information on our website.
    - Graduates are eligible to apply for a small grant of up to $10,000 funded by TNC to implement heat-mitigating projects (these are often greening projects planting trees and other vegetation with stormwater and/or GSI features) in priority areas and are paired with mentor organizations to help them plan and execute the project.
    - Many video assets from the Academy are available on YouTube in English and Spanish and can be shared publicly.
- Prioritization Tools
    - Recognizing that the City of Scottsdale has invested in data and reports on heat and tree canopy, there are additional tools that may help identify priority areas. *Changing the Story of Heat in Metro Phoenix Together* is a StoryMap tool that organizes narratives on the experience of heat, resources to make changes on an individual and collective level, and a tool to explore how data on how different addresses compare to the regional average regarding land surface temperature, tree canopy, and social vulnerability.
    - American Forests recently released a Tree Equity Score Analyzer for Maricopa County.
- The US Forest Service Urban Tree Canopy manual is a helpful tool we've referenced when it comes to planning tree canopy assessments.

From: Jacqueline Sandoval
To: McNeilly, Lisa
Subject: RE: EXTERNAL: RE: SWG Sustainability Plan Follow-up
Date: Wednesday, January 31, 2024 12:17:33 PM
Attachments: image003.png
image005.png

External Email: Please use caution if opening links or attachments!

Hi Lisa,

Thank you for sending the draft and giving our team the opportunity to review the document. I wanted to pass along Matt's feedback on the updated draft. Please let me know if you have any questions and if there's any additional information that would be helpful to provide.

Thank you again for meeting with our team and including us in the process.

Jackie

From: Matthew Ligouri <Matthew.Ligouri@swgas.com>
Sent: Tuesday, January 30, 2024 10:53 PM
To: Jacqueline Sandoval <jacqueline.sandoval@swgas.com>
Subject: FW: EXTERNAL: RE: SWG Sustainability Plan Follow-up

Hey Jackie,

Please thank Lisa for the opportunity to review their Sustainability Plan. I appreciate her thinking of us.

I think the plan looks good overall. The only comment I had was related to the opening page and how natural gas is framed. Natural gas use has contributed to significant reductions in CO2 emissions in the electricity generation sector since 2005. Additionally, there are significant emissions savings associated with using natural gas instead of gasoline or diesel in vehicles and in fireplaces instead of wood.

If Lisa is interested in exploring any of those statistics, let her know that we'd be happy to provide them.

Sincerely,

Matt

SOUTHWEST GAS | Clean. Affordable. Natural Gas.
Matt Ligouri | Senior Manager, Public Affairs
1600 E. Northern Ave | 42A-255 | Phoenix, AZ 85020
Direct (602) 395-4165 | Mobile (480) 404-8527
Matthew.Ligouri@swgas.com | *www.swgas.com*

From: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Sent: Friday, January 26, 2024 4:23 PM
To: Jacqueline Sandoval <jacqueline.sandoval@swgas.com>
Cc: Matthew Ligouri <Matthew.Ligouri@swgas.com>; Helen Heiden <Helen.Heiden@swgas.com>; Sanders, Marci <MSanders@scottsdaleaz.gov>; Wiebusch, Dale <DWiebusch@Scottsdaleaz.gov>
Subject: EXTERNAL: RE: SWG Sustainability Plan Follow-up

Jackie,

Thank you for this helpful information and your patience as I catch up on a backlog of emails.

I have just posted a new draft of the Energy chapter of the sustainability plan, as part of the agenda packet for the January 31 meeting of our Scottsdale Environmental Advisory Commission. As you can see, I did not directly address distribution leaks of natural gas, but did add an action for the city to help reduce accidental leaks (Action 1.10, p 8 of Attachment 1). I hope you have the opportunity to review the entire document, as I would be interested in any other feedback or input you might have.

Thank you for your time and interest in our sustainability plan.

Best,
Lisa

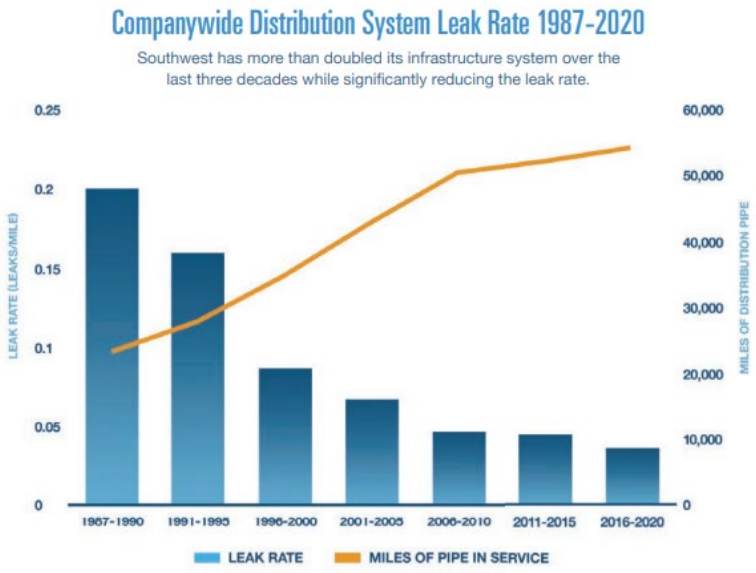
Lisa McNeilly
Sustainability Director
City of Scottsdale
lmcneilly@scottsdaleaz.gov
(480) 312-2831

From: Jacqueline Sandoval <jacqueline.sandoval@swgas.com>
Sent: Wednesday, January 17, 2024 3:24 PM
To: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Cc: Matthew Ligouri <Matthew.Ligouri@swgas.com>; Helen Heiden <Helen.Heiden@swgas.com>; Sanders, Marci <MSanders@scottsdaleaz.gov>; Wiebusch, Dale <DWiebusch@Scottsdaleaz.gov>
Subject: SWG Sustainability Plan Follow-up

Thanks again for taking the time to meet with us recently and I apologize for the delay in getting back to you. As promised, I wanted to follow up with a couple of things that came up during our meeting.

First, here's a link to our 2022 Sustainability Report:
https://www.swgas.com/1409216536723/Southwest-Gas-2022-Sustainability-Report.pdf

Second, below is a graph that shows the leak data that came up during the meeting. As you can see, between 1987 – 2020, we more than doubled our infrastructure system while significantly reducing our leak rate.



Lastly, I wanted to provide some data on methane emissions from natural gas distribution systems. According to the 2020 Inventory of U.S. Greenhouse Gas Emissions by the U.S. Environmental Protection Agency, as little as 0.1 percent of the natural gas delivered nationwide is emitted from local distribution systems, like the one operated by Southwest Gas. In Arizona, 1.4 MMT CO2e comes from natural gas systems. That 1.4MMT CO2e is out of 100 MMT CO2e total emissions. I have attached a spreadsheet that provides details on emissions by source and GHG. You may also download state specific data directly from the EPA's website at this link.

If you have any additional questions or want further information from us, please don't hesitate to reach out. We really appreciate you giving us the opportunity to review the Air Quality section of the sustainability plan and look forward to reviewing the Energy section when it becomes available.

Thank you,
Jackie

Jacqueline Sandoval | Administrator, Public Affairs
1600 E. Northern Ave | 42A-255 | Phoenix, AZ 85020
Direct: (602)395-4043 | Mobile: (480)594-7795
Jacqueline.Sandoval@swgas.com | *www.swgas.com*

****
****

Thank you for your cooperation.

****
****

1. The narrative is Solid Waste Dept centric, and by extension, single-family residential centric.
   a. This is a community sustainability plan. As the plan Introduction indicates, it is intended to be implemented by all stakeholders in our city (small "c").
   b. Within the City (capital "C"), every department plays a role. For example, Purchasing decisions can reduce waste generation, Government Relations can lobby for/against materials management legislation, Community Services can provide education venues and programs, Police can conduct the pharmaceutical take-back program, Fire can facilitate battery recycling through a smoke and carbon monoxide detector battery replacement program, and all departments involved in tourism and events can promote and support Zero Waste Events.
   c. The indicators and targets relate solely to the single-family residential sector.

2. More emphasis in the narrative on Sustainable Materials Management (SSM)!
   a. In an earlier draft of this plan, this priority was titled "Waste as a Resource." Request return to that title or "Resource Recovery."
   b. This graphic is a good illustration of the SSM paradigm shift:

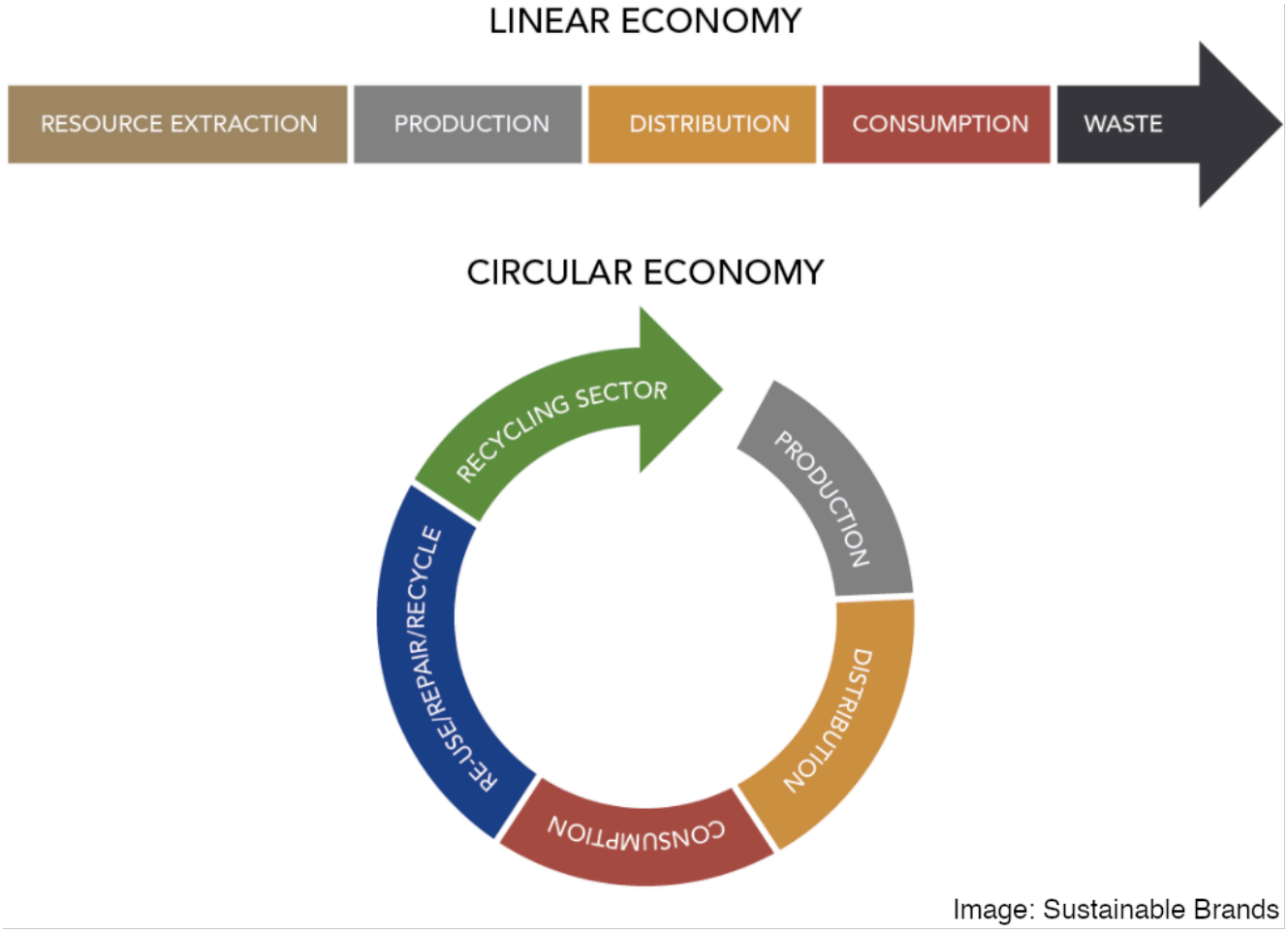


Image: Sustainable Brands

3. Multi-family residents and businesses are not represented in the indicators and targets.
    a. Circa 2017, 42% of Scottsdale's housing units were multi-family (38% owner-occupied) and almost a quarter of Scottsdale residents resided in multi-family units. Due to recent construction trends, that number is likely higher today.
    b. The lack of diversion in the multi-family and commercial sectors has been a common topic of feedback to the City at multiple entry points for many years.
    c. I understand the challenges in these sectors. At minimum, the plan should acknowledge the challenges so that the 25% (or more) of our residents to whom this priority currently does not apply can find in this plan at least some understanding of those challenges. Ditto for our businesses.
    d. We can't manage what we don't measure. By ordinance, we have the ability to require data from the private haulers we license to operate within Scottsdale (SRC §16-487). I understand the challenges (e.g., routes not solely within the city boundary, routes not exclusively multi-family or commercial). Perhaps, as an interim compromise for 2024, we could require haulers to provide the number and percentage of their accounts that subscribe to recycling service.

4. Municipal sector is not represented in the indicators and targets.
    a. Unlike multi-family and commercial, the City has complete control over the municipal sector – as generator, customer, and hauler.
    b. The municipal goal in our Community Solid Waste Reuse and Recycling Strategic Plan is 90% diversion of all materials collected from City-operated facilities and programs by FY 2024/2025. Obviously we will not reach that goal.
    c. Lead By Example
    d. Add municipal indicators and targets.

5. Indicator 1 - tons per year (Option 1)
    a. What is the 126,562 figure comprised of? No combination of numbers presented at the December SEAC meeting totals 126,562 and single-family residential totals are far lower.

       Note: On 1/10/24, 126,562 was changed to 84,717 and identified as "single-family residential solid waste."
    b. Regarding the text in the indicator box:
        - This is tons collected, not generated.
        - This is tons collected in the black and mauve containers. Why does it say "composted"?
    c. If this indicator remains in the plan, the narrative and text in the indicator box should make clear that the indicator represents the tonnage collected in the black and mauve containers only and does not include any other single-family residential collection (e.g., brush & bulk, household hazardous waste, electronics, appliances, and move-in box collection).

6. Indicator 2 - pounds per household per year (Option 2)
   a. State that this is refuse (black container) only and does not include any other single-family residential collection (e.g., brush & bulk, household hazardous waste, electronics, appliances, and move-in box collection).
   b. A target associated with this indicator (reduction of tonnage collected) would measure both source reduction and diversion.
   c. For the public, "pounds per household per year" is a more accessible concept than "short tons per year."
   d. If Option 1 and Option 2 both remain in the plan, it will have to be made clear that Option 1 is refuse (black) + curbside recycling (mauve) and Option 2 is refuse (black) only.

7. Indicator 3 - diversion (recycling) rate
   a. Make clear in the paragraph above the graph and indicator that the 27% diversion rate is comprised of:

      numerator single-family residential curbside recycling (mauve container)
      denominator single-family residential refuse (black container)

      It must be clear that bulk & brush, HHW, electronics, appliances, and move-in boxes are not included in the denominator.
   b. Re: "This rate does not include green waste."

      It would be more accurate to say: "This rate does not include organics diversion." The denominator does include "green waste."
   c. The single-family residential curbside recycling goals in our Community Solid Waste Reuse and Recycling Strategic Plan are:

      The City's residential diversion rate goal is to increase diversion of single-family residential curbside single-stream recycling (e.g., metal, glass, plastic, paper) by the end of:

      FY 2019/20 to 36%
      FY 2024/25 to 48%
      FY 2029/30 to 60%

      Those goals were set in 2018, but we haven't moved the needle. As the paragraph above the graph says, the rate has been steady for many years.
   d. Is staff target "Achieve a 35% diversion rate by 2030 and a 90% diversion rate by 2050" related to this indicator?

8. Staff target: "Achieve a 35% diversion rate by 2030 and a 90% diversion rate by 2050."
   a. Identify sector. Is this a single-family residential target?
   b. What is intended by "diversion" – recycling or recycling + organics?
   c. Organics diversion has huge potential.

- In a 2014 City of Phoenix waste characterization study, 50.0% of collected refuse was compostable (yard waste 29.9%, food waste 14.7% and paper 5.4%) and 5.1% of collected recycling was compostable (representing contamination in that stream).
- Food is the largest component of landfilled municipal solid waste, comprising 24 percent of all material landfilled in 2018.
  ("Advancing Sustainable Materials Management: 2018 Fact Sheet," U.S. EPA)

d. Organics tend to be heavy. Reducing organics makes a large impact on tonnage reduction.

e. If "diversion" in this staff target is intended to include curbside recycling + organics:

- In light of a) the 2018 curbside recycling goals and b) the weight of organics, the initial staff suggested 2030 diversion target of 35% is low.
- How would organics diversion be measured if the City does not a) collect a third (green) container or b) contract with a third-party (such as Recycled City) to do so?

f. If "diversion" in this staff target is intended to include curbside recycling only:

- It will not be possible to reach 90% diversion because the materials collected in curbside recycling do not comprise 90% of the combined single-family residential black (refuse) and mauve (recycling) material streams.

9. Staff target: "Reduce landfill waste per household by 35% from 2022 levels by 2030 and reduce by 90% by 2050."

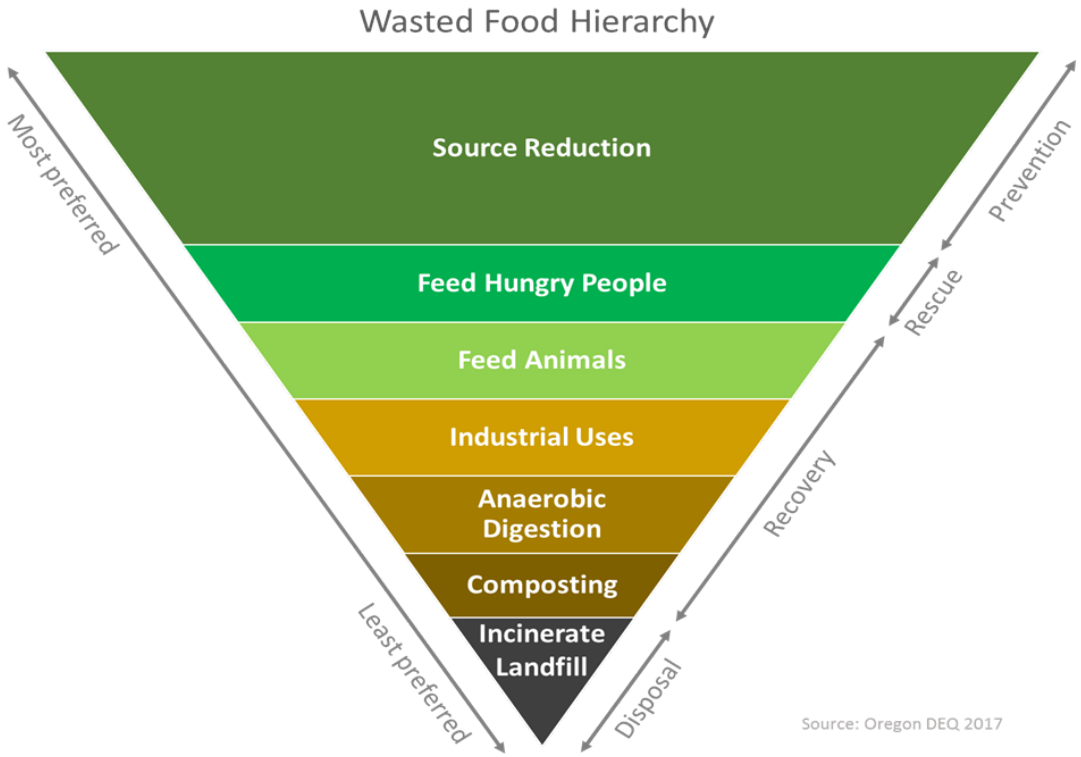
   a. Identify sector. Presumably, this a single-family residential target.

   b. What would be included? Is this intended to be a straight 35% reduction in black bin collection tonnage? Or does it incorporate items diverted from the landfill through all single-family residential collection (e.g., mauve container, brush & bulk, household hazardous waste, electronics, appliances, and move-in box collection). In other words, what is the mathematical formula? This clarification is needed to evaluate the proposed percentage.

10. Indicator 4 - composted tons

    a. With respect to all organics, but especially food, I would like to see:

- less emphasis on a) diversion and b) composting as the primary form of diversion
- more emphasis on source reduction.



By every environmental measure, reducing wasted food has far greater benefit than composting or even anaerobic digestion. For example, under Project Drawdown Scenario 1, **reducing food waste is the #1 most impactful solution**. Composting is far down the list at #78. (https://drawdown.org/solutions/table-of-solutions)

EPA's Waste Reduction Model (WARM tool) demonstrates that even after accounting for carbon storage benefits and compost, **preventing food from being wasted in the first place has a greenhouse gas reduction benefit 6 to 7 times higher per ton than composting or anaerobic digestion**. (David Allaway, at Oregon DEQ, says the WARM model actually underestimates that figure.)

Food production consumes a phenomenal amount of resources – water, fuel, chemicals, refrigeration, transportation, et cetera. When you toss that bunch of kale that spoiled before you ate it, you're throwing away every resource all the way back to before the field was plowed.

This is why, on the Wasted Food Hierarchy, source reduction is up at the top and composting is down towards the bottom. To best utilize our City and community resources for maximum benefit, we should be guided by the hierarchy: prevention, rescue, recovery, and as a last resort, disposal. That means: reduce, then feed people, then feed animals, then anaerobic digestion, and then composting.

We don't have farms and anaerobic digestion (yet) in Scottsdale. So, at least in the short term, we should concentrate our efforts and resources on source reduction, feeding people, and composting – in that order.

The Wasted Food Hierarchy would be an excellent illustration for the narrative.

b. Discussion points for this indicator and corresponding target:
   - sector?
   - material (landscape versus food)?
   - how to measure?
     - prevention/reduction cannot be measured directly
     - donated food and composted organics are potentially measurable

11. Ideas for possible indicators & targets:
    - 20% reduction in single-family bulk collected (tons/year)

      a measure of steering reusable and recyclable items away from the landfill, e.g., encouraging donations
    - 20% reduction in single-family residential brush collected (tons/year)

      a measure of diversion to the transfer station and source reduction
    - 40% percent of Scottsdale Solid Waste Dept commercial accounts recycle by 2030 (against current rate of 10%)
    - annual donated food (tons)

      This would be a community-wide goal and would require community partners to implement and collect data.

12. This paragraph in the draft Sustainability Plan is taken directly from the Community Solid Waste Reuse and Recycling Strategic Plan:

    > Our contracted recycling facility operator sorts recyclable materials by commodity and sells them through various commodity markets, with a portion of the revenues coming back to the city. While this revenue does not provide a positive revenue stream after accounting for the costs of collection and transportation, it does provide a net savings over the alternative of landfill disposal. The same could potentially be true for other recyclable commodities outside of the single stream recycling program.

    The paragraph was true at the time it was written – before China's import bans rocked world recycling markets. At the December SEAC meeting, Dave Bennett provided the following current figures: $30/ton to landfill, $37/ton net to recycle. Suggested edit for paragraph above:

    > Our contracted recycling facility operator sorts recyclable materials by commodity and sells them through various commodity markets, with a portion of the revenues coming back to the city. The revenue does not, at this time, provide a positive revenue stream after accounting for the costs of collection, transportation and processing. Nor does it provide, at this time, a net savings over the alternative of landfill disposal. However, it did in the past and could again in the future. Diversion of other recyclable commodities outside of the single stream recycling program may also provide net savings over landfill disposal.

From: A. McMahon
To: McNeilly, Lisa
Cc: Bennett, Dave; Azima, Gina; ute brady
Subject: corrections
Date: Monday, January 15, 2024 9:40:56 AM
Attachments: Feedback – Waste priority – 11724 draft posted 1524 – A. McMahon.pdf

Lisa,

There is a misunderstanding regarding two of my comments – one submitted in writing and one mentioned in our meeting. Please post a corrected Waste priority draft regarding these two items attributed to me.

1. Achieve a 90% diversion for municipal waste by 20xx (McMahon)

I did not suggest this as a municipal target. Rather, I requested the Sustainability Plan include municipal indicators and targets. As a reference point, I mentioned the municipal goal in our current Community Solid Waste Reuse and Recycling Strategic Plan (90% diversion of all materials collected from City-operated facilities and programs by FY 2024/2025). I look forward to hearing staff's recommendation for municipal indicators and targets.

2. 1.1 Encourage addition of recycling infrastructure in commercial and multi-family housing
   Commissioner McMahon suggestion

I did not make this suggestion. To clarify, in our meeting, I indicated the following two strategies should be deleted because they were achieved in September 2022 and December 2022:

- 1.1 Support code requirements for builders to include space for recycling in new commercial and multi-family housing
- 1.2 Support code requirements for a 50% diversion rate of construction and demolition waste for commercial projects

Please post a corrected Waste priority draft.

I'll mention one other item, to give Dave and Gina a heads up:

This strategy presumably is a response to our discussion about the dearth of data for the

commercial and multi-family sectors (because those sectors are served primarily by private haulers).

1.12 Investigate ways to improve data collection from private haulers and for municipal waste

The municipal sector is a very different situation and I presumed we have that data. Perhaps at Wednesday's SEAC meeting, Dave and Gina can clarify the status (completeness) of our municipal data.

Finally, I inadvertently failed to include Dave and Gina on Friday's email in which I transmitted my written comments. I imagine you have already shared them, but just in case, they are attached and Dave and Gina are cc'd.

Thank you,
Alisa

From: Walter Cuculic
To: McNeilly, Lisa
Subject: Contamination Reduction Rate Suggestions
Date: Wednesday, January 31, 2024 7:18:46 PM

Hi Lisa,

Here is my suggestion for Diversion Rate. Feel free to make any edits or suggestions.

- 15% current target
- 10% 2035 target
- 5% 2045 target

Thank you!

Walter Cuculic

McNeilly, Lisa

From: McNeilly, Lisa
Sent: Friday, February 16, 2024 4:26 PM
To: A. McMahon
Cc: Bennett, Dave; Azima, Gina; Eberhardt, Cindi
Subject: RE: quick question

Commissioner McMahon,

Thank you for your continued review of the Solid Waste text. The intent behind having two different targets was to focus on all organics with the second bullet, but also have targets related to brush and bulk (the first bullet). I noticed, though, that an edit to the Indicator was missed in the conversion to designed text. I will make sure it is changed to "Total amount of organic waste diverted from the landfill (tons)" so that it matches the target.

We are still working on the responses to your other two questions, during this unexpectedly busy week. I will get you responses as soon as we can review the data.

Thanks – and hope you have an enjoyable long weekend,
Lisa

Lisa McNeilly
Sustainability Director
City of Scottsdale
lmcneilly@scottsdaleaz.gov
(480) 312-2831

CITY OF SCOTTSDALE

From: A. McMahon <mcmahon.a@cox.net>
Sent: Wednesday, February 14, 2024 5:02 PM
To: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Subject: quick question

Lisa,

Please confirm that the intention here is yard/landscaping debris (as opposed to all organics). Thank you in advance.

Alisa

- Achieve a 50% diversion rate of organic waste from the brush and bulk waste stream by 2030 and a 90% diversion rate by 2040
- Divert 15,000 tons annually of city-wide organic waste from the landfill by 2030

Total amount of organic waste composted (tons) (TBD)

McNeilly, Lisa

From: McNeilly, Lisa
Sent: Tuesday, February 20, 2024 5:18 PM
To: A. McMahon; Bennett, Dave; Azima, Gina
Cc: Ute Brady
Subject: RE: Scottsdale Solid Waste commercial data question

Commissioner McMahon,

Dave was able to pull the below numbers in response to your question:

number of Scottsdale Solid Waste commercial accounts (NOT including municipal):
total 1,058 *No COS Accounts Included
multi-family 34 *included in 1,058.
other commercial

number of Scottsdale Solid Waste commercial Accounts (NOT including municipal) that subscribe to recycling service:
total 227 *No COS Accounts Included
multi-family 34 *included in 227.
other commercial

Lisa

Lisa McNeilly
Sustainability Director
City of Scottsdale
lmcneilly@scottsdaleaz.gov
(480) 312-2831

From: A. McMahon <mcmahon.a@cox.net>
Sent: Thursday, February 15, 2024 12:04 PM
To: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>; Bennett, Dave <DBennett@Scottsdaleaz.Gov>; Azima, Gina <GAzima@Scottsdaleaz.gov>
Cc: Ute Brady <ubrady.az@gmail.com>
Subject: Scottsdale Solid Waste commercial data question

All,

I hope this information is readily available.

number of Scottsdale Solid Waste commercial accounts (NOT including municipal):
total

multi-family
other commercial

number of Scottsdale Solid Waste commercial Accounts (NOT including municipal) that subscribe to recycling service:

total
multi-family
other commercial

Thank you in advance for providing this information.

Alisa

McNeilly, Lisa

From: McNeilly, Lisa
Sent: Tuesday, February 20, 2024 5:18 PM
To: A. McMahon; Bennett, Dave; Azima, Gina
Cc: Ute Brady
Subject: RE: Sustainability Plan SFR diversion target

Commissioner McMahon,

I wanted to let you know that I will be sharing this information (along with your other input) with the Commission, so that the question can be discussed at tomorrow's meeting. I will be bringing hard copies, too, so that any members of the public in attendance have access.

Lisa

Lisa McNeilly
Sustainability Director
City of Scottsdale
lmcneilly@scottsdaleaz.gov
(480) 312-2831

From: A. McMahon <mcmahon.a@cox.net>
Sent: Wednesday, February 14, 2024 10:50 PM
To: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>; Bennett, Dave <DBennett@Scottsdaleaz.Gov>; Azima, Gina <GAzima@Scottsdaleaz.gov>
Cc: Ute Brady <ubrady.az@gmail.com>
Subject: Sustainability Plan SFR diversion target

All,

I was pondering the single-family residential (SFR) 35% diversion rate target. I went back to the last meeting to listen to Dave's answer to my question: why did the staff target for single-family residential (SFR) drop from 35% to 33%? If I understand the answer correctly, Dave indicated it ties back to the SFR target to reduce landfill waste by 25%. Specifically, if we reduce landfill (black container) tonnage by 25%, we will increase our diversion rate from 27% to 33%.

To evaluate potential targets, I did some calculations using FY 2022/23 figures. I came up with very different results. I've attached my spreadsheet. According to my calculations, if we reduce landfill (black container) tonnage by 25%, we will increase our diversion rate to **45%**. Conversely, for a 33% diversion rate, landfill tonnage has to be reduced by just 9%! We can achieve a 35% diversion rate with only an 11% reduction.

Phoenix and Tucson characterization studies indicate that collected refuse is composed of about 49% compostable materials and about 18% recyclable materials. Lots of diversion opportunity!

Please check my calculations, correct me if I'm wrong, and let me know your thoughts. Thanks!

Alisa

Single Family Residential Diversion Calculations

2022 tons					
61,814	tons refuse			73%	
22,903	tons recyc			27%	total diversion
	tons total		84,717	100%	

61,814	diversion from refuse	25%	15,454	18.2%	
22,903	recycling		22,903	27.0%	
	total diversion		38,357	45.3%	total diversion

61,814	diversion from refuse	20%	12,363	14.6%	
22,903	recycling		22,903	27.0%	
	total diversion		35,266	41.6%	total diversion

61,814	diversion from refuse	11%	6,800	8.0%	
22,903	recycling		22,903	27.0%	
	total diversion		29,703	35.1%	total diversion

61,814	diversion from refuse	10%	6,181	7.3%	
22,903	recycling		22,903	27.0%	
	total diversion		29,084	34.3%	total diversion

61,814	diversion from refuse	9%	5,563	6.6%	
22,903	recycling		22,903	27.0%	
	total diversion		28,466	33.6%	total diversion

61,814	diversion from refuse	8%	4,945	5.8%	
22,903	recycling		22,903	27.0%	
	total diversion		27,848	32.9%	total diversion

McNeilly, Lisa

From: A. McMahon <mcmahon.a@cox.net>
Sent: Monday, February 19, 2024 10:25 AM
To: McNeilly, Lisa; Eberhardt, Cindi; Bennett, Dave; Azima, Gina
Cc: Ute Brady
Subject: Waste
Attachments: Waste Draft 2.21.24 Comments.pdf

Lisa,

The attached PDF pertains to the Waste section.

Please know that I do not expect that you will "process" all this before Wednesday's SEAC meeting. In fact, I very much hope you will take your time to go through it.

For the Narrative portion, the PDF contains: a) comments/explanations, b) suggested edits clean (changes accepted) and c) suggested edits redlined.

Time limitations precluded a written explanation of every suggested change in the redlined draft. As you work through it, please give me a call or send an email if you have questions or need references.

I am sending a second email with graphics and photos as jpgs and a Word version of the Narrative. I suspect the Word version will not play nice between our computers, hence the PDF redlined and clean.

The Indicators and Targets are at the end of the PDF. I went as far as I could go with them (with available information).

Must dash to work now, but I wanted to get this to you just in case you're working today.

Alisa

Comments re: Waste 2/21/24 Draft Posted 2/9/24

Dr. Alisa McMahon

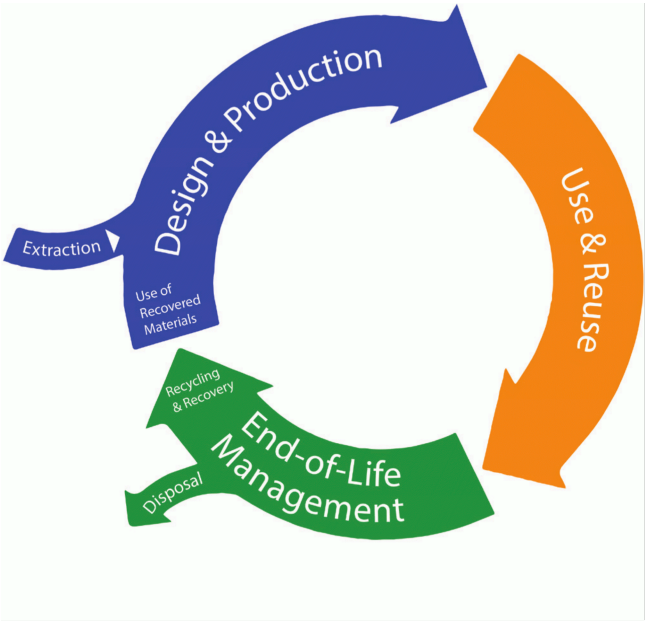
Sustainable Materials Management

Previously, I suggested that the original title of this section, "Waste As A Resource," be restored and that the narrative more fully embrace the principles of Sustainable Materials Management. I also suggested a graphic that beautifully illustrates the difference between linear economy and circular economy.

Sustainable materials management is not new! It's been around since at least 2009 when EPA published "Sustainable Materials Management: The Road Ahead." Just a few of the *many* examples of its widespread adoption:

- WM Phoenix Open is no longer called the Waste Management Phoenix Open. (The sponsor was challenged by a speaker at the WMPO Sustainability Forum to change the tournament's name.)
- Mesa's climate action plan's "solid waste" section is titled "Materials Management." Even better, the section in Tucson's climate action plan is titled "Resource Recovery and Management."
- Flagstaff has articulated its vision in "ReThink Waste: A Framework for Transitioning to Sustainable Materials Management."
- Austin's solid waste department was renamed Austin Resource Recovery many years ago.

I'd really like to see an articulation of Sustainable Materials Management in the narrative – preferably early in the narrative, specifically pre-landfill. I offer two additional graphics for consideration:



Source: Department of Ecology, State of Washington, adapted from Oregon's Department of Environmental Quality

Of the two, I prefer the Washington State graphic above.

Source: https://www.epa.gov/sites/default/files/2015-09/lifecycle.jpg

Illustrations

The 2/21/24 draft is illustrated with ***numerous*** photos of containers and trucks. The pictorial message conveyed is: use → toss → collect → bury.

Instead, I would like to see the illustrations convey a Sustainable Materials Management message. Here are some ideas:

A photo from Stardust depicting deconstruction in process.
A photo from the Phoenix or Tempe (or any) composting facility.
A photo of the new MRF at SRL (or any MRF) depicting a cool new MRF technology.
A photo of a textile drop-off location.
The linear/circular economy graphic I submitted in January.
One of the two life cycle graphics above.
Just one photo of a collection truck:

I obtained the photo above from Waste Management for the Strategic Plan shortly before we stopped working on it. Since the photo didn't make it into that plan, I offer it for this one.

Let's shift the paradigm!

A Word About "Waste"

I know how *very* difficult it is to write or talk about this subject without using the word "waste"! But we must try. "Waste" connotes worthless, unwanted, useless, something to be rid of. To change how people think about generating and disposing of materials, we must change our terminology. Being very deliberate in our word choices helps shift the paradigm to:

- waste as a resource
- circular over linear
- sustainable materials management over solid waste management
- resource recovery versus landfill disposal

In my suggested edits, I have replaced some of the references to "waste." There are still many and all can't be avoided, but we can be mindful to use alternatives whenever possible.

Suggested Edits to Narrative Portion

Numbers correspond to numbers in redlined and clean drafts.

❶ Although I suggested changes in the redlined draft, I recommend deleting the entire paragraph because:
   a. The paragraph is not about "efforts to generate less waste."
   b. It's a list of Scottsdale Solid Waste single-family residential services and that doesn't seem relevant to the Sustainability Plan.
   c. Recycling service to single-family homes is covered on page 67 and brush & bulk collection is covered on page 70.

❷ I'm unsure what "Scottsdale takes the same approach" means. Perhaps we could highlight the quote by putting it in a box?

❸ This paragraph contains two different topics. The "alternatives available within the community" portion fits nicely further down, between source reduction and C&D (as shown in redlined draft).

   In looking at the remainder of this paragraph and the one following:
   a. I thought we needed to directly say which providers service the different sectors.
   b. I moved the pieces of these paragraphs around into three paragraphs.

❹ For a variety of reasons, I think it's important to provide the landfill/recycling breakdown here. See suggested edits in the first two sentences.

Note change from "waste" and "trash" to "refuse" here and elsewhere. This is consistent with terminology in the Strategic Plan and GHG Inventory as well as S.R.C. definitions. (Also see comments above regarding use of the word "waste.")

I suggest striking this sentence:

"Data includes waste collected by the city for single-family households, but excludes other waste streams not collected weekly."

because:

a. It is not accurate. The department has data for streams "not collected weekly," including move-in box collection, appliance collection, electronics recycling, household hazardous waste collection, and brush & bulk (see SEAC December 2023 - Item 3 - Slides 4 and 6)
b. It is contradicted by the next sentence which provides data for a stream collected monthly.
c. Referencing the black and mauve containers makes it very clear what the data in this paragraph includes.

I suggest moving the sentence about municipal data a) because this paragraph is otherwise about single-family residential and b) to consolidate data gaps in one paragraph (mostly). See redlined draft.

Figure 1

- Since the graph represents black container collection only (not all solid waste), the title should read:

  Single-Family Residential Landfill Refuse (pounds per home/fiscal year)
- Label the y-axis

❺ I suggest replacing this sentence:

"This rate is calculated by dividing the amount of waste that is recycled by the total single-family residential solid waste from above and does not include green waste or any organics diversion."

with the two sentences in the redlined draft because:

a. "total residential solid waste from above" is unclear
b. "total single-family residential solid waste" *does* include "green waste"
c. "green waste" is not defined

I suggest deleting:

"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."

because:

a. It seems out-in-left-field here. In the Strategic Plan, the second sentence accompanies a bar graph from a Valley Benchmark Report that illustrates how Scottsdale compared with other Valley cities.
b. That data is 10 years old (FY 2014/15). Do we have more recent data?
c. How diversion rates are calculated in other cities doesn't seem relevant here.
d. How our recycling rate compares with other cities doesn't seem relevant here.
e. It repeats material that's in another plan.

❻ It is not true that no data is reported. For several years, private haulers have reported data for commercial projects built under the voluntary Green Building Program. With the recent adoption of the mandatory IgCC, that reporting should grow. (I do not suggest that all this detail be added. I mention it only to explain why I changed "no" to "only limited" in the redlined draft.)

❼ In the first sentence, I added "yard" because regional residential waste characterization studies indicate that yard debris makes up the highest percentage of organic material. Specifically, Phoenix and Tucson waste characterization studies indicate that the composition of collected refuse includes about 27% compostable yard waste and about 15% compostable food waste. (Another 7% is compostable paper for a total of nearly 50% compostable material.)

I suggest moving the horse manure sentence so we don't jump from food to horse manure and back to food (in the next paragraph). As redlined, the first organic paragraph introduces the three elements: food, yard debris and manure. Then the next two paragraphs cover food and the fourth paragraph covers yard debris.

❽ The 349 pounds of wasted food per person per year is only from consumer-facing sectors: food service, grocery retail and residential. It represents only about 62% of the total wasted. Another nearly 38% is generated by the food manufacturing and processing sector. I'm not suggesting we add that, just that we clarify that 349 isn't the whole enchilada. See redlined draft.

references:

www.epa.gov/system/files/documents/2023-03/2019%20Wasted%20Food%20Report_508_opt_ec.pdf

https://refed.org/articles/slow-progress-big-opportunities-in-food-waste-reduction-insights-from-refed-s-food-loss-and-waste-estimates-for-2022/

❾ I suggest deleting this: "Similar rates for other Valley cities range from 12% to 30%."

Is it current data? Source? It doesn't seem relevant to the Sustainability Plan.

NARRATIVE CLEAN

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. Garbage 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, lowers greenhouse gas emissions, 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]

❶ Historically, members of the Scottsdale community have supported and embraced efforts to divert waste from the landfill. Scottsdale Solid Waste has provided single-stream recycling collection to all single-family homes since 1996. Each single-family residential customer is also provided monthly pickup of bulk items and uncontained brush (yard) waste. Finally, as part of the base single-family residential service fee, residents can 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 maintains a contractual agreement with the Salt River Landfill (SRL) for the disposal of refuse. The estimated operational lifespan of the Salt River Landfill extends through 2035, with ongoing efforts by the SRL to prolong the facility's utility beyond this period. Waste is transported by Scottsdale Solid Waste 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, Scottsdale 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, resulting in more fuel, labor, vehicle wear, and air pollution. Bringing less waste to the SRL helps extend its usable life, avoiding these burdens and their costs as well as costs associated with opening a new landfill. ❷ Annie Leonard, the creator of "The Story of Stuff," said it best: "When we throw anything away it must go somewhere." Scottsdale takes the same approach as it helps residents and businesses throw fewer things away.

❸ There are multiple providers of material management services in Scottsdale. Single-family residences and city facilities are serviced by Scottsdale Solid Waste. The commercial sector, which includes multi-family housing and businesses, contracts with Scottsdale Solid Waste or private haulers. Private haulers service a majority of the commercial sector.

Multi-family complexes and other commercial customers choose whether to contract for services other than landfill disposal. Unlike residents of single-family households, Scottsdale's multi-family residents 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 Scottsdale Solid Waste's approximately 1,150 commercial account customers recycled.

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.

❹ **In fiscal year 2022/23, Scottsdale Solid Waste 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**. In FY 2022/23, Scottsdale Solid Waste also collected 20,263 tons of brush and bulk from single-family households.

Scottsdale Solid Waste provides weekly recycling pickup for approximately 84,000 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.

❺ **In fiscal year 2022/23, Scottsdale 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). It does not include any organics diversion.

But there is more to sustainable materials management than recycling. Source reduction, or waste prevention, 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 a) textile collection drop-off points, b) retail outlets accepting used light bulbs, batteries, motor oil, or plastic grocery bags for proper disposal, and c) thrift stores and other markets for reusable items.

❻ Construction and demolition (C&D) debris represents a significant proportion 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.[2] Scottsdale Solid Waste 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, with the 2023 building code update, Scottsdale now requires that all commercial projects achieve a minimum of 50% diversion of nonhazardous construction, demolition or deconstruction waste material through reuse, recycling, repurposing, and/or composting.

❼ Organic material – mostly yard and food waste – in the waste stream is another great opportunity for diversion. Horse manure is an additional organic diversion opportunity available to Scottsdale because of the WestWorld equestrian center and Scottsdale's many horse properties.

❽ Nationally, food service, grocery retail and residential sectors combined generate approximately 349 pounds of food waste per person each year, with the majority ending up in landfills. Reducing food

waste 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, generating a helpful hierarchy from prevention to rescue, recovery and disposal. Some of these actions are difficult to quantify but are still important waste management tools.

Single-family residents can dispose of yard waste, including grass clippings, tree trimmings and other organic material, during their monthly brush and bulk pickup. Usually, this organic material 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 as part of the transfer station expansion. In addition, commercial landscapers working for single-family homes, homeowners' associations (HOAs), and commercial properties will be able to dispose of their organic material at the transfer station. As of early 2024, there is no available data regarding organics diversion by commercial landscapers.

For recycling and organics diversion to be most effective, the materials must be properly sorted. Refuse, non-recyclables, items soiled with food or liquids, and recyclables collected in plastic bags cause recycling facility shutdowns, reduce the market value of commodities, and raise Scottsdale's cost to recycle. The Salt River Landfill maintains a separate green (yard) waste disposal area where loads with minimal non-organic contamination are diverted from the landfill. Contamination leads to increased costs or even entire loads being redirected to the landfill.

⑨ In 2019, the contamination rate for mixed recyclables Scottsdale Solid Waste delivered to the recycling facility was 14%, calculated through annual audits by the recycling facility operator.

The 2018 Community Solid Waste Reuse and Recycling Strategic Plan set eight policy objectives to guide the work of Scottsdale Solid Waste. 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 strategies to realize those goals.

NARRATIVE REDLINED

Managing waste better and more efficiently benefits everyone. Recycling or reusing goods reduces the reliance on finite natural resources and ~~can~~ yields cost savings by buying less and avoiding landfill tipping fees. Garbage trucks will drive fewer miles on city streets, litter is reduced, jobs can be created, and fewer landfills need to be built and maintained. ~~Broadening efforts to increase~~ Increasing recycling, ~~change~~ changing how vendors package their goods, and offering compost receptacles reduces the pressure on landfills, saves energy, lowers greenhouse gas emissions, 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 – ~~of~~ 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]

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

~~The~~ Scottsdale Solid Waste ~~Department~~ maintains a contractual agreement with the Salt River Landfill (SRL) for the disposal of refuse. The estimated operational lifespan of the Salt River Landfill extends through 2035, with ongoing efforts by the SRL to prolong the facility's utility beyond this period. Waste is transported by ~~the Department~~ Scottsdale Solid Waste 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~~ Scottsdale 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 ~~would~~ will have to use alternative sites that are up to four times further away, ~~meaning~~ resulting in more fuel, labor, vehicle wear, and air pollution. Bringing less waste to the ~~landfill~~ SRL helps extend its usable life, avoiding these burdens and their costs as well as ~~future~~ costs associated with opening a new landfill. ❷ Annie Leonard, the creator of "The Story of Stuff," said it best: "When we throw anything away it must go somewhere." Scottsdale takes the same approach as it helps residents and businesses throw fewer things away.

❸ There are multiple providers of ~~solid waste and recycling~~ material management services in Scottsdale. Single-family residences and city facilities are serviced by Scottsdale Solid Waste. The commercial sector, which includes multi-family housing and businesses, contracts with Scottsdale Solid Waste or private haulers. Private haulers service a majority of the commercial sector.

~~, so m~~ Multi-family complexes and other commercial customers ~~can choose between them and~~ choose whether to ~~separate recyclable materials.~~ contract for services other than landfill disposal. Unlike residents of single-family households, Scottsdale's multi-family residents 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 ~~recycling~~ 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~~ Scottsdale Solid Waste's approximately 1,150 commercial account customers ~~currently~~

recycled.
~~While the subject of waste and recyclable material collection generally prompts images of large trucks driving down the streets picking up 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 reused items.~~

Materials management planning is hampered by many data gaps. Data on ~~trash~~landfill refuse, ~~and~~ recycling and organics diversion from municipal ~~buildings~~ 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.

~~The large number of private haulers compounds the problem of limited data on waste volumes from commercial spaces and multi-family residences, like apartment buildings and condominiums. As more households move into these types of residences, it is important to find effective methods to increase recycling and reduce waste in these communities. This need is underscored by the fact that only 18% of the city's commercial account customers currently recycle.~~

❹ In ~~2022~~ fiscal year 2022/23, Scottsdale Solid Waste collected ~~84,717~~ 61,814 tons of ~~waste~~ landfill refuse (black containers) and ~~recyclables~~ 22,903 tons of recycling (mauve containers) from single-family residential households. ~~,~~ The combined 84,717 tons ~~which~~ 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 ~~trash~~ landfill refuse ~~discarded~~ collected per household is down almost 13% to under 1,500 pounds**. ~~Data includes waste collected by the city for single-family households, but excludes other waste streams not collected weekly.~~ In FY 2022/23, Scottsdale Solid Waste also collected 20,263 tons of brush and bulk ~~waste~~ from single-family households. ~~Data on trash and recycling from municipal buildings is incomplete but will be estimated starting in 2024 based on existing data and periodic waste audits.~~

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But there is more to ~~waste reduction and~~ sustainable materials management than recycling. Source reduction, or waste prevention, 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, ~~or~~ and donating unwanted items with useful life remaining.

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❽ Nationally, ~~residents~~ food service, grocery retail and residential sectors combined ~~contribute~~ generate approximately 349 pounds of food waste per person each year, with the majority ending up in landfills. Reducing ~~F~~food waste ~~reduction can~~ saves consumers money, conserves resources associated with the production of ~~the~~ wasted food, and reduces ~~the~~ methane emissions from landfills. ~~Horse manure is another organic waste stream diversion opportunity available to Scottsdale, both because of the WestWorld equestrian center and Scottsdale's many horse properties.~~

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For recycling and ~~composting~~ organics diversion to be most effective, the materials ~~collected need to~~ must be properly sorted. ~~Mixing trash~~ Refuse, non-recyclables, ~~or~~ items soiled with food or liquids, ~~with recycling~~ ~~or~~ and ~~using plastic bags for collecting~~ recyclables collected in plastic bags ~~are problematic~~ cause recycling facility shutdowns, reduce the market value of commodities, and ~~end up raising~~ raise ~~the~~ Scottsdale's cost to recycle~~of diversion~~. The Salt River Landfill maintains a separate green (yard) waste disposal area where loads with minimal non-organic contamination are diverted from the landfill. ~~For organic waste , c~~Contamination ~~can also~~ leads to increased costs or even entire loads ~~of waste~~ being redirected ~~back~~ to the landfill. ~~The Salt River Landfill maintains a separate green waste disposal area, where transported waste with minimal non-organic contamination is diverted~~

~~from the landfill.~~

⑨ In 2019, the contamination rate for mixed recyclables ~~sent~~ Scottsdale Solid Waste delivered 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%.~~

The 2018 Community Solid Waste Reuse and Recycling Strategic Plan set eight policy objectives to guide the work of ~~the~~ Scottsdale Solid Waste ~~Department~~. 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~~strategies to realize ~~its~~ those goals.

Red = suggested edits Blue = notes

BENEFITS

Environmental:

Generating less waste extends the life of landfills, lowers the risk of litter, and reduces air, land and water pollution; ~~increased composting~~ keeping organics out of the landfill reduces methane production

Economic:

~~Encouraging a~~ A circular economy reduces demand for raw materials, creates new jobs, and decreases waste hauling and disposal costs; reducing greenhouse gas emissions saves healthcare costs, relieves demand on the electrical grid, and lowers summer energy bills

Social:

A cleaner city ~~can~~ reduces the impacts of landfills on more vulnerable communities; more convenient diversion options improve quality of life; lower greenhouse gas emissions translate to cleaner air, healthier people, and more livable summer temperatures

WHAT CAN YOU DO?

- Switch to reusable bags and water bottles instead of single-use plastics.
- Contribute to or volunteer with a food rescue organization.
- ~~Start composting~~ Compost your food scraps and yard waste.
- Don't wishcycle! Learn what items ~~you can recycle~~ are recyclable in Scottsdale to prevent recycling contamination.
- ~~Look for~~ Use drop-off locations for items that can't be put in curbside recycling, such as textiles and batteries. ~~are difficult to recycle.~~
- Enjoy the satisfaction of repairing instead of replacing.
- Donate reusable items as an alternative to bulk pickup.
- Switch to digital documents to reduce paper use both at work and home.
- ~~Support local businesses by shopping locally~~ Shop locally.

"Support local businesses by shopping locally" sounds like the point is to support local business, rather than to reduce waste.

IMPLEMENTATION – STRATEGIES & ACTIONS

Red = suggested edits Blue = notes

STRATEGY WST 1 Increase diversion rates for material streams.

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

WST 1.2 Support implementation of code requirements for diversion of construction and demolition waste for commercial projects.

Suggest reverse order of 1.2 and 1.3 so commercial and multi-family recycling actions are together.

WST 1.3 Promote commercial and multi-family recycling.

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 ~~Build new~~ Expand the transfer station to include ~~with~~ permanent household hazardous waste ~~installation~~ 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.

WST 1.11 Investigate a 'pay as you throw' rate structure

Investigating PAYT was removed in 1/31/24 draft. Was that intentional? PAYT is a proven strategy for reducing waste generation and increasing diversion. It would be a valuable tool as we seek to increase organics diversion.

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

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

Stronger alternative:

Develop and implement a municipal Green Purchasing Policy that prioritizes 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.

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

What is the difference between "green" and "organic"?

I presume this action relates to what we've mostly been referring to as "yard waste." That's the term used in the Strategic Plan and in the narrative of this section. However, "yard waste" isn't readily inclusive of landscaping debris from places that don't have "yards," such as resorts, apartment buildings, HOA common areas, et cetera.

"Green waste" and "organic waste" are not specific to landscaping material.

"Landscaping waste" includes non-organic material.

Options: "green landscaping material" or "green landscaping debris."

In any case, we should settle on a term and be consistent.

Establish a yard waste drop-off program.

Establish a green landscaping debris 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.

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.

Add to partners: "deconstruction and reuse organizations" (examples: Stardust and Habitat ReStore)

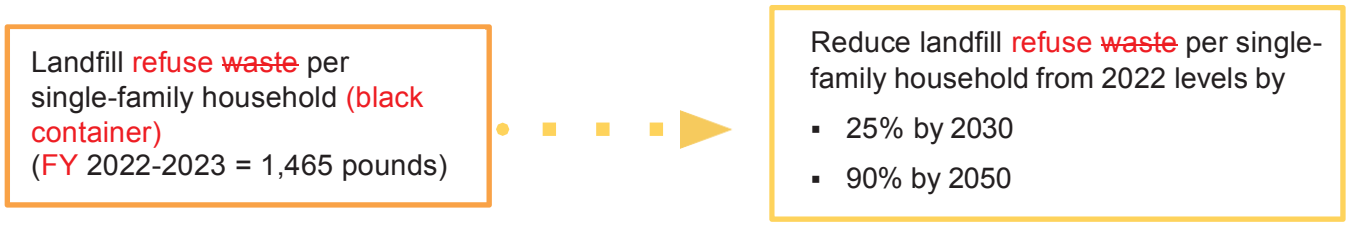
WST 4.5 Install bottle-filling stations at all city facilities.

WST 4.6 Educate HOAs, homeowners, property managers, and landscapers about reducing the volume of landscaping debris generated.

Lead: Scottsdale Water Resources Partners: AMWUA, Desert Botanical Garden

(For reference, see Strategic Plan - Policy 8 - "Transform landscaping" strategy)

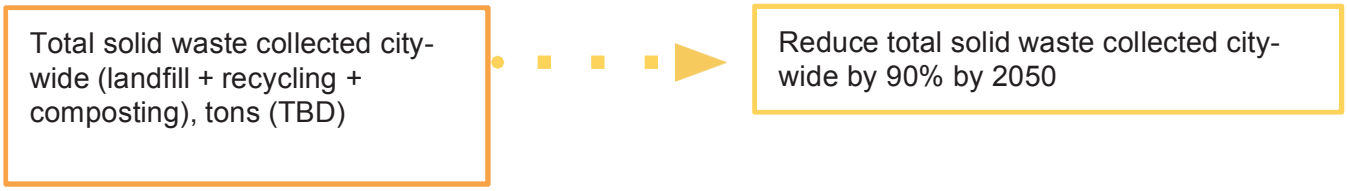
A glaring omission here is an action to reduce wasted food. Do we have the bandwidth?



- Specify "black container" in Indicator for clarity.
- Avoid the word "waste" – with all its connotations – as we aspire to recover resources from what has been a landfilled waste stream.
- Between now and 2050, the number of single-family households will grow, diluting "90% from 2022 levels" to a much lower percentage. Why not maintain "per household"?
- The word "total" is possibly being used in different ways: all households (above) and all waste streams (below). In any case, since "total" is not defined, best not to use it.
- The format above right provides clarity without having to repeat "from 2022 levels" et cetera.

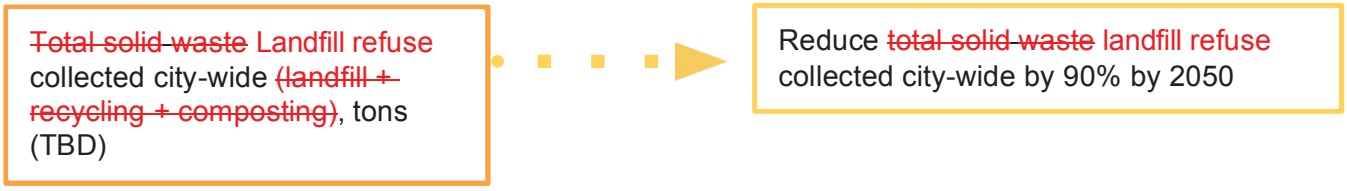
Is 25% enough?

- Phoenix and Tucson characterization studies indicate that collected refuse includes about 27% compostable yard waste, about 15% compostable food waste, and about 7% compostable paper for a total of nearly 50% compostable material. Lots of diversion opportunity!
- Organics tend to be heavy so reducing organics makes a larger impact on tonnage reduction than some other waste streams.



As written in the 2/21/24 draft (and above), this Indicator and Target specify a reduction of <u>everything</u> by 90%, including recycling and organics diversion. That goes far beyond a typical 90% diversion (zero waste) goal, and it's difficult to see how it could be achieved.

If the intent is to reduce only <u>landfill refuse</u>, revise as follows:



However, to <u>reduce</u> 90%, we still need a baseline to reduce against. It could be a good long while before we have data for <u>all</u> landfill refuse generated city-wide.

We have a city-wide 90% diversion target below. Does this target add value?

~~Total~~ Municipal landfill refuse ~~waste~~ collected * ~~(landfill + recycling + composting)~~, tons (TBD)

- STAFF: Reduce municipal landfill refuse ~~waste~~ from 2024 levels by
  - 25% by 2030 *
  - 90% by 2045 *
- SEAC: Reduce municipal landfill refuse ~~waste~~ from xxxx levels
  - 35% by 2030 *
  - xx% by 20xx *

Include a Note for the Indicator and Target:

* Excludes municipal green landscaping debris hauled by landscapers under city contract.

I suggest this order for the landfill refuse reduction targets: single-family, municipal, city-wide.

~~Overall~~ diversion rate (FY 2022-2023 = 27% for single-family residents)

- Achieve a 35% diversion rate for ~~(~~single family households ~~only)~~ by 2030
- Achieve a diversion rate for municipal waste of
  - 35% by 2030
  - 90% by 2045
- Achieve a 90% diversion rate ~~(~~city-wide~~)~~ by 2050

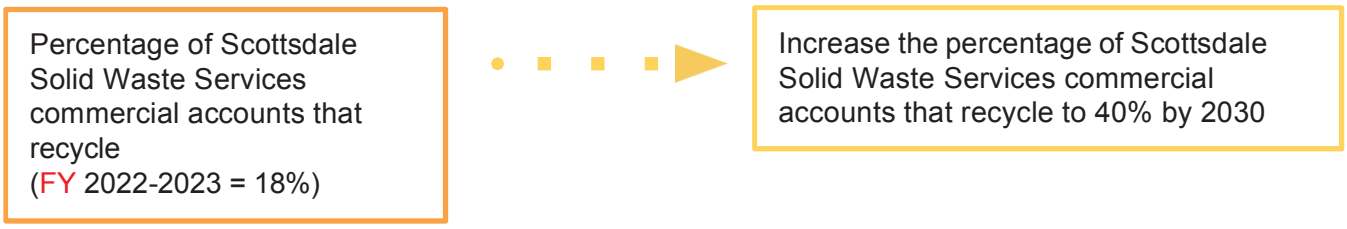
- We should have separate Indicators for each of the three targets incorporating the applicable definition of diversion. The definition format can be text or formula, specifying the numerator and denominator as well as any exclusions.
- "Overall" is not defined, so best not to use it.
- Order: single-family, municipal, city-wide (as changed above)

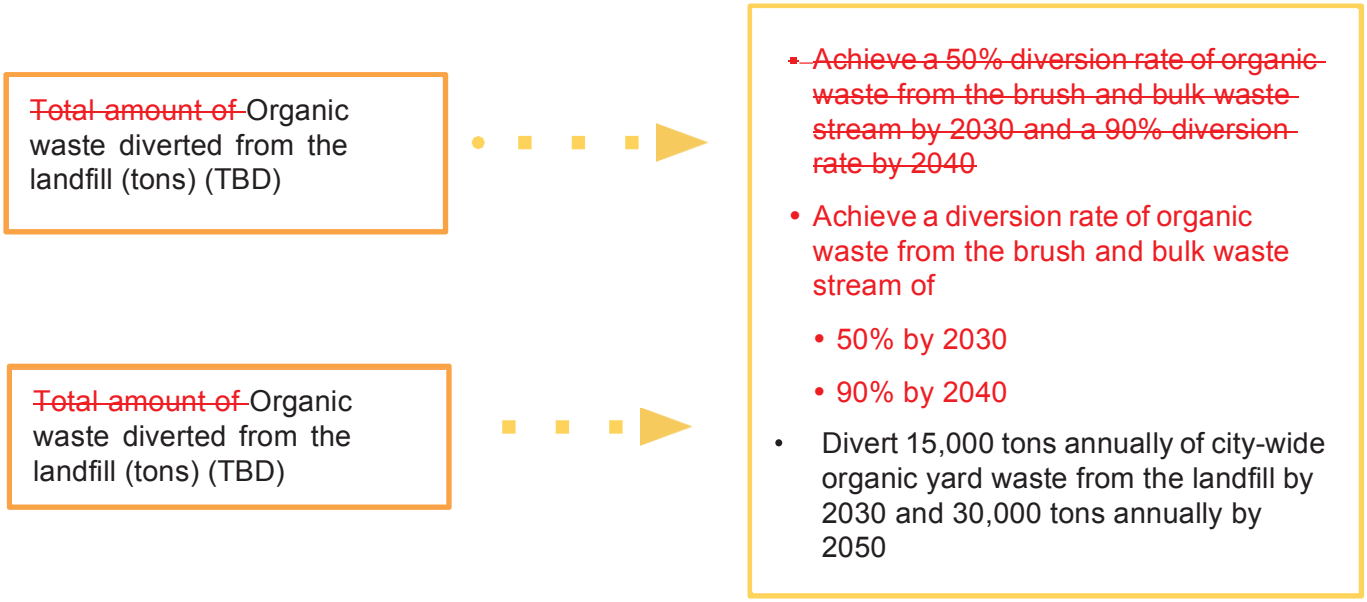
Single-family residential diversion target :

At the 1/31/24 SEAC meeting, Dave indicated the proposed 33% (now 35%) diversion rate was calculated from the single-family residential target. Specifically, he said if we reduce landfill (black container) tonnage by 25%, we will increase our diversion rate from 27% to 33%.

To evaluate potential targets, I did some calculations using FY 2022/23 figures. I came up with very different results. See spreadsheet attached (last page). According to my calculations, if we reduce

landfill (black container) tonnage by 25%, we will increase our diversion rate to 45%. Conversely, for a 33% diversion rate, landfill tonnage has to be reduced by just 9%! We can achieve a 35% diversion rate with only an 11% reduction.





Top bullet:

In the 1/31/24 draft, the target was 10,000 tons annually; now it's a percentage. Is it intended to be (as it says) 50% of organic yard waste in brush & bulk? Or, 50% of brush & bulk?

- If it's 50% of the yard waste in brush & bulk:
  - Operationally, can 100% of the organics be measured to know we're achieving 50% diversion? It seems like the part that is not diverted would be difficult to measure. Or conversely, if it is measurable, that implies it's separate – and if it's separate, it should be divertible. Bottom line, would this really work?
  - In 2022, brush & bulk collection totaled approximately 20,000 tons. If "brush" was about half and we divert 50% of that, our target is down to 5,000. Is that about right?

Bottom bullet:

- The 2050 part seems to be superfluous. If we have achieved 90% city-wide diversion, we will be diverting far more than 30,000 tons of organics annually. Delete?
- Is this intended to be yard waste dropped off by commercial landscapers at the transfer station? Or anything organic, anywhere city-wide?
- To avoid overlap, we also need a note along these lines:

The 15K and 30K do not include a) material diverted from single-family residential brush & bulk or b) municipal green landscaping debris hauled by landscapers under city contract.

Both bullets:

- Both Indicators should be re-worded once the meaning is clarified. "Total" is not defined, so best not to use it.
- See notes under Strategies & Actions regarding "yard waste" terminology. In addition, "organic yard waste" creates confusion in that some compost facilities only take certified organic material.

Recycling contamination rate (2019 = 14%)

Maintain a recycling contamination rate below 10% by 2025 and below 5% by 2045

Single Family Residential Diversion Calculations

2022 tons					
61,814	tons refuse			73%	
22,903	tons recyc			27%	total diversion
	tons total		84,717	100%	

61,814	diversion from refuse	25%	15,454	18.2%	
22,903	recycling		22,903	27.0%	
	total diversion		38,357	45.3%	total diversion

61,814	diversion from refuse	20%	12,363	14.6%	
22,903	recycling		22,903	27.0%	
	total diversion		35,266	41.6%	total diversion

61,814	diversion from refuse	11%	6,800	8.0%	
22,903	recycling		22,903	27.0%	
	total diversion		29,703	35.1%	total diversion

61,814	diversion from refuse	10%	6,181	7.3%	
22,903	recycling		22,903	27.0%	
	total diversion		29,084	34.3%	total diversion

61,814	diversion from refuse	9%	5,563	6.6%	
22,903	recycling		22,903	27.0%	
	total diversion		28,466	33.6%	total diversion

61,814	diversion from refuse	8%	4,945	5.8%	
22,903	recycling		22,903	27.0%	
	total diversion		27,848	32.9%	total diversion

Comments re: Heat 2/21/24 Draft Posted 2/9/24

Dr. Alisa McMahon

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

Red = edits Blue = notes

Two important concepts should be added to the Narrative:

1. The nexus between a) heat and b) drought, wildfires, dust storms and air pollution.
2. The connection between the Heat section and actions elsewhere in the plan.

   Because this section is primarily about "prepar[ing] for" and "respond[ing] to" extreme heat, it's important to make the connection between a) "prevent[ing]" even more extreme heat and b) actions elsewhere in the plan. While more shade et cetera is necessary, we must not lose sight of addressing the underlying problem: increasingly hotter temperatures. Absent bold action, Scottsdale will grow even hotter.

Suggested language for these additions is below.

Figure 1 Low Temp: since all the data points are within ten degrees, a better scale would be 80° to 90°.
Figure 1 High Temp: a better scale would be 100° to 115°.
(The Low and High graphs can be vertically stacked to accommodate different sizes.)

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. 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 ~~from air conditioners~~. ~~and compounds existing air quality issues.~~ Opting to stay 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 saguaros lost arms and died in large numbers during the heat wave in July 2023.

Rising temperatures compound a myriad of other interrelated problems:

Drought – The Colorado River Basin water supply is shrinking, in part, due to hotter temperatures.

Wildfires – Hotter temperatures are increasing the risk, size, intensity, duration and destruction of wildfires.

Dust storms (haboobs) – Hotter temperatures suck more moisture from the ground; drier ground generates more intense and frequent haboobs.

Air pollution – Hotter temperatures degrade air quality in multiple ways. Wildfires and haboobs significantly increase concentrations of particulate matter and other pollutants. Heat directly increases the production rate of ground-level ozone.

Stagnation – When high pressure settles over central Arizona, stationary domes of hot, dry air trap ozone and other pollutants in the lower atmosphere, where we breathe. During stagnation periods, pollution concentrations and the incidence of related health impacts rise.

Studies have shown that mortality during heat waves is higher on days with poorer air quality. Moreover, co-exposure to extreme heat and air pollution has a synergistic effect on death rates. One six-year 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.

reference: https://www.atsjournals.org/doi/full/10.1164/rccm.202204-0657OC

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.

The number of excessively hot days and nights is also increasing, indicating that 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.

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. Unlike the NOAA data based on air temperatures, these data ~~show~~ 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.

reason: "highest surface" sounds like highest in elevation

Figure 2: enlarge the Growth Areas lower right.

Surface temperatures vary substantially across Scottsdale, ranging between 95.1 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.

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. Other populations at higher risk include children under 5 years, people with pre-existing medical conditions (cardiovascular disease, respiratory disease, renal disease, and diabetes), and people who take medications that impair thermoregulation or increase susceptibility to respiratory distress.

In Scottsdale, heat-related mortality and illnesses resulting in hospitalization are lower than in other parts of Maricopa County and have varied over time. Data reported in Table 2

do not include illnesses that were not treated at 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.

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~~ south 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.

reason: "Southern Scottsdale" reads like a different municipality. Better to use "south Scottsdale" as in the paragraph that begins "13% of Scottsdale is covered . . ."

As summers grow hotter due to ~~natural variability,~~ 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~~ more intensely developed areas like ~~Southern~~ south 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 them connect to any needed resources.

reasons: - "natural variability" would not create the consistently upward trend we are experiencing
- "previously developed" is unclear

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.

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.

~~The impact of shade can be seen in reductions in mean radiant temperature – the average temperature of the surfaces that surround someone -- compared to fully exposed areas and can range between:~~

Reasons: The sentence is very confusing; it needs to be broken up into more than one sentence. In addition, "the average temperature of surfaces" is not fully accurate. The suggested alternative below provides a more accurate definition (without getting too technical) and also emphasizes MRT's connection to how humans experience heat.

A third way to measure heat is mean radiant temperature (MRT). MRT is a meteorological measure of the heat load on the human body at a given time and location, taking into account direct, diffuse and reflected thermal and solar radiation. MRT has been shown to be a better indicator than air temperature of heat-related mortality, heat stress, and thermal comfort. MRT measurements in Scottsdale demonstrate the dramatic impact of shade. Compared to full exposure, MRT is:

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

~~Shading~~ 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 s~~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."~~, they are made of highly reflective and emissive materials that~~ During peak summer weather, these surfaces can remain approximately 50 to 60°F cooler than traditional materials~~ during peak summer weather~~. An example is roofing materials. A traditional roofing surface~~s~~ can reach summer peak temperatures of 150 to 185°. Some of that heat is transferred into the building below. A "cool roof" transfers less heat into the building, yielding energy savings and a more comfortable indoor environment.

reasons:
- see note about "reflective" below
- completes the thought re: cool vs. traditional roofing

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. 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 and buildings (33%) or bare soil and concrete (45%). The amount of green landscape varies across the city, and tree canopy 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 2).

Scottsdale has already begun to mitigate heat and increase shade 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 and maintenance. 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 codes 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. ~~New,~~ As of 2023, mandatory commercial green building codes ~~also~~ require a) ~~reflective or~~ "cool roofs" and b) ~~not less than~~ at least 50% of site hardscape (e.g., walkways and parking areas) that is not covered by solar energy systems be shaded or ~~reflective~~ meet one of the other heat island effect mitigation options.

reasons:
- While SRI does include a measure of material reflectance, the use of "reflective" in this sentence conjures highly-reflective (mirror-like) surfaces that create glare. Such surfaces are prohibited in ESLO and discouraged in Old Town architectural guidelines.
- "reflective or "cool roofs"" sounds like they are two different things
- IgCC contains six hardscape heat island effect mitigation options

While heat mitigation measures are important, they do not address the root causes of increasingly hotter temperatures. So even as Scottsdale strives to live with extreme heat, we must also take bold action to avoid getting even hotter. Steps in that direction are outlined in other sections of this plan.

Or, if we are not using "we" in the plan:

While heat mitigation measures are important, they do not address the root causes of increasingly hotter temperatures. So even as Scottsdale strives to live with extreme heat, bold action must be taken to avoid getting even hotter. Steps in that direction are outlined in other sections of this plan.

– continued on next page –

Heat-related morbidity and mortality resulting in hospitalization, per 100,000 population 2022 deaths = 2.75 2022 illnesses = 39.6

New indicator and target are incomplete pending additional information and discussion.

New Indicator

Percentage of unshaded asphalt coverage 2015 = 17%

New Target

Increase structured shade over existing unshaded asphalt by ___ square feet per year beginning in 2025

Benefits

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

– continued on next page –

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~~
- Choose roofing and hardscape materials with a high solar reflectance index
- Let the city know if you see any maintenance needs for trees or shade structures in the public right-of-way
- ~~Install drapes or shades on windows or window films to reduce solar gains~~
- Reduce solar gain through windows that receive direct summer sunlight by strategically planting trees or installing solar screens and window coverings

More tips are available in the Cooler Scottsdale study

reasons:
High SRI does not have to mean light color.
To emphasize windows that receive summer solar heat gain. (It's a balance between minimizing summer solar gain, preserving winter solar gain, and maintaining daylighting. When we reduce daylighting, we increase energy use and heat gain from artificial lighting. Winter solar heat gain is positive.)
Window films are "contraindicated" on low-e windows. Solar screens can be applied to windows with any type of glazing.

ACTIONS

only those actions with comments/edits are listed here

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

No clue what "needed response to heat options" means.

HT 3.3 Promote shading for site hardscape on existing commercial and multifamily developments through solar canopies, shade structures and trees.

We want 3.3 to focus on *existing* development. The IgCC is taking care of new construction.

HT 3.6 Amend planning documents and zoning ordinances to ensure that the size and needs of mature shade trees are accommodated in new development.

Tree actions such as HT 4.4 are well and good, but the prerequisite step is ensuring, during the planning and approval process, that adequate space (above and below ground) is provided for mature trees.

McNeilly, Lisa

From: McNeilly, Lisa
Sent: Monday, March 4, 2024 2:12 PM
To: A. McMahon
Subject: RE: Questions Sust Plan Energy

Commissioner McMahon,

Again, I have responded below in red.

Lisa

Lisa McNeilly
Sustainability Director
City of Scottsdale
lmcneilly@scottsdaleaz.gov
(480) 312-2831

From: A. McMahon <mcmahon.a@cox.net>
Sent: Monday, March 4, 2024 12:39 PM
To: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Subject: Re: Questions Sust Plan Energy

Lisa,

Thank you. Follow-up questions:

Did APS and SRP provide MW, MWh or both? APS provided both MW and MWh; while SRP only provided MW. SRP use data (MWh) were calculated from the MW installed each year using NREL's PVWatts calculator (with normal system defaults for Scottsdale).
If only one, which one and what conversion factor was used to get to the other one? See above
In this context, do APS and SRP consider multi-family installations to be residential or commercial? They did not specify, but only provided data for Residential and Commercial.

Alisa

From: "McNeilly, Lisa" <LMcNeilly@Scottsdaleaz.gov>
Date: Monday, March 4, 2024 at 12:21 PM
To: "A. McMahon" <mcmahon.a@cox.net>
Subject: RE: Questions Sust Plan Energy

Commissioner McMahon,

I've responded to your questions below in red.

Lisa

Lisa McNeilly
Sustainability Director
City of Scottsdale
lmcneilly@scottsdaleaz.gov
(480) 312-2831

From: A. McMahon <mcmahon.a@cox.net>
Sent: Monday, March 4, 2024 11:26 AM
To: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Subject: Questions Sust Plan Energy

Hi Lisa,

A few questions about the Energy section:

"For 2022, this translates to 15,600 kWh per capita and 8.8 kWh per square foot of building space." Note that I have updated these numbers in the draft that will be presented at the WSS to 16,232 kWh per capita and 9.2 kWh per square foot. These calculations now use the total electricity use (including distributed solar instead of just electricity purchased from utilities).

What is the total square footage amount and what is it comprised of? We have total square footage as of July 2023 for all residential and non-residential buildings from FEMA (their USA Structures database). The total is 423,155,282. The data source did not offer annual totals for previous years.

What is the primary source for each of these figures: 90.1 MW solar, 78 MW residential and 12 MW commercial? We received data on distributed solar installations directly from APS and SRP.

Since the residential and commercial solar generation (MWh) figures are incorrect in Table 5 of the GHG Inventory, what are the correct figures? The total data in Table 1 of the inventory are correct. The breakdown between residential and commercial for distributed solar should be as below:

Distributed Solar installed (MWh)			
	2018	2020	2022
Residential	58,564	80,371	113,653

Commercial	32,435	34,434	37,695
TOTAL	90,999	114,804	151,348

Thank you,
Alisa

McNeilly, Lisa

From: A. McMahon <mcmahon.a@cox.net>
Sent: Wednesday, March 6, 2024 5:36 PM
To: McNeilly, Lisa
Cc: Reynolds, Taylor
Subject: Re: asphalt land cover

Thank you!

From: "McNeilly, Lisa" <LMcNeilly@Scottsdaleaz.gov>
Date: Wednesday, March 6, 2024 at 1:39 PM
To: "A. McMahon" <mcmahon.a@cox.net>
Cc: "Reynolds, Taylor" <TReynolds@scottsdaleaz.gov>
Subject: RE: asphalt land cover

Commissioner McMahon,

We were able to get an estimate of the street area, in response to your question – see below:

Asphalt Paved Roads (from Transportation)
20,038,588.0 square yards
4,140.2 acres
4840 square yards = 1 acre

Lisa

Lisa McNeilly
Sustainability Director
City of Scottsdale
lmcneilly@scottsdaleaz.gov
(480) 312-2831

From: A. McMahon <mcmahon.a@cox.net>
Sent: Thursday, February 22, 2024 12:24 PM
To: Reynolds, Taylor <TReynolds@scottsdaleaz.gov>
Cc: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Subject: asphalt land cover

Taylor,

I was on my way downtown when you answered. You understood perfectly!

The "Metro Scottsdale" land area would definitely be the more relevant of the two which is, I imagine, why the Cooler Scottsdale project team chose it. It might be helpful for the City to have the shapefile for future purposes. So I think if we don't already have it, it's worth getting it.

For the matter at hand, deducting the street area is important. If Streets and/or Transportation does not have an area, I know they have a length of paved streets (miles). With that and an average width, we could calculate area. I don't know whether they would be able to provide paved street miles/area within the "Metro Scottsdale" area. Perhaps with the shapefile, they could.

Thank you,
Alisa

From: "Reynolds, Taylor" <TReynolds@scottsdaleaz.gov>
Date: Wednesday, February 21, 2024 at 4:28 PM
To: "A. McMahon" <mcmahon.a@cox.net>
Cc: "McNeilly, Lisa" <LMcNeilly@Scottsdaleaz.gov>
Subject: RE: asphalt land cover

Hello Alisa,

Forgive me if I misunderstand your first question, but I believe you are asking for the following:

Cooler Scottsdale Metro Land Area:

- I do not have the shapefile for this mapped area readily available and would need to coordinate with Lisa and/or ASU to get such as that would give me the specifics on that land area. Once I have the shapefile, I could calculate that land area and 20% of such.

Scottsdale Total Land Area:

- 184.5 Square Miles *or* 118,080 acres
    - 17 percent of such would be +/- 31.4 square miles *or* +/- 20,074 acres

For your second question, I would need to work with Lisa to confirm with Streets and/or Transportation such a figure as I do not have that readily available.

Hope that helps.

Taylor Reynolds
Principal Planner
Long Range Planning | Planning and Development
City of Scottsdale
480.312.7924
treynolds@scottsdaleaz.gov

From: A. McMahon <mcmahon.a@cox.net>
Sent: Wednesday, February 21, 2024 11:07 AM
To: Reynolds, Taylor <TReynolds@scottsdaleaz.gov>

Cc: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Subject: asphalt land cover

Hey Taylor,

I'm looking for the following information:

1. Can you convert a percentage of Scottsdale land area into square miles or square acres or square feet?
   Ideally, the area would be 20% of what the Cooler Scottsdale study termed "Metro Scottsdale" (see two pages attached). But if that's impossible, it could be 17% of the entire city.
2. Does Long Range Planning, Streets or Transportation have an area measure (square miles or square acres or square feet) of paved streets in either "Metro Scottsdale" or the entire city?

I'm trying to get an estimate of the area of asphalt land cover minus streets.

Feel free to call if you have questions. Thanks much!

Alisa
480.488.0288

From: "McNeilly, Lisa" <LMcNeilly@Scottsdaleaz.gov>
Date: Wednesday, February 21, 2024 at 10:26 AM
To: "A. McMahon" <mcmahon.a@cox.net>
Cc: Tim Conner <Tconner@scottsdaleaz.gov>
Subject: RE: Cooler Scottsdale Data Package

Commissioner McMahon,

We were able to look at the files we received from the study authors and none provide area measurements for land cover categories, only percentages.

Lisa

Lisa McNeilly
Sustainability Director
City of Scottsdale
lmcneilly@scottsdaleaz.gov
(480) 312-2831

From: A. McMahon <mcmahon.a@cox.net>
Sent: Monday, February 19, 2024 10:10 AM

To: McNeilly, Lisa <LMcNeilly@Scottsdaleaz.gov>
Subject: Cooler Scottsdale Data Package

Lisa,

Does the Cooler Scottsdale data package referred to below provide **area measurements** for land cover categories?

> Finally, land cover fractions were calculated for each of the 128,439 parcels available from City of Scottsdale public records. The complete land cover assessment for all parcels is available in the data package; summary results below are presented for 95,676 parcels located within Metro Scottsdale.

Specifically, I'm looking for a measure of the area (e.g., square acres, square miles) covered by asphalt. It could be by parcel, by census blocks, "metro" or citywide.

Thank you,
Alisa

McNeilly, Lisa

From: A. McMahon <mcmahon.a@cox.net>
Sent: Wednesday, March 6, 2024 5:34 PM
To: McNeilly, Lisa; Eberhardt, Cindi
Cc: Ute Brady
Subject: Sustainability Plan - Energy
Attachments: Energy Draft 2.21.24 Comments.pdf

Lisa,

Please see attached. Strategy and action comments to follow tomorrow morning. Thank you.

Alisa

McNeilly, Lisa

From: A. McMahon <mcmahon.a@cox.net>
Sent: Thursday, March 7, 2024 3:58 PM
To: McNeilly, Lisa; Eberhardt, Cindi
Cc: Ute Brady
Subject: Energy - complete & paginated
Attachments: Energy Draft 2.21.24 Comments complete.pdf

Lisa,

Please see attached. Thank you.

Alisa

Comments re: Energy 2/21/24 Draft Posted 2/9/24

Dr. Alisa McMahon

Red = edits Blue = notes Green = moved

Residents and businesses rely on electricity and other energy sources every day to operate computers, appliances, lighting and cooling. 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 ~~can~~ yields cleaner air and health benefits, supports green jobs and generates cost savings. For example, efficient appliances and equipment can reduce the utility bill for the average household by $500 per year. Taking additional steps to ~~use more clean or~~ transition to renewable energy ~~also~~ further protects the environment by reducing the pollutants and greenhouse gases associated with burning fossil fuels.

- How does "using less energy" "support green jobs"? Delete or move?
- Re: "clean or renewable" – Individuals (which seems to be the focus of this paragraph) do not have control over how "clean" their energy sources are except when it comes to "renewable."

The use of fossil fuels has been emitting 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 ~~that is essential for the Earth to be habitable~~, resulting in more heat trapped in the atmosphere.

- reason: as written, it sounds like the *amplification* is essential for the Earth to be habitable

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 ~~may~~ also impacts crop yields, increases wildfire risk, and impacts human and ecosystem health.[3]

Two important ways to reduce energy use are to install more renewable energy like wind or solar and to adopt technology and measures that increase the efficiency of energy use.

- renewable energy does not reduce energy use; it reduces *fossil fuel* energy use
- ideas for alternatives:
  Tools at our disposal to [eliminate fossil fuel energy use] [eliminate carbon pollution] [transition to fossil-free energy] [transition to carbon-free energy] include improving the efficiency of buildings and transportation, electrifying buildings and transportation, and powering our economy with renewable energy and energy storage.

Arizona is ranked 5th in the nation for the total capacity of solar energy[4], and ~~the~~ Scottsdale's

potential rooftop capacity is over 2,000 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.

- reason: without the suggested change, it reads as *Arizona* roof top capacity is over 2,000 MW

Energy efficiency – reducing the amount of energy required to provide products and services – is a proven way to move toward a cleaner environment and ~~to~~ save money. For example, adding insulation to a building, sealing the air ducts, or upgrading windows ~~can~~ keeps a house cooler and lowers energy bills, with a positive return on investment. Arizona ranks ~~in the middle tier of states~~ 26th out of 51 when graded on a range of factors related to adoption of energy efficient policies and practices.[6]

The features of a building ~~can~~ significantly impact finances, health, safety, and comfort. 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.

The City of Scottsdale has already started an impactful and cost-efficient energy program. We are auditing more than 50 buildings, participate in demand response programs and offer Commercial Solar Guidelines. ~~Public awareness and education efforts are also important, since Scottsdale's residents used more than 3.7 million MWh of electricity in 2022, which is 50% more than the amount per capita in Phoenix.~~ It is notable that the treatment and transport of water represents a large portion of municipal electricity use.

- Notable omission: **an indicator and target directed to water treatment and transport**
- Should the reference to "demand response programs" be singular ("program")?
- Re: Commercial Solar Guidelines – We also have Residential Solar Guidelines. However, these two guidelines are not part of the municipal energy program. Rather, they are plan review submittal guidelines for obtaining a solar permit.

Public awareness and education efforts are also important, since Scottsdale's residents used more than 3.7 million MWh of electricity in 2022, which is 50% more than the amount used per capita in Phoenix.

- Per the GHG Inventory, 3.7 MWh is billed electricity consumption only. Per Table 5 corrected with Table 1 solar figures, total electricity consumed in 2022 is 3.9 MWh (3,874,289).

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, insights on the use of electricity and natural gas were analyzed~~, and a basic forecast model was developed to guide policy choices~~.

- Where can the analysis of "insights on the use of electricity and natural gas" be found?
- Reason for strike-through: The "basic forecast model" is discussed at length below (5th, 4th and 3rd paragraphs from the bottom).

City-wide, 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, this translates to 15,600 kWh per capita and 8.8 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. Over 90 MW of distributed solar systems are installed in the city (78 MW residential and 12 MW commercial) including 350 kilowatts on municipal property. (Source: ASU/NAU GHG Inventory)

- The meaning of "this" in "this translates to" is unclear. Purchased? Purchased + solar? Solar?
- 15,600 kWh is purchased electricity only.
- Source correction: MWs of distributed solar are not in the GHG Inventory.
- "are installed in the city" implies now; state 2022

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 27% to 625,185 therms, due to new or repaired facilities coming online. Natural gas city-wide use rose slightly (up 2.6%) to 49,779,824 therms. (Source: ASU/NAU GHG Inventory)

Between 2018 and 2022, city-wide greenhouse gas emissions decreased by 7% to 3,078,925 MT CO2e. The majority 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: cleaner 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 and structural changes. (Source: ASU/NAU GHG Inventory)

- "structural changes" ?
- To state that natural gas is a "cleaner" source of electricity and imply natural gas is on par with solar would ignore science and perpetuate myth.

Climate impact analyses that tout natural gas as a "cleaner" alternative to coal:

a) **Consider only end-use combustion**, ignoring all the carbon emissions across the full life cycle of natural gas, particularly during extraction, infrastructure construction, transport, and storage. A recent RMI life-cycle analysis of coal and natural gas found:

"We confirm past studies that compare gas to coal combustion and two percent methane release puts gas's climate risk on par with coal. However, when considering the net emissions from all natural gas and coal greenhouse gases (including CO2, methane, and sulfur dioxide), the climate risk for natural gas and coal can be on par at just 0.2 percent methane leakage." (https://rmi.org/reality-check-natural-gas-true-climate-risk/)

b) **Use the 100-year potential for methane**, which underestimates its far greater warming impact in the short-term. Natural gas is 70-90% methane. In the first 20 years after emission, methane is 80 times more potent at trapping heat than carbon dioxide.

c) **Ignore the numerous non-carbon-related environmental impacts** of natural gas – many (but not all) of which are the result of fracking. *Some* of the many examples are: earthquakes, toxic wastewater, groundwater contamination, copious water consumption, air pollution, and the enormous amount energy required to cool natural gas to -259°F for transport in a liquified state (LNG).

Natural gas should no longer be considered a "bridge" to renewables.

> "[T]he relevant comparison point for natural gas is no longer to coal and other fossil fuels, but to carbon-free energy sources like wind and solar. Additionally, investing in natural gas infrastructure development today creates a strong financial incentive to continue using gas for years to come that could delay wider adoption of carbon-free energy sources." (www.cleanwisconsin.org/under-the-lens-the-truth-about-natural-gas/)

Additional references:
www.nrdc.org/stories/natural-gas-101#alternatives
www.nationalgeographic.com/science/article/super-potent-methane-in-atmosphere-oil-gas-drilling-ice-cores
https://climate.mit.edu/ask-mit/how-much-does-natural-gas-contribute-climate-change-through-co2-emissions-when-fuel-burned

During the same time period, emissions from Scottsdale's municipal operations decreased roughly 10% to 184,299 MT CO2e (or 6% of the city-wide total). Because the city's emissions are mostly driven by electricity use in buildings (61%), 2020 emissions were markedly lower during pandemic-related shutdowns but also reflect existing efforts to improve the energy efficiency of our buildings. Waste-related emissions (23%) play a larger role than city-wide, due to municipal collection of residential waste and treatment of water. Other sources of emissions are transportation (8%), natural gas (3%), refrigerant loss (3%) and transmission and distribution losses (2%). (Source: ASU/NAU GHG Inventory)

- Acknowledge that a portion of the GHG emissions and fugitive emissions from the Water Campus and Gainey Ranch WWTPs were omitted from the GHG Inventory and are not included in the figures above. Ditto city-wide.
- Acknowledge that GHG emissions from Transportation (Vehicle Fleet Scope 3) were omitted from the GHG Inventory and are not included in the figures above. Ditto city-wide.
- There are outstanding questions regarding the GHG Inventory. For example, is this correct:
  a) Buildings/Facilities consume 47% of the total natural gas and produce 70% of the total GHG emissions, and
  b) Fleet CNG Vehicles consume 53% of the total natural gas and produce 30% of the total GHG emissions.

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 city-wide 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~~s~~ is used as a point of

comparison for the impact of interventions ~~and changes of~~ in the other four policy scenarios. ~~Some~~ One insight~~s~~ from the model is ~~include that an acceleration of renewable energy does not impact 2050 total emissions but instead lowers those emissions sooner and~~ that electric vehicle growth ~~can~~ would have a high impact on reducing emissions below the baseline scenario.

- Re: "acceleration of renewable energy" statement – Rather than being an "insight," the stricken statement is very misleading, especially when the reader cannot see the graphs. 2050 is not the point. There is great value in lowering emissions sooner.
- The three paragraphs about the forecasting model seem out of place in the Sustainability Plan. They present a lot of detail about something the reader cannot see and is not even directed to. Moreover, there is a discrepancy regarding what was and wasn't included in the forecasting model (the graphs don't jive with the description of included emissions sources).

While the city has pursued energy efficiency in facilities and operations, such efforts may not be easy for all residents. ~~The average e~~Energy burden[7] ~~– calculated as~~ is the percentage of household income spent on energy. A household's energy burden is considered high if it is above 6% and severe if above 10%.[7] ~~–~~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 below 30% of the AMI. (Source: DOE LEAD Tool; data accessed August 2023) 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 makes repairs for the health and safety of income-qualified residents. ~~(Source: DOE LEAD Tool; data accessed August 2023).~~

[7] ~~A household's energy burden is considered high if it is above 6% and severe if above 10%~~ ACEEE

Reasons:
1. The sentence in the footnote is necessary to understand the paragraph, so I suggest moving it into the paragraph as shown above.
2. This definition – "percentage of household income spent on energy" – is for "energy burden," not "average energy burden."
   Another option: "A household's energy burden is the percentage of . . ."

Energy Burden bar graph
- I believe this is 2016 data, not 2023 data. See https://lead.openei.org/docs/LEAD-Tool-Methodology.pdf
- Label the y axis: Area Median Income (AMI) Label the x axis: Energy Burden
- The "Less than ___ %" labels are not accurate. For example, "Less than 30%" includes 30%.
- "All Households" is confusing because readers may not realize that household income can exceed 100% AMI. Therefore readers may assume "All Households" is ≤100%, leading to confusion over the difference between "All Households" and "Less than 100%."
- Two suggestions (along with the addition of the y and x axis labels suggested above) to resolve the problems described in the previous two bullets:

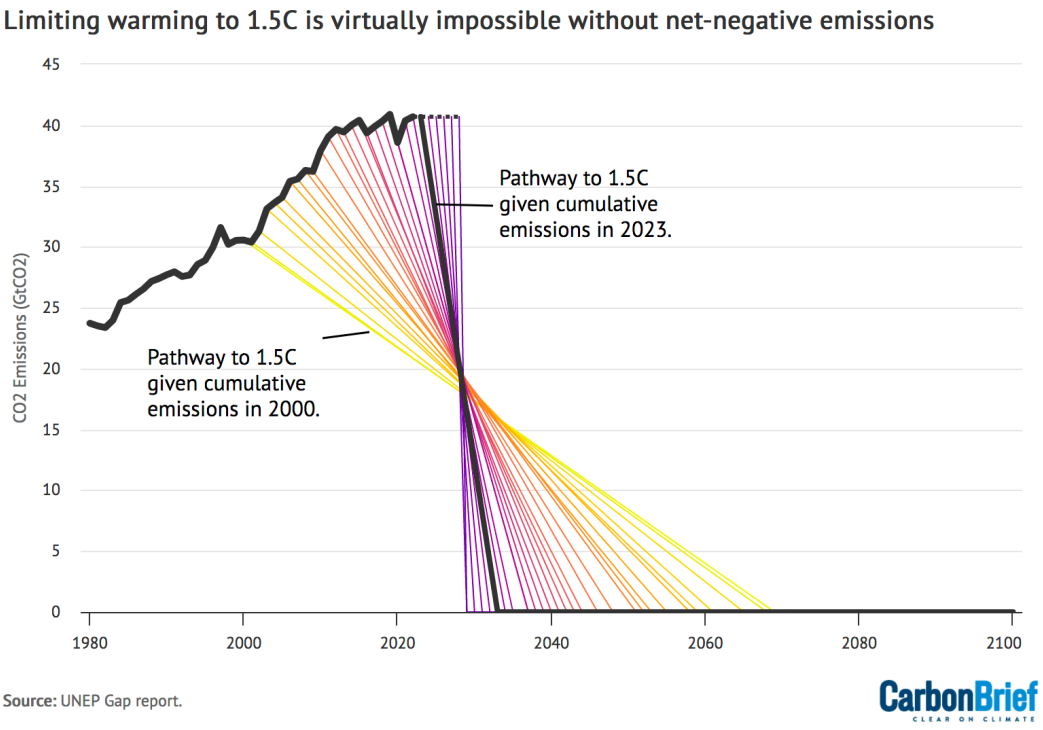
0 to 30%	≤ 30%
0 to 60%	≤ 60%
0 to 80%	≤ 80%
0 to 100%	≤ 100%
All AMI levels (0 to >100%)	≤ and >100%

The number of green buildings – those that comply with IgCC, LEED, Scottsdale Green Building Program or Green Rehab 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. (Source: Multiple)

- Include homes that participate in the Scottsdale Green Building Program (residential checklist).
- "… a green building standard" is very amorphous. There are many "green" programs, standards, codes and guidelines. Some are rigorous; some are pure greenwashing. This is one reason why I do not support the "number of green buildings" Indicator. If the Indicator remains, "green buildings" must be more thoroughly – and rigorously – defined.

The Narrative does not convey **urgency**, and its flip side, the **consequences of inaction / delayed action**. Failure to act quickly and boldly will: a) create the need for more drastic, disruptive and expensive action later and b) result in more drastic, disruptive and expensive impacts over a longer period of time.

The figure below shows emission trajectories to limit warming to below 1.5C with a 50-50 chance in the absence of net-negative emissions. The different lines show the emissions reductions that would be required if emissions had peaked in each year, between 2000 and 2030, with the current year (2023) highlighted in grey.



Emission reduction trajectories associated with a 50% chance of limiting warming below 1.5C, without a reliance on net-negative emissions, by starting year. Solid black line shows historical emissions, while dashed black line shows emissions constant at 2023 levels. Source: Historical CO2 emissions from the Global Carbon Project. 1.5C carbon budgets based on Lamboll et al 2023. Chart by Carbon Brief, adapted from a figure originally designed by Robbie Andrew.

If emissions had peaked and begun to decline after 2000, the 1.5C target would have been much easier to achieve, only requiring reductions of around 3% per year.

By contrast, limiting warming to below 1.5C starting in 2023, without the use of net-negative global emissions, would require a roughly 18% cut each year through to 2033.

Source:
www.carbonbrief.org/unep-humanity-is-still-breaking-all-the-wrong-records-in-fast-warming-world/

What Can You Do?
• ~~Consider installing~~ Install a photovoltaic system on your roof or ~~in~~ over a parking lot • Conduct an energy audit of your building or use the APS 'energy analyzer' • Clean or replace ~~all~~ HVAC filters ~~in your home~~ regularly • ~~Investigate~~ Take advantage of utility rebates ~~or~~ and tax incentives for energy efficient~~cy~~ equipment • Purchase Energy Star Most Efficient or other ~~efficient~~ Energy Star appliances • As light bulbs burnout, replace them with LED bulbs. • Install an button-activated on-demand hot water recirculation pump For more tips, visit the U.S. Department of Energy and Smarter House

Note: The energy analyzer link here and on APS' website is broken.

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, relieves demand on the electric grid, and increases investment in clean energy and energy efficiency businesses; reducing greenhouse gas emissions saves healthcare costs
Social: Lowered energy burden for low-income households; improved indoor air quality; lower greenhouse gas emissions translate to cleaner air, healthier people, and more livable summer temperatures

Shorten timeline from 3-10 years to 1-3 years on the following actions:

These four municipal actions will pay for themselves! Why wait?

2.1 Employ a citywide energy management system and track city energy use
2.5 Dedicate staff resources to managing energy programs
2.6 Develop a master plan for solar development on city-owned properties
2.10 Investigate ways to develop battery or other storage capacity

We are already one year into the last code adoption. Scottsdale usually adopts building codes on a three-year cycle. In addition, why wait 3 years to begin supporting already-adopted 'solar ready light' code provisions?

3.1 Adopt and implement energy and green construction codes that advance efficient construction practices to address affordability and regional characteristics
3.2 Support code requirements for new residential construction to install solar systems or be 'solar ready'

Why wait 3 years to begin "encouraging"?

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

Benefits

"Resilience" or "Resiliency" is a benefit that should be added to many Energy actions.

Modifications to existing actions

X.X Join EPA Green Power Partnership
This action does not belong in Energy 1 because it applies to municipal power.

2.2 Increase the number of large city-owned buildings connected to the energy management system~~s~~

2.3 Conduct energy audits and assessments for all municipal buildings and implement recommended remedial measures

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

~~2.10 Investigate ways to develop battery or other storage capacity~~
Storage should be part of a solar master plan.

3.4 Encourage installation of solar PV ~~panels~~ when a new roof or deep retrofit occurs

New Actions

X.X Expand municipal on-site renewable energy generation and storage capacity with priority given to facilities that consume the largest amount of energy or provide critical functions
3-10 years Lead: OEI, Facilities, Water $$$
Municipal savings / Lower emissions / Resilience

X.X Maximize the benefits of municipal renewable energy by aligning demand with production through "smart grid" technologies and other tools
Ongoing Lead: OEI, Facilities, Fleet $-$$
Municipal savings / Lower emissions / Resilience

X.X Support state legislation for community choice aggregation
1-3 years Lead: Government Relations, OEI $
Cost savings / Lower emissions / Lower energy burden / Resilience

X.X Collaborate with other municipalities to evaluate the energy and cost savings for families and businesses available through energy retail choice, including community aggregation
1-3 years Lead: OEI $
Cost savings / Lower emissions / Lower energy burden / Resilience

X.X Develop and implement a municipal electrification policy
1-3 years Lead: OEI, Facilities, Fleet Partners: Utilities $-$$
Municipal savings / Lower emissions / Resilience

X.X Support city-wide electrification efforts
1-3 years Lead: OEI Partners: Utilities, residents, businesses $
Cost savings / Lower emissions / Resilience

X.X Collaborate with other municipalities and partners to maintain and restore local control over matters related to energy and emissions
Ongoing Lead: Government Relations, OEI $
Cost savings / Municipal savings / Lower emissions / Lower energy burden / Resilience

X.X Develop an operational matrix to facilitate consideration of emissions implications in city decision-making
Quick win Lead: OEI $
Lower emissions / Resilience

Note: This hearkens back to the "implementation toolkit" that was to be "developed to provide an operational matrix to support future decision-making" in an earlier version of the Sustainability Plan.

New Strategies and Reorganization

Below is a proposed reorganization of Strategies and Actions. All existing and proposed new actions are included as well as two new Strategies.

Existing strategy and action numbers are maintained; proposed new strategies and actions are numbered X and X.X, respectively.

Energy 2 Improve municipal energy performance

2.1 Employ a citywide energy management system and track city energy use

2.2 Increase the number of large city-owned buildings connected to the energy management systems

2.3 Conduct energy audits and assessments for all municipal buildings and implement recommended remedial measures

2.5 Dedicate staff resources to managing energy programs

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

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

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

Energy X Increase municipal and city-wide renewable energy capacity and use

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

~~2.10 Investigate ways to develop battery or other storage capacity~~

X.X Expand municipal on-site renewable energy generation and storage capacity with priority given to facilities that consume the largest amount of energy or provide critical functions

X.X Maximize the benefits of municipal renewable energy by aligning demand with production through "smart grid" technologies and other tools

2.7 Share information on savings achieved through municipal solar installations

1.5 Join EPA Green Power Partnership

1.3 Provide education for homeowners about solar financing options

1.4 Consider free solar permits for residential installations

3.4 Encourage installation of solar PV when a new roof or deep retrofit occurs

X.X Support state legislation for community choice aggregation

X.X Collaborate with other municipalities to evaluate the energy and cost savings for families and businesses available through energy retail choice, including community aggregation

Energy X Reduce municipal and city-wide greenhouse gas emissions

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

1.8 Publicly report on greenhouse gas emissions and reduction strategies

X.X Develop an operational matrix to facilitate consideration of emissions implications in city decision-making

X.X Develop and implement a municipal electrification policy

X.X Support city-wide electrification efforts

X.X Collaborate with other municipalities and partners to maintain and restore local control over matters related to energy and emissions

1.9 Educate the public on the impacts of climate change and mitigation strategies

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

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

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

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

3.3 Strengthen enforcement of all building codes

3.5 Continue LEED Gold requirement for new civic structures

Energy 1 Improve city-wide energy efficiency

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

1.2 Develop guidance on ways to reduce utility bills

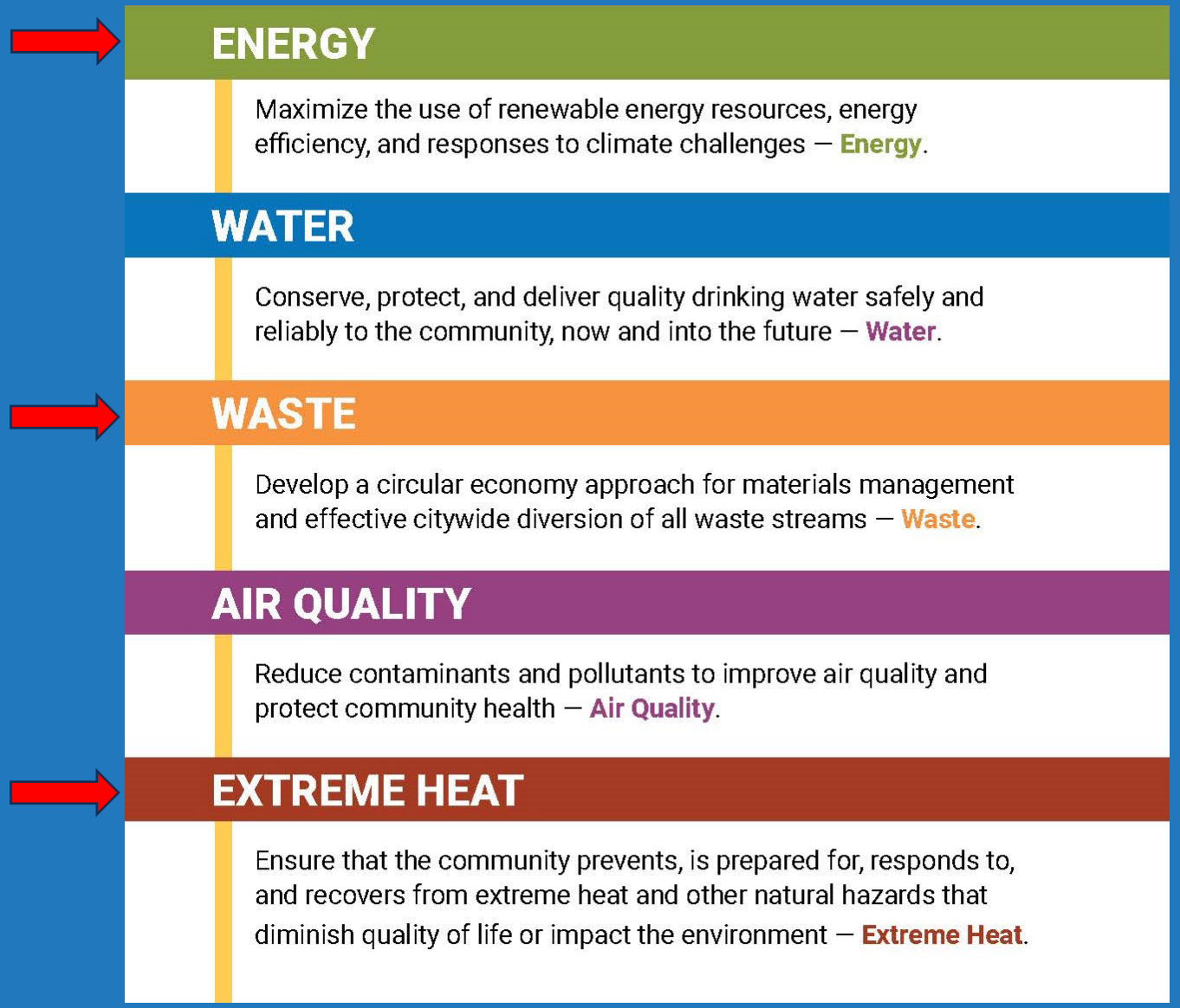
1.6 Increase participation in state weatherization program

CITY OF SCOTTSDALE

Scottsdale Community Sustainability Plan

Work Study Session – March 19, 2024

Framework for a Sustainable, Resilient & Thriving Scottsdale



Framework

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.

EXTREME HEAT

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

Extreme Heat: Temperatures

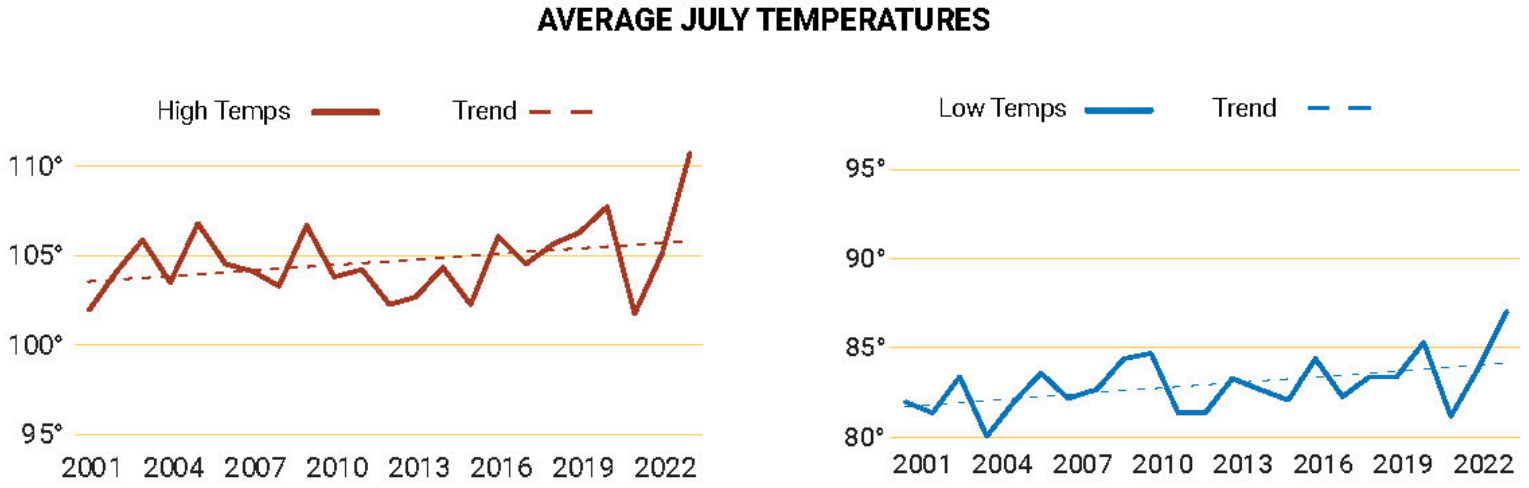


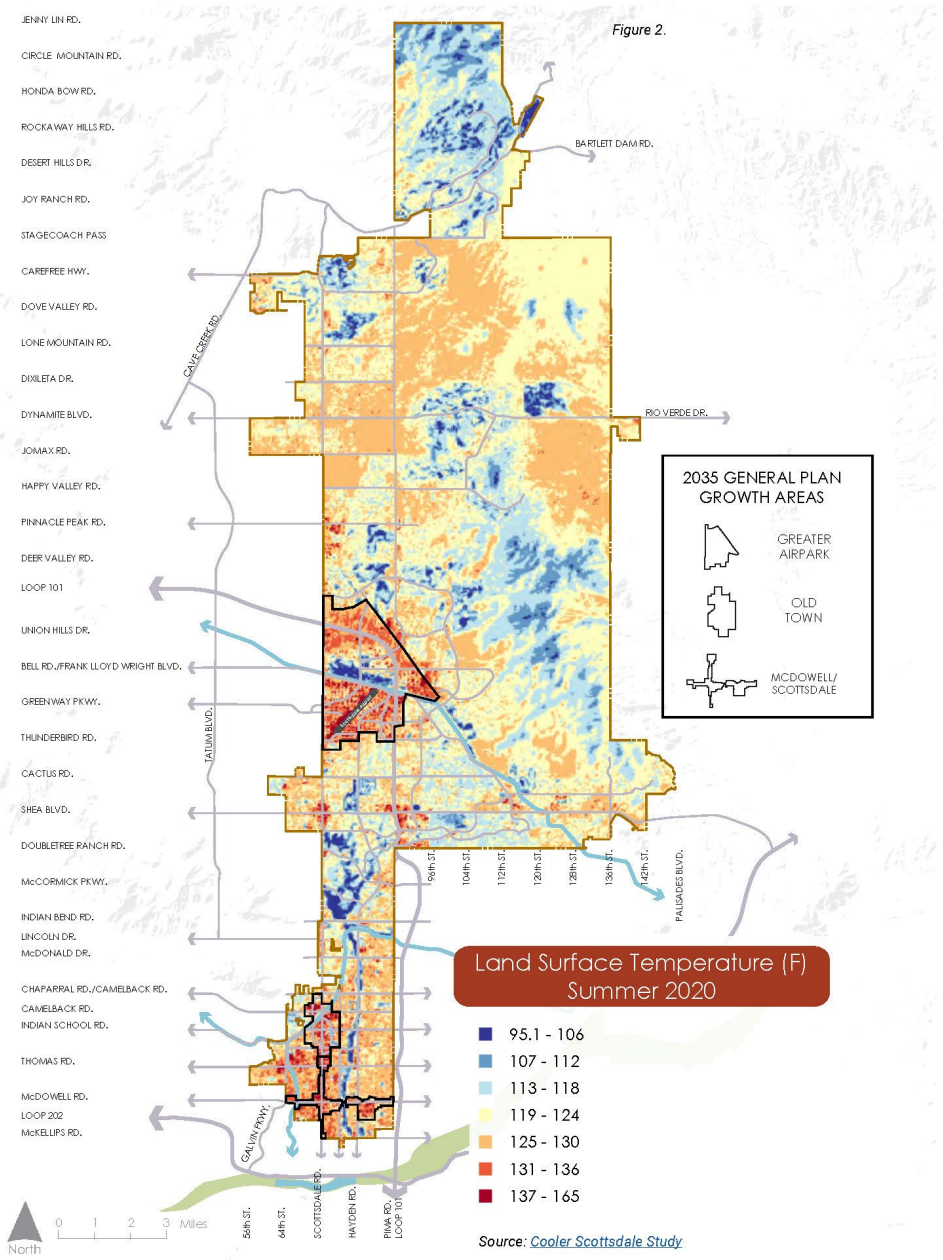
Figure 1. *Source: Air temperature data from National Weather Service (https://www.weather.gov/wrh/Climate?wfo=psr)*

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: NOAA Online Weather Data*

Extreme Heat: Temperatures

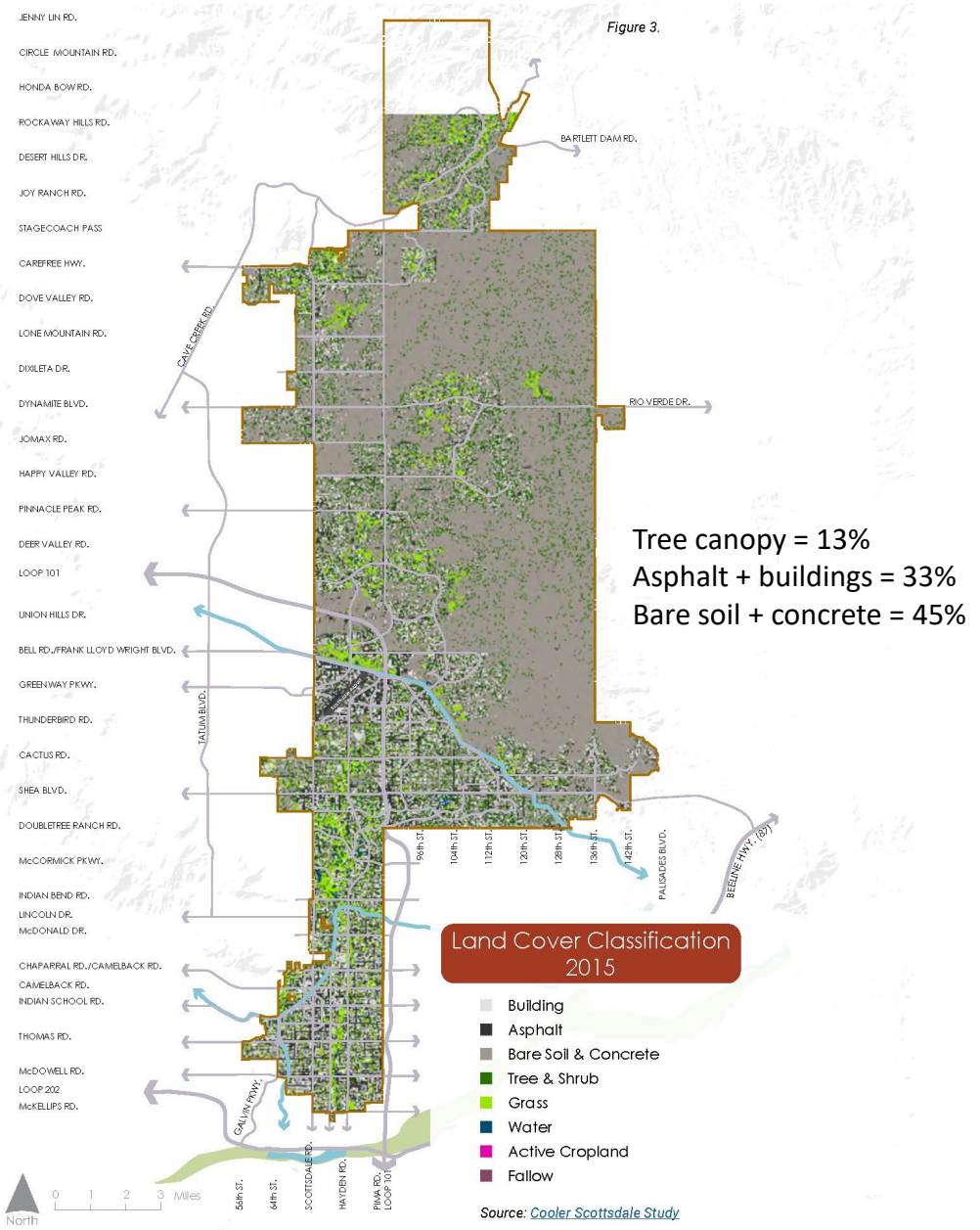


Extreme Heat: Hospitalizations

Table 2. Incidents per 100,000 population					
	2018	2019	2020	2021	2022
Heat Deaths					
Maricopa County Residents	3.24	3.81	6.19	6.05	7.41
Scottsdale Residents	3.66	1.60	3.92	3.14	2.75
Heat Illnesses					
Maricopa County Residents	52.99	52.86	49.45	54.02	67.01
Scottsdale Residents	34.14	38.31	32.16	32.55	39.61

Table 2. Source: Maricopa County Department of Health

Extreme Heat: Tree Canopy



Tree canopy = 13%
Asphalt + buildings = 33%
Bare soil + concrete = 45%

Extreme Heat: Temperature Targets

INDICATOR

Average temperatures, July

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

TARGET

Reduce day- and night-time air temperatures by 2030

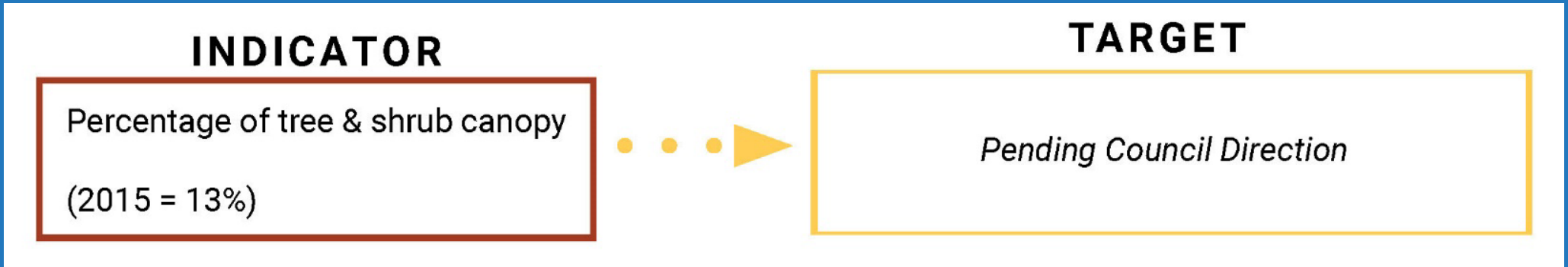
TARGET

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

Extreme Heat: Hospitalization Target

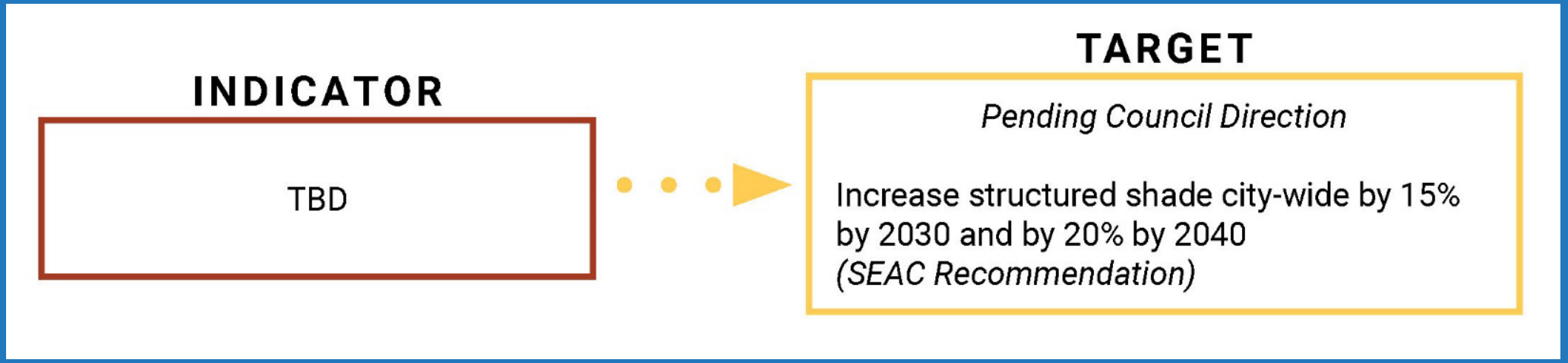
Extreme Heat: Tree Canopy Target

Staff Recommendation	SEAC Recommendation
Increase tree & shrub canopy to 15% by 2040	Increase tree & shrub canopy to 20% by 2030 and 25% by 2040



Extreme Heat: Structured Shade Target

Staff Recommendation	SEAC Recommendation
TBD (defer until completion of Shade & Tree Plan, which addresses structured shade)	Increase structured shade city-wide by 15% by 2030 and by 20% by 2040



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 Oldtown 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.

Implementation Tables

Time Horizon: 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)


WASTE
Develop a circular economy approach for materials management and effective citywide diversion of all waste streams.
CLEAN DRY EMPTY
Don't let your recycling go to waste

Waste: Landfill Waste

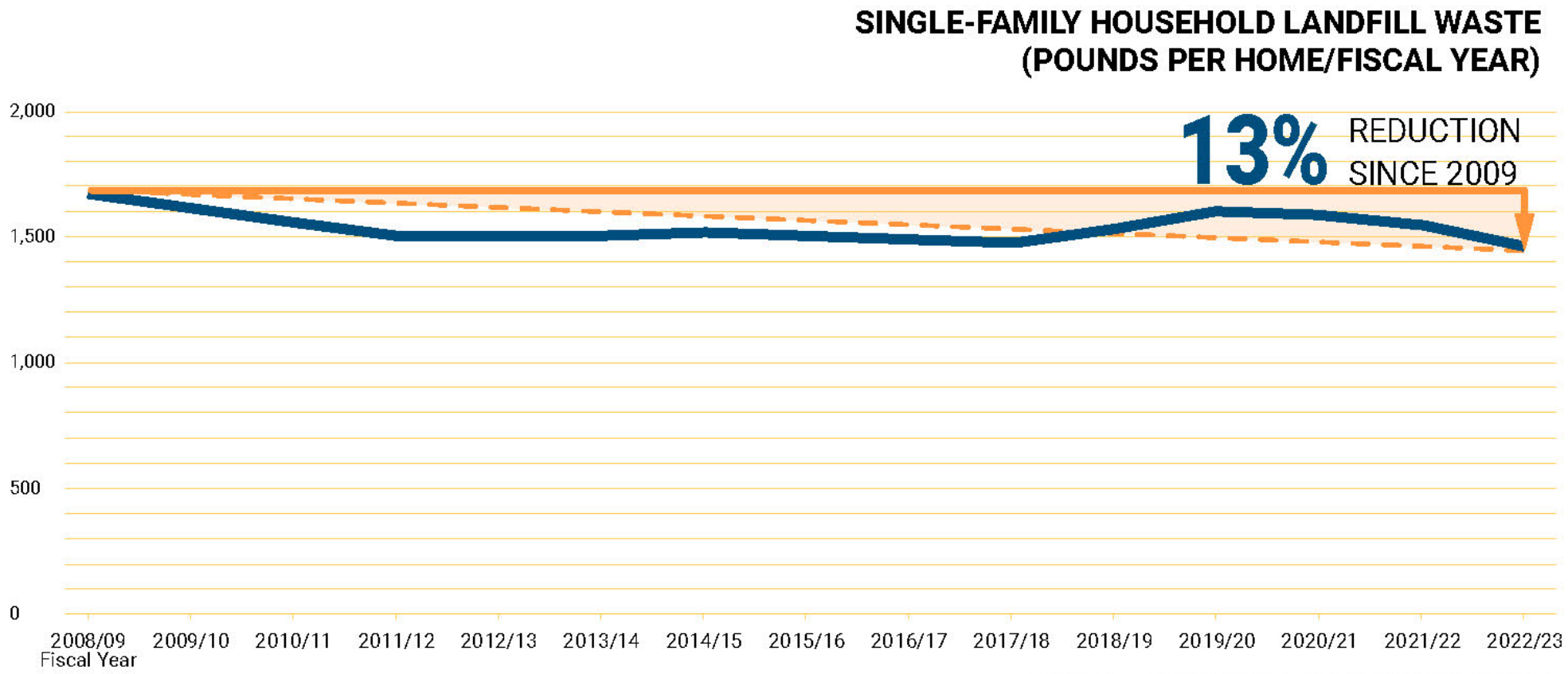


Figure 1. *Source: Scottsdale Solid Waste Services*

Waste: Diversion and Recycling Rates

Figure 2. *Source: Scottsdale Solid Waste Services*

Waste: Other Diversion

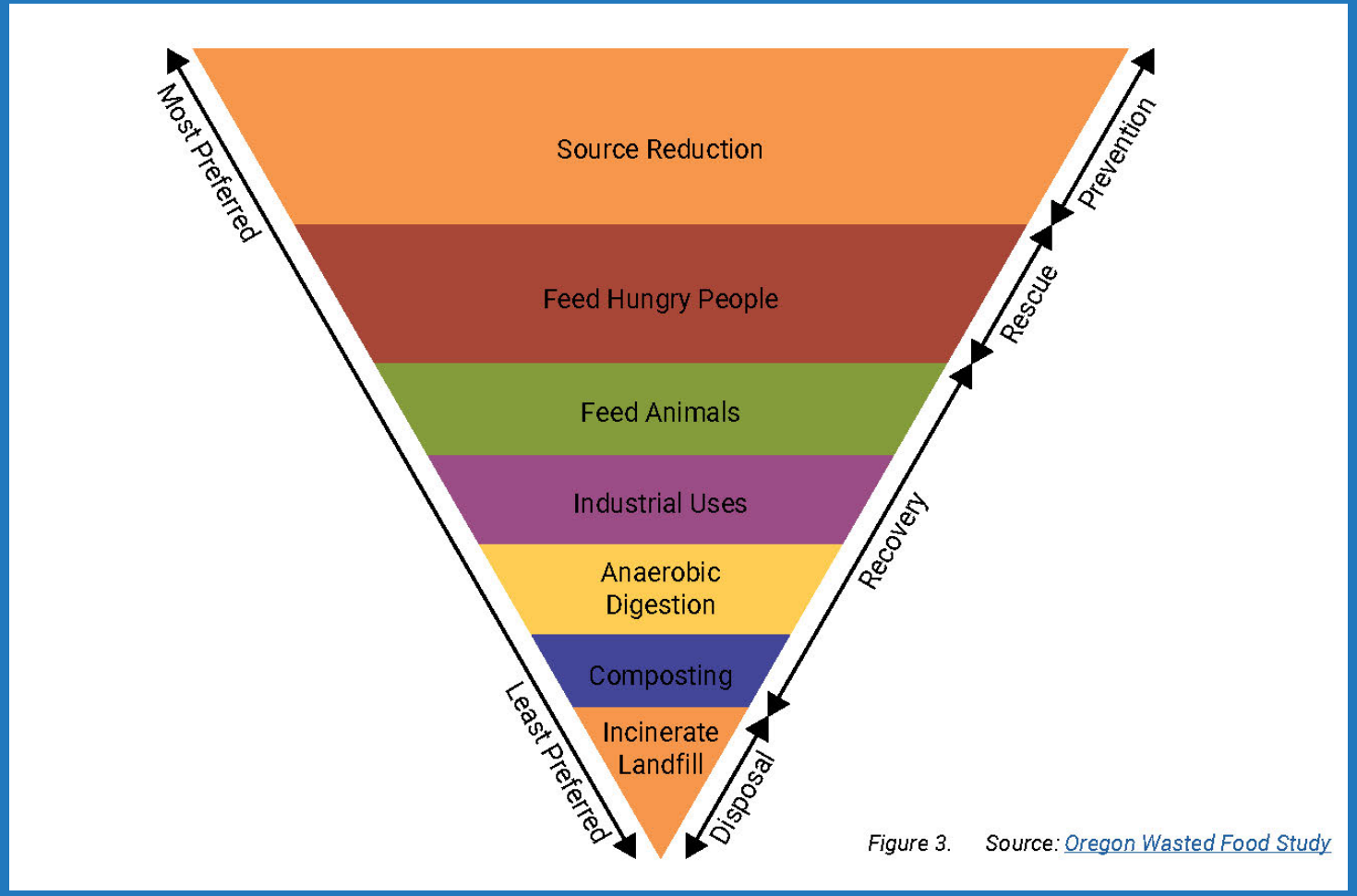
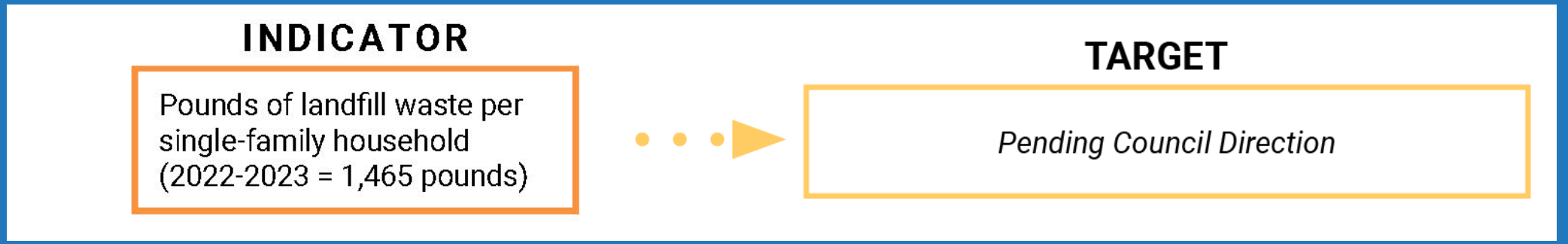


Figure 3. *Source:* *Oregon Wasted Food Study*

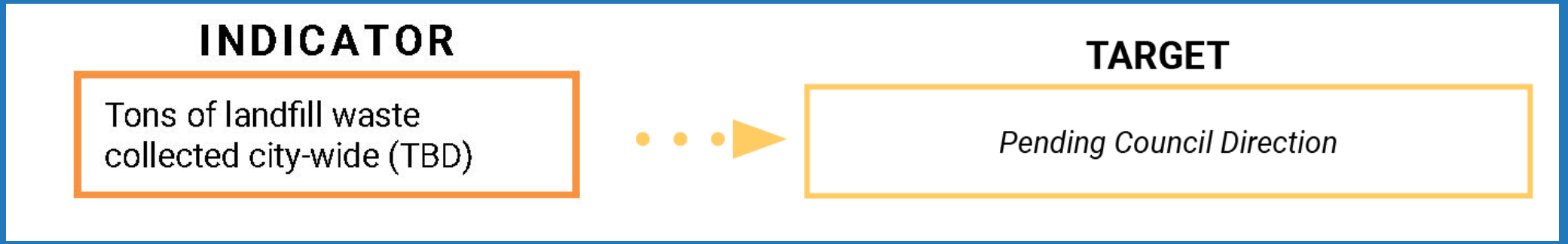
Waste: Landfill Waste Targets

Staff Recommendation	SEAC Recommendation
Reduce landfill waste per single-family household from 2022 levels by 25% by 2030 and by 90% by 2050	Reduce landfill refuse per single-family household from 2022 levels by 25% by 2030 and by 90% by 2040



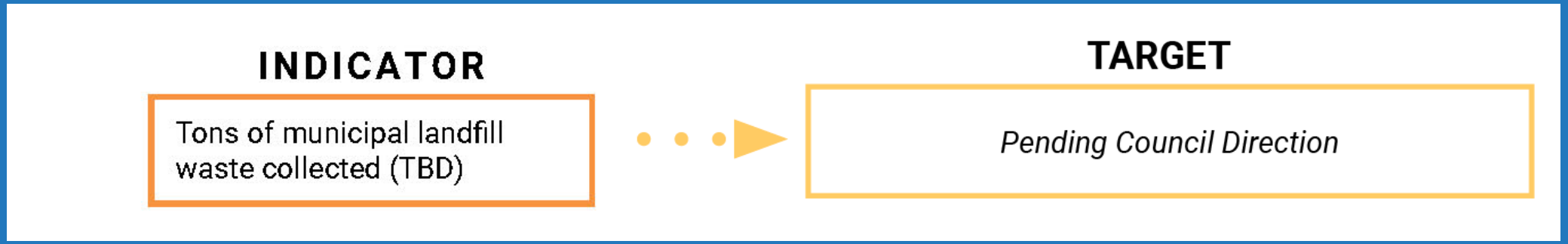
Waste: Landfill Waste Targets

Staff Recommendation	SEAC Recommendation
Reduce landfill waste collected city-wide by 90% by 2050	Reduce landfill refuse collected city-wide by 90% by 2040



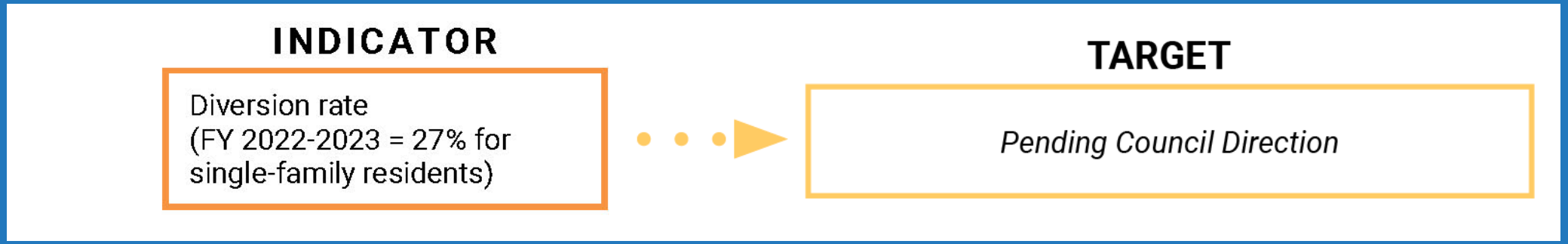
Waste: Landfill Waste Targets

Staff Recommendation	SEAC Recommendation
Reduce municipal landfill waste from 2024 levels by 25% by 2030 and 90% by 2045 (excludes municipal green landscaping debris hauled under city contract)	Reduce municipal landfill refuse from 2024 levels by 35% by 2030 and 90% by 2040 (excludes municipal green landscaping debris hauled under city contract)



Waste: Diversion and Recycling Rates

Staff Recommendation	SEAC Recommendation
• Achieve a 35% diversion rate (single family households) by 2030 • Achieve a 90% diversion rate (citywide) by 2050 • Achieve a 35% diversion rate for municipal waste by 2030 and a 90% diversion rate by 2045	• Achieve a 35% diversion rate (single family households) by 2030 • Achieve a 90% diversion rate (citywide) by 2040 • Achieve a 35% diversion rate for municipal waste by 2030 and a 90% diversion rate by 2040



Waste: Commercial Accounts

Waste: Organic Waste Diversion

INDICATOR

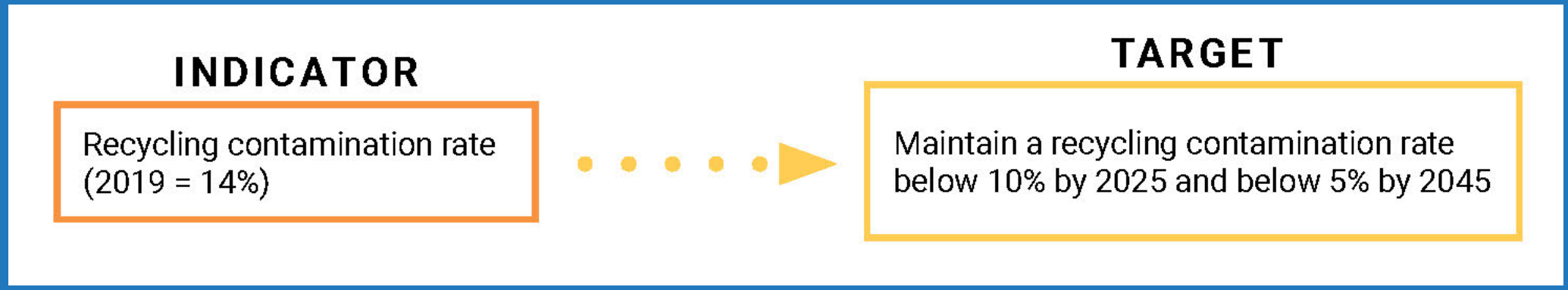
Tons of organic waste diverted from landfill (TBD)

TARGETS

Achieve a 50% diversion rate from the brush and bulk waste stream by 2030 and a 90% diversion rate by 2040

Divert 15,000 tons annually of city-wide 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)*

Waste: Recycling Contamination Rate



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.

DRAFT

STRATEGY WST 3

Expand opportunities for diverting organic waste from the landfill.

ACTIONS

WST 3.1 Establish a green or 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.


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

Energy: Electricity Use

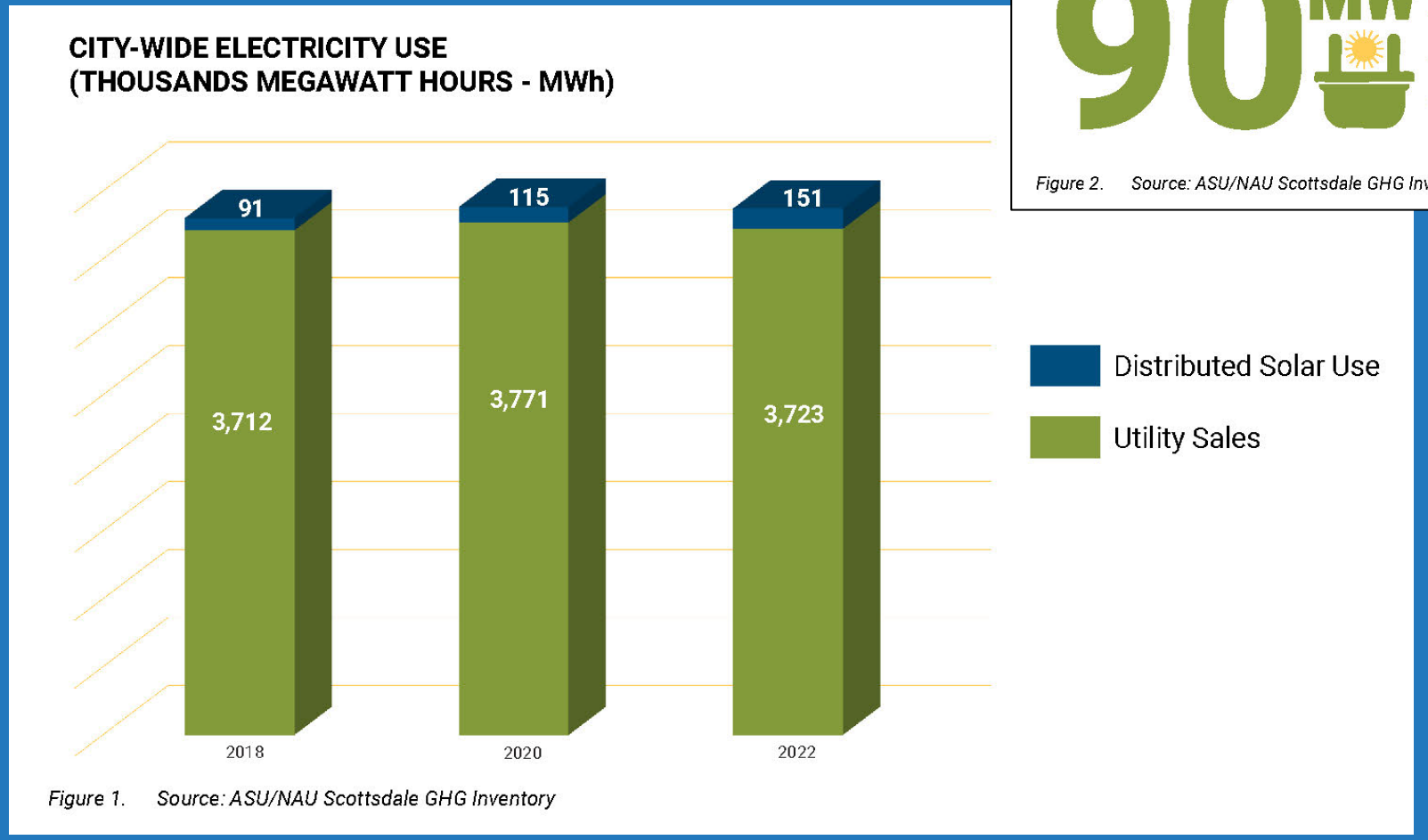


Figure 1. Source: ASU/NAU Scottsdale GHG Inventory

Figure 2. Source: ASU/NAU Scottsdale GHG Inventory

Energy: Greenhouse Gas Emissions

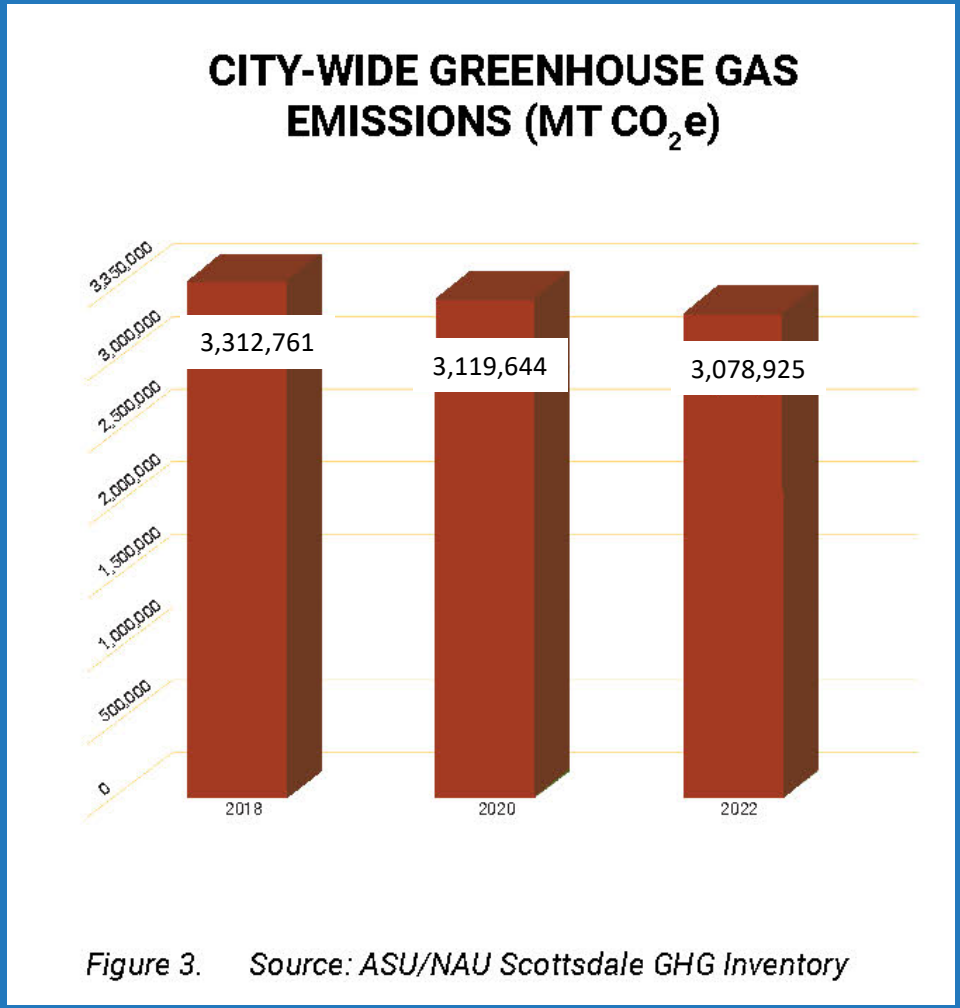


Figure 3. Source: ASU/NAU Scottsdale GHG Inventory

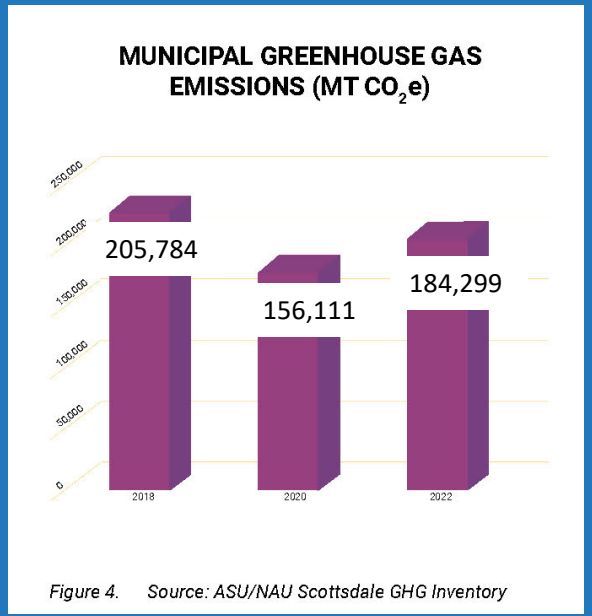


Figure 4. Source: ASU/NAU Scottsdale GHG Inventory

Energy: Energy Burden + Green Buildings

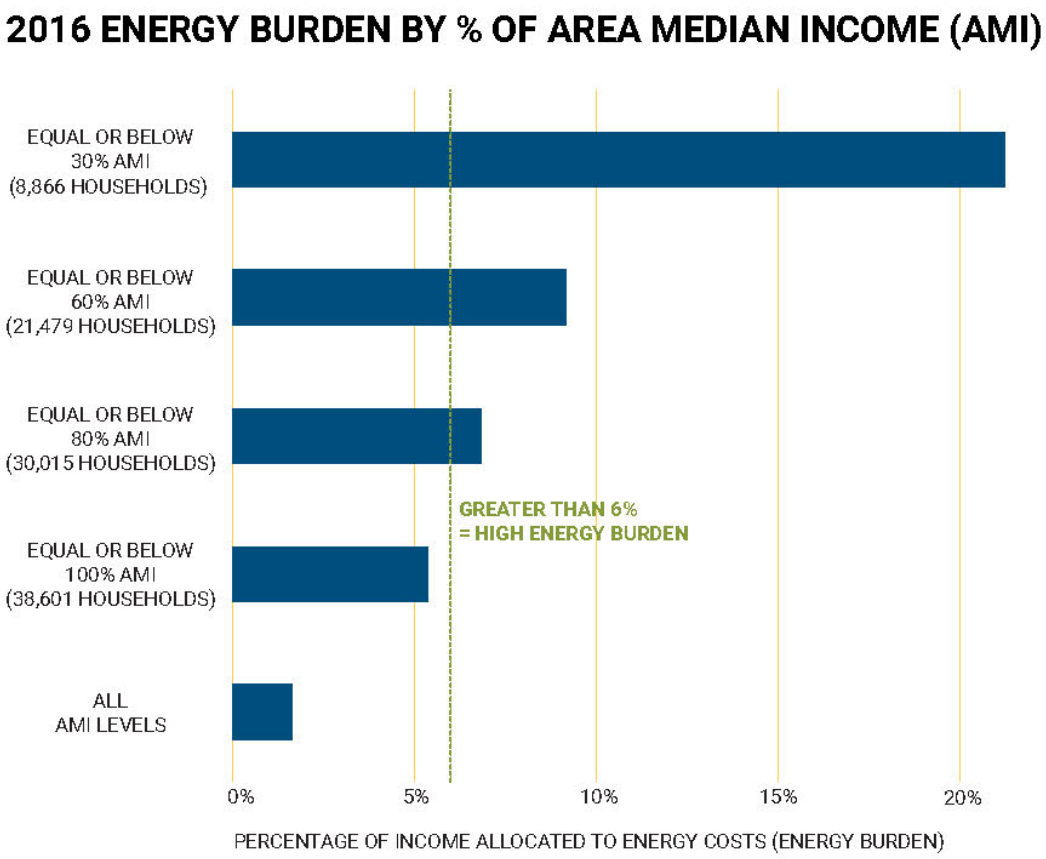
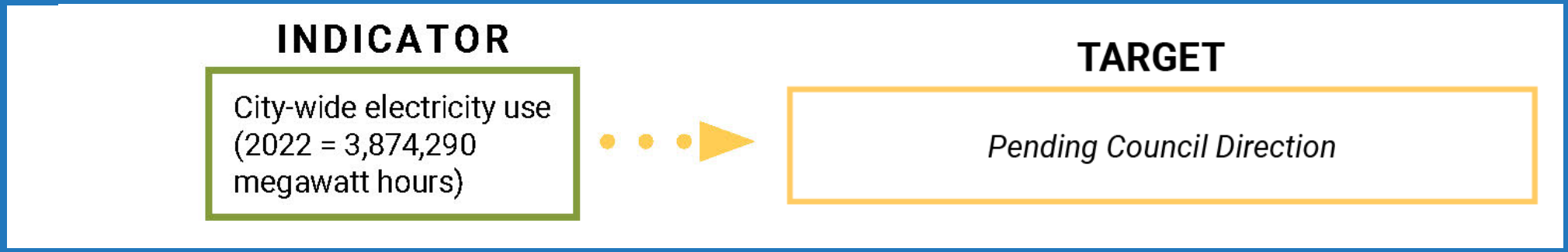


Figure 5. Source: Office of State & Community Energy Programs

Figure 7. Sources: City of Scottsdale, FEMA

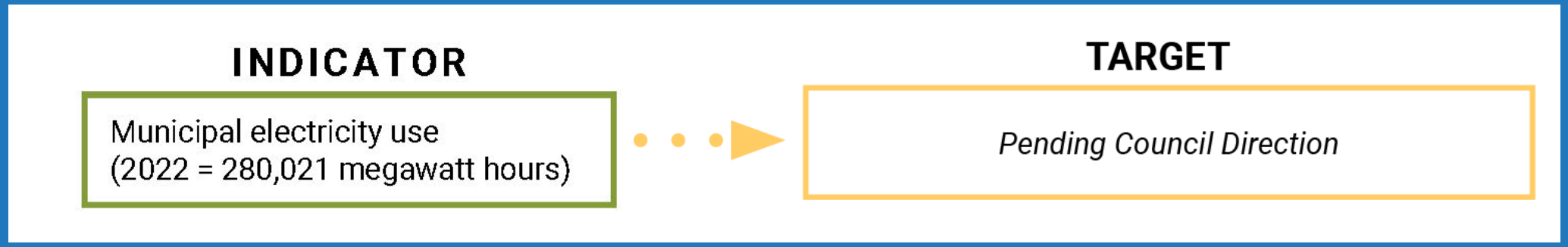
Energy: City-wide Electricity Use

Staff Recommendation	SEAC Recommendation
Reduce city-wide electricity use per square foot by 15% by 2035 (relative to 2022)	Achieve city-wide 70% clean energy use by 2030



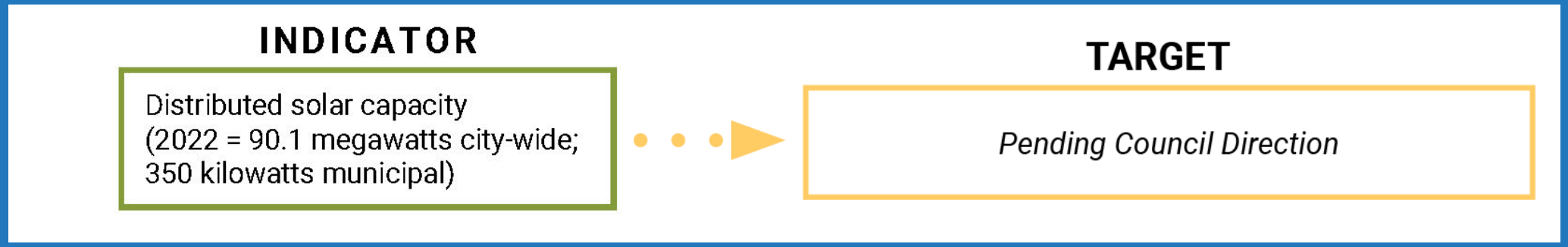
Energy: Municipal Electricity Use

Staff Recommendation	SEAC Recommendation
Reduce municipal electricity use by 10% by 2035 (relative to 2022) through efficiency measures	Reduce municipal electricity use by 15% by 2035 (relative to 2022) through efficiency measures

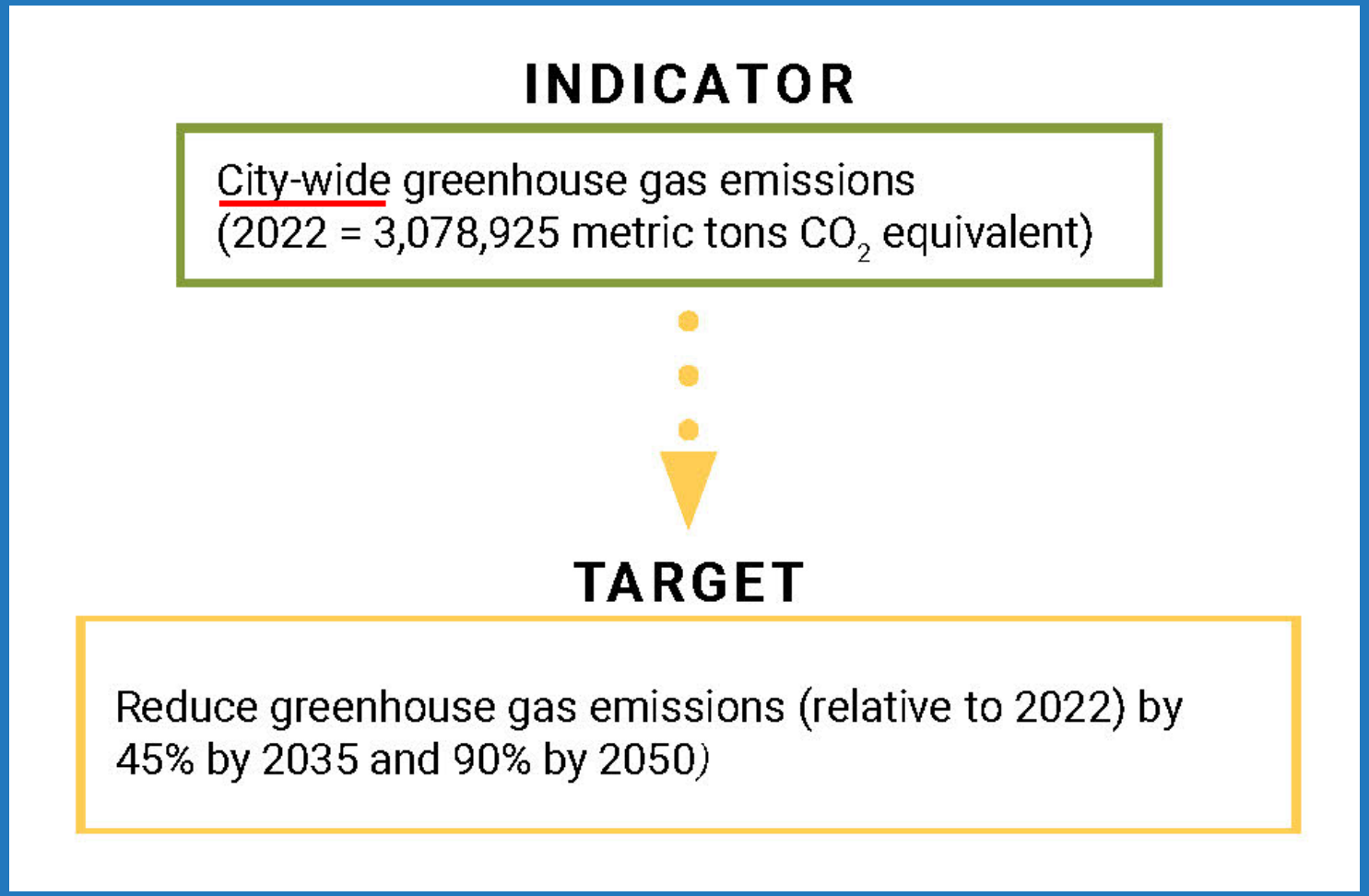


Energy: Distributed Solar Capacity

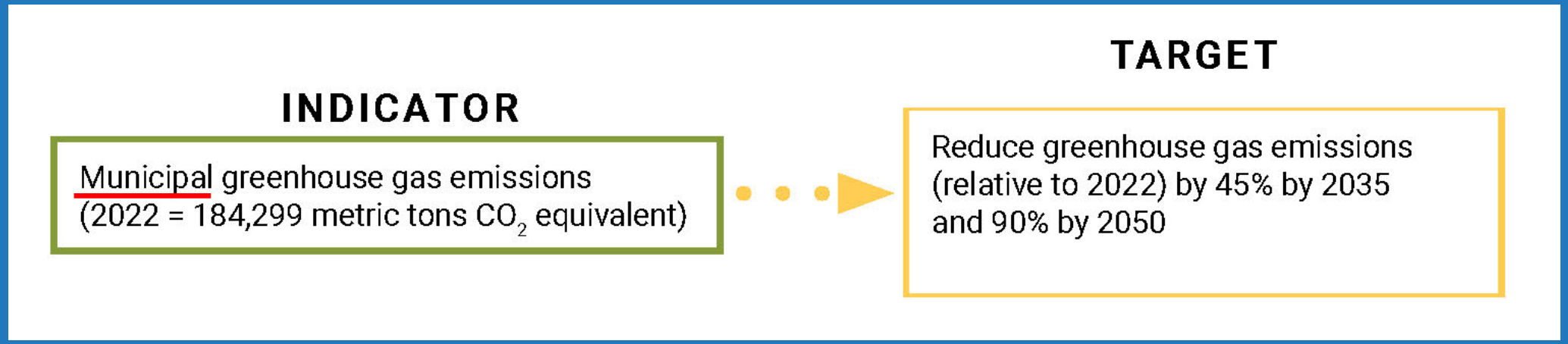
Staff Recommendation	SEAC Recommendation
Increase distributed solar capacity city-wide to 180 MW by 2030 and to 300 MW by 2040; increase municipal solar capacity to 3 MW by 2030	Increase distributed solar capacity city-wide to 180 MW by 2030 and to 500 MW by 2040; increase municipal solar capacity to 5 MW by 2030



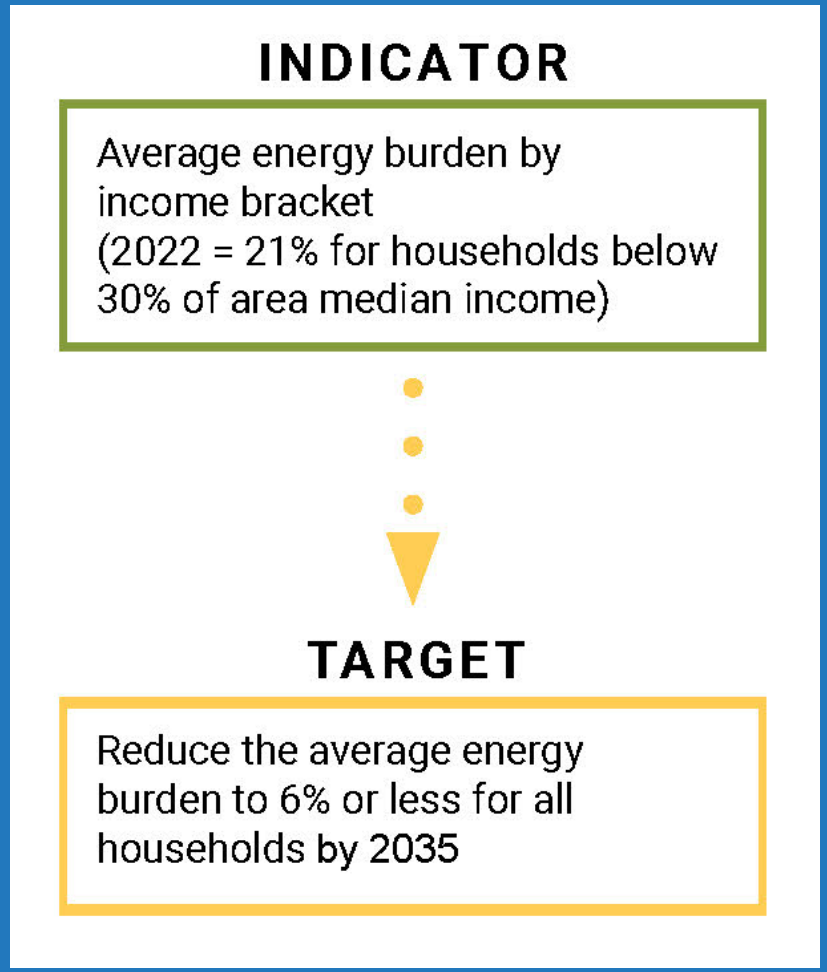
Energy: Greenhouse Gas Emissions (City-wide)



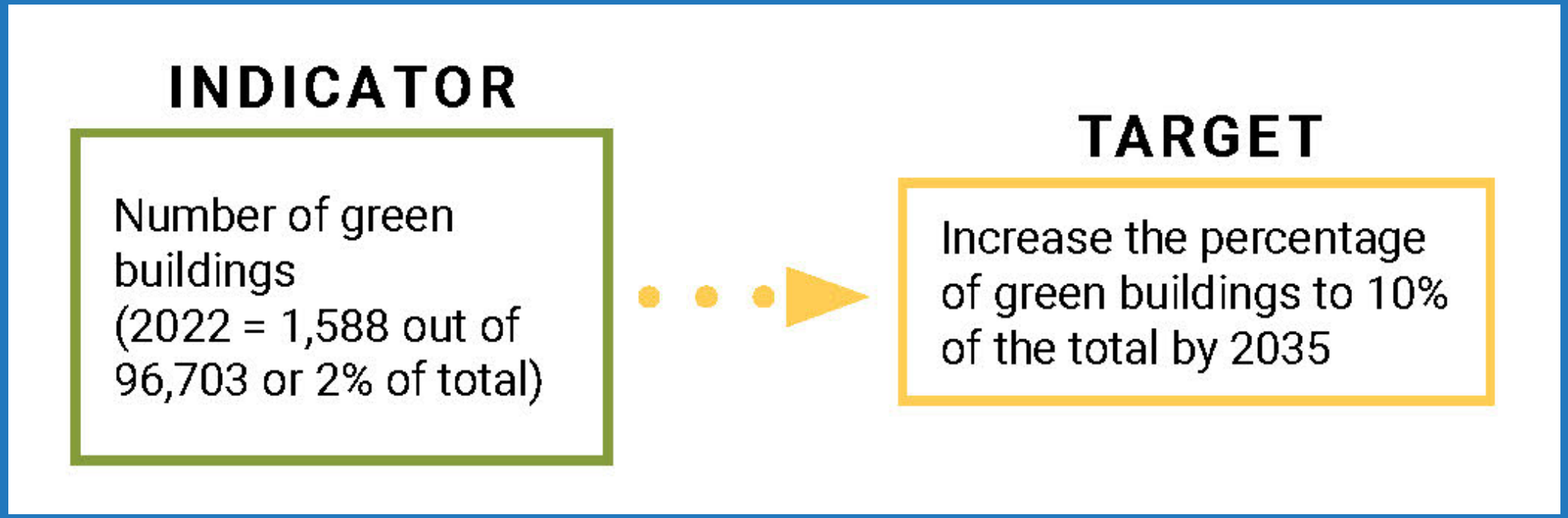
Energy: Greenhouse Gas Emissions (Municipal)



Energy: Energy Burden



Energy: Green Buildings



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 Join EPA Green Power Partnership.

NRG 1.6 Increase participation in state weatherization program.

NRG 1.7 Update greenhouse gas inventory at least every three years and expand to include refrigerant emissions; estimate impact of strategies and actions on emissions.

NRG 1.8 Publicly report on greenhouse gas emissions and reduction strategies.

NRG 1.9 Educate the public on the impacts of climate change and mitigation strategies.

NRG 1.10 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 a citywide energy management system and track city energy use.

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

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.

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 Investigate ways to develop battery or other energy storage capacity.

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.

Sustainability Plan: Background & Timeline

2021

- Implementation priority of voter-approved General Plan 2035
- Groundwork by ASU's Walton Sustainability Solution Service

2022

- Input from Scottsdale Environmental Advisory Commission (SEAC)
- Community meetings in August & October and an online survey
- September City Council Work Study Session
- Presentations to and input from other Boards and Commissions

Sustainability Plan: Timeline (continued)

2023

- Council direction from March and July WSS included:
  - Focus on five areas: energy, heat, air quality, water, and waste
  - Collect baseline data and set concrete goals
  - Work with SEAC and internal staff team
  - Use narratives that will tell a story about why sustainability is important
  - Avoid repetition of items already discussed in other documents, such as the General Plan
  - Work toward adoption, with draft plan sections vetted at 2 intervening Council work study sessions

Sustainability Plan: Timeline (continued)

November 2023 – March 2024

- Review by Commission, staff, and external experts
- Updated plan vetted during 2 Council work study sessions:
  - Introduction, Air Quality and Water (November 13, 2023)
  - Extreme Heat, Waste and Energy (March 19, 2024)

Next Step: Council adoption

Questions/Direction to Staff

From: Steve Tyrrell
To: City Council
Subject: Solar Energy and the City Sustainablity Plan
Date: Monday, March 11, 2024 7:12:23 PM

Good Evening:
I see in the current Sustainability Plan the following entry:
NRG 2.4 Continue to convert streetlight systems, park lighting and other civic lighting to LED technology.
While I believe LED is helpful it pales in comparison to converting streetlight systems, park lighting and other civic lighting to on-site solar energy. Merely converting lights to LED still relies on the current electrical production systems which we need to move away from. Better to leave those tired methods behind.
It takes about 2.1 years to recoup the cost of an LED streetlight if you get the top-of-the-line 100 Watt product. Solar energy streetlights take about 2.85 years for recoupment. That 7 months is the difference. After that the annual electricity cost for LED of approximately $52 per LED light continues into perpetuity. Not the case with onsite solar lighting which has no electricity cost after installation.
The outrageous cost benefit of solar streetlights dwarfs the ongoing electricity costs of the LED, even when some 5-year maintenance for solar is factored in.
So lets face it, the best Scottsdale should do is replace all existing streetlights with on-site solar and require all new streetlights to be the same. The minimum that Scottsdale should do is carve out 5 miles of city roadway, install solar streetlights and study the impact against a similar set of LED-lighted roadways.
The Sustainability Plan language and vision should be expanded in NRG 2.4 to include specific wording related to the use of on-site solar to improve multiple outdoor lighting systems such as streetlights, park lights, ball field lighting and other civic lighting.
I hope you take the time to embrace added specifics to the City's Sustainability Plan and move us down a well-light solar road to the future.
Lets work to make Scottsdale the Solar Energy Capital of Arizona.
Steve Tyrrell
Scottsdale resident

From: Steve Tyrrell
To: McNeilly, Lisa
Subject: Sustainablity Plan Defict
Date: Sunday, March 10, 2024 10:11:40 PM
Importance: High

Good Evening:
I see in the current Sustainability Plan the following entry:
NRG 2.4 Continue to convert streetlight systems, park lighting and other civic lighting to LED technology.
While I believe LED is helpful it pales in comparison to converting streetlight systems, park lighting and other civic lighting to on-site solar energy. Merely converting lights to LED still relies on the current electrical productions systems which we need to move away from. Better to leave those tired methods behind. There are 16 and 17 year olds in our local high schools who know how to use solar to light up a streetlight and students at SCC who know how to light up an entire field.
The Sustainability Plan should be expanded in NRG 2.4 to include specific wording related to the use on-site solar to improve multiple outdoor lighting systems for streetlights, park lights, ball field lighting and other civic lighting.
Hopefully you can work to achieve that and make Scottsdale the Solar Energy Capital of Arizona.
Steve Tyrrell
Scottsdale resident

From: notifications@cognitoforms.com on behalf of City of Scottsdale
To: McNeilly, Lisa
Subject: Sustainability Plan Comment - DillonT
Date: Tuesday, March 12, 2024 1:29:01 PM

Entry Details

NAME	Dillon T
EMAIL	what.a.twizt@gmail.com
COMMENTS	Extreme heat in the Fashion Square neighborhood is abysmal in the summer. Please consider planting trees in the gap area between 66th St and Goldwater Blvd on Camelback. This area (especially the areas nearby the Motel 6 and abandoned lots in the area) lacks safe levels of shading for summer and the bus stops are not adequate for summer temperatures whatsoever. There is zero shade at any of the intersections nearby and it gets genuinely dangerous in the summer. I have personally experienced heat stroke at 68th St/Camelback.
YES, I WOULD LIKE TO BE EMAILED ABOUT UPCOMING EVENTS.	No

From: notifications@cognitoforms.com on behalf of City of Scottsdale
To: McNeilly, Lisa
Subject: Sustainability Plan Comment - CharlesPeters
Date: Wednesday, March 13, 2024 1:43:07 PM

Entry Details

NAME	Charles Peters
EMAIL	pcg396@gmail.com
COMMENTS	In what ways are the sustainability of our environment and quality of life affected by ‘economic and social inequities’?
YES, I WOULD LIKE TO BE EMAILED ABOUT UPCOMING EVENTS.	Yes

From: notifications@cognitoforms.com on behalf of City of Scottsdale <notifications@cognitoforms.com>
Sent: Monday, March 18, 2024 8:39 PM
To: Cordova, Rommel
Subject: City Council Public Written Comment Form - Helene Tack

City of Scottsdale

Web Scottsdale City Council Meeting Written Comment Form

Open Form

Entry Details

Agenda Item

MEETING DATE	3/19/2024
WHICH AGENDA ITEM WOULD YOU LIKE TO COMMENT ON?	WS. Public Comment

Name

FULL NAME	Helene Tack

Contact Information

PHONE	(480) 250-5252
EMAIL	azhelene27@gmail.com
ADDRESS	8401 E. Edgemont Ave
CITY	Scottsdale

Comment

COMMENT

These comments are in reference to the Energy, Waste and Extreme Heat sections of the Sustainability plan. My comments are brief, as I found out about this on last week and have not had time to more thoroughly review.
Targets: The SEAC recommendations are more aggressive, which is what is needed to reduce greenhouse gas emissions as population increases in the city and energy demand increases with it. I would like to see the SEAC recommendations enacted.

Pg 59: The energy burden graph is from 2016 which was 8 years ago. Since much has changed in the city since then, I would like to see more recent data on energy burden. Summer of 2020 and 2023 were some of the hottest summers on record – what effect did these extremely hot summers have on energy burden?
Pg 61: For Strategy NRG 1: The actions geared at educating residents and encouraging participation in existing programs are important, but education does not always result in action. I would like to see more items like NRG 1.4: Consider free solar permits for residential installations. These should include efforts to reduce emissions from transportation since it makes up 41% of the city's GHG emissions.
Pg 62: Encourage installation of solar panels when a new roof or deep retrofit occurs. – encourage how?

Pg 71: Regarding the image of the public trash & recycle receptacle – one of the big challenges with public recycling is that it tends to get too contaminated to actually send to recycle. As a person who has worked with waste diversion, whenever I see an image of a public receptacle like this used to promote recycling, it feels almost like greenwashing. I would encourage replacing this image.
Pg 72: Regarding this statement: "Scottsdale is a leader in the Valley in diversion, although there is room for significant improvement." – I'd be interested in learning more about what makes Scottsdale a leader in diversion. Does this sentence mean that compared to other cities we're diverting more? The previous sentence states that

it is hard to compare cities diversion rates, which makes the sentence about Scottsdale being leaders confusing.
Pg 76: Encourage addition of recycling infrastructure in existing commercial and multi-family housing. – encourage how?
Encourage innovative reuse of materials. – encourage how?
Pg 93: Encourage use of desert-adapted trees to support heat reduction and water conservation strategies. – encourage how?

I look forward to seeing future versions of the Plan as it comes together.

From: mary voss <marykvoss@hotmail.com>
Sent: Tuesday, March 19, 2024 7:20 AM
To: City Council
Subject: Comments on Sustainability Plan

Dear City Council,

We moved here in 2014 , in part to escape Chicago winters. My next move will be away from here to escape Scottsdale summers. Seriously.

For many years before we moved here, we were frequent visitors, even in the summer. Things have changed – Scottsdale is hotter, more congested, more polluted – simply, it's no longer our dream place to live. As a retired nurse, I am all too aware of the effects of heat and air pollution on medical conditions. In fact, an ENT doctor recently recommended a friend of mine move away from here because the poor air quality is aggravating her ear condition.

I don't think the Scottsdale Community Sustainability Plan comes close to moving far enough or fast enough to turn Scottsdale around. What happened to the progressive, innovative city Scottsdale once was? Maybe it's the fault of people like me who have never written you before to tell you that we need and want action. The "actions" in this plan are, for the most part, weak, fragmented, and 10 years behind the times.

For example:

- We should have three containers – one for organics, one for recycling, and a very small one for the little bit we can't put in the other two.
- We should be a bastion of solar power. Now I realize the utilities are making that very difficult, but surely cities have some leverage. And have possibilities such as community choice solar been explored? The Greenbelt wasn't conceived by people who accepted the status quo; we have the Greenbelt today because of people who thought outside-the-box and didn't accept "no" for an answer.
- 2040 or 2050? Really? Do you think we have that long? I don't. And the longer we wait, the deeper the hole we have to dig out of. So how about 2030 or 2035?

I hope I have motivated some creative, innovative minds to improve this really disappointing plan.

Mary Voss
6210 E. Catalina Drive
Scottsdale, AZ 85251

From: notifications@cognitoforms.com on behalf of City of Scottsdale <notifications@cognitoforms.com>
Sent: Tuesday, March 19, 2024 10:50 AM
To: Cordova, Rommel
Subject: City Council Public Written Comment Form - Shelly Gordon
Attachments: APS vs CCE contrast analysis 0324.pdf

City of Scottsdale

Web Scottsdale City Council Meeting Written Comment Form

Open Form

Entry Details

Agenda Item

MEETING DATE	3/19/2024
WHICH AGENDA ITEM WOULD YOU LIKE TO COMMENT ON?	WS. Public Comment

Name

FULL NAME	Shelly Gordon
NAME OF GROUP OR ORGANIZATION	Arizonans for Community Choice

Contact Information

PHONE	(650) 248-6975
EMAIL	sgordon@az4cc.org
ADDRESS	326 East Indigo St.

CITY	Mesa

Comment

COMMENT

My name is Shelly Gordon. I am the state director of Arizonans for Community Choice. We are advocating for statewide legislation that would enable an energy choice model called Community Choice Aggregation (aka Community Choice Energy).

According to the Scottsdale sustainability plan draft, “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….”

To achieve GHG emission reduction targets, Scottsdale cannot rely alone on residential and business investment in rooftop solar and energy efficiency for municipal buildings. The most significant lever to pull is the electricity grid with Scottsdale taking control of energy generation through the proven model called Community Choice Aggregation (CCA). Under the CCA model, municipalities and counties are able to procure clean, renewable energy and continue to have electricity delivered through existing utility transmission lines to customers.

CCA would give cities like Scottsdale local control over energy choice while maintaining a functional partnership with the investor owned utility (APS) which continues to deliver the power, manage the grid, repair power outages and bill customers. CCAs provide many benefits, including lower energy costs, local energy choice of rate plans, a revenue stream to invest in local energy programs, energy jobs, and more renewable power -- all of which directly impacts carbon emissions.

Stationary energy makes up the majority of emissions from city operations and community-wide energy consumption. Decarbonizing our grid electricity through CCA is the most substantive and swiftest action Scottsdale can take to achieve 70% citywide clean energy by 2030 with a 45%

reduction in GHGs by 2035.

Therefore Scottsdale's sustainability plan should include a study of local energy choice, including through CCA. Across the 10 states where they are authorized, CCAs lower rates for ratepayers, provide local energy choice, fund community energy programs and increase renewable energy.

While lobbying efforts are underway to enable CCA legislation in Arizona, a study of the benefits of CCA in terms of lowering energy rates while increasing renewable energy and meeting Scottsdale energy targets will provide the data necessary to move legislation forward.

Several Arizona cities, including Tucson, Tempe, Sedona, Flagstaff and Phoenix have expressed interest in the CCA model and regularly attend CCA education workshops.

We urge the Scottsdale City Council to evaluate the merits and challenges of Community Choice Energy.

Attachments

FILE UPLOAD	APS vs CCE contrast analysis 0324.pdf

Arizona Public Service Compared with Community Choice Energy Generation - with APS Delivery

Household Savings For CCE over APS

Sources: Data Analyst Russel Lowes

Analysis: Typical APS house, 750 kWh a month	DOLLARS	CARBON	WATER
APS Costs (15% renewable)	**$140.61** per month	**1260** **lbs of CO2** per month	**359** **gallons** per month
CCE Costs (80% renewable)	**$115.75** per month	**277** **lbs of CO2** per month	**83** **gallons** per month
Monthly Savings / Annual Savings	**$24.86** **17.7%** / **$298.27**	**983** lbs **78%** / **5.9** Tons of CO2	**276** **77%** / **3,315** gallons
If 1 million APS residences were served by CCE…	**$298 million** in annual savings	**6.0 million** **Tons of CO2** in annual savings	**3.3 billion** **gallons** in annual savings

From: Daniel Ishac <dfi.scottsdale@gmail.com>
Sent: Tuesday, March 19, 2024 12:09 PM
To: City Council; McNeilly, Lisa; Lane, Benjamin
Subject: 3/19/2024 Work Study Session on Sustainability Plan - Comments

All,

Rather than taking time at the meeting, I am writing this to reiterate and expand on my previous comments, particularly around EVs, costs and goals.

First, let me again state that I am supportive of moving forward with a sustainability plan for the city, but am frustrated at the glacial pace of moving forward. We need to get something approved as a draft and begin working on the things on which the vast majority of staff and residents agree. If this plan continues to be micromanaged by so many different hands, we are preventing easy wins from modest investment.

EVs
As for specifics, even though the edited sections being discussed do not include all of the EV suggestions, I want to again make clear why we need to limit the praises associated with EVs.

1. The APS grid is still largely carbon based. Belief that EVs are "clean" after manufacturing is factually false.
2. The carbon footprint of an EV to be manufactured is 50% to 100% larger than an ICE.
3. The chemicals (not just lithium, but nickel, cobalt, etc.) necessary for EV batteries are increasingly from despotic countries and/or those with very lax environmental (and labor) laws.
4. There are now hundreds of studies that show the Valley is one of the most inefficient places to use an EV. Garage temps above 85 for four months of the year mean inefficient recharge rates. Daytime temps above 100 mean that the discharge rate is significantly higher than testing.
5. Particulate pollution is now largely from tire degradation. In fact, a recent study compared exhaust particulates and tire emissions and found that the tire wear particulate emissions are 400x greater than tailpipe. Two things cause greater tire degradation - heat and weight. EVs weigh 20 to 30% more ICE vehicles. EVs while reducing greenhouse gas emissions (though not zero due to carbon power grid) are far worse for other pollution. Here in the valley, particulates are a key component of our bad air days.
6. EV fires require up to 1000 times the amount of water to extinguish, while still running the risk of re-ignition for days, spew far more toxic chemicals into the air and endanger the safety of first responders. In addition, EV fires burning at a much higher temperature than ICEs within parking structures pose an additional threat to other vehicles and the structure itself.
7. EV use in the city fleet will not only require higher acquisition costs, but will work against the Sustainability Plan's goal of reducing municipal energy use. Moreover, it will create lower reliability while increasing logistic requirements to ensure proper charging at all times.
8. EV recharging will increase the strain on our power grid at the very times of day and seasons during which our power grid demand is greatest - late afternoon/evening during the summer.
9. The additional weight of EVs causes greater wear and tear on our roads.
10. Disposal of EV batteries (despite promises of recycling) will guarantee even more leaching of toxic chemicals into our soil and ground water.

More and more studies are showing that hybrid vehicles are a far superior solution than EVs. If our government and environmental agencies were more honest about the facts of EVs, we would not be pushing them. Scottsdale can do better than parrot the false narrative of EVs and should not participate in their recommendation. If we were northern

California or the Pacific Northwest, with renewable energy sources and temperate climate, the analysis is more favorable for EVs. But we are not there.

Cost Indicators
While the current version gives ranges for $, $$, $$$, the $$$ category is unacceptable broad. It's actually infinite. An initiative the could be $250,000 is very different from $5 or $10 million. Therefore, the ranges need to be adjusted to have at least a $$$$ category indicating that something will be well into 7 figures. Some tables had an undefined $$$+ which is not helpful.

Energy Use Goals
SEACs suggested goal of 70% clean energy use is beyond the city's control unless we are willing to spend millions on alternative power sources. We cannot force utilities hand at the rate of transition to clean energy use. Moreover, movement from Coal to NG is a significant improvement, but would not count as "clean" energy. This goal needs to be removed.

Similarly, a 90% reduction in greenhouse emissions is unrealistic without a sea change in technology and energy sources which is outside of Scottsdale's control. I do not see any analysis of how the proposed action steps would achieve this goal, even if we undertook everyone of them. It's like saying I'm going to lose a hundred pounds without analyzing changes in calorie intake and expenditure.

Heat Goals
Given that we have limited ability to control the weather or individual behavior, I think aspirational goals of reducing temperatures and hospitalizations due to heat are unrealistic. I support the vast majority of actions suggested to address these issues, but the city should not be viewed as failing to achieve a goal outside of its control.

Respectfully submitted,

Dan Ishac
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