mesa·az

CLIMATE ACTION PLAN

For a Sustainable Community

CITY OF MESA 2.0 | MESAAZ.GOV/CLIMATEACTION

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Letter from Mayor John Giles

JUNE 2022

Mesa is one of the fastest growing cities in the country. As we grow, it's important to also build a city that is sustainable, so our grandchildren and generations beyond can enjoy what we have today.

Mesa has been on the forefront of sustainability for many years. Our City was one of the first in the state to have a curbside recycling program. We're a Tree City USA, and our robust solar portfolio, our Flare to Fuel program paired with our fleet of natural gas vehicles and water-use reduction programs are all exemplary. These strategies have a significant impact in more ways than one—we're protecting the environment, but also creating jobs, supporting economic growth and building a sustainable future for Mesa.

Resiliency and sustainability go hand in hand. We have a responsibility to future generations to pass along a community that's healthy at every level. We will work with our residents to turn this ambitious plan into steps we can all take to make a difference.

With this Mesa Climate Action Plan, I'm excited that we are taking a critical next step to protect and preserve our environment for generations to come. It is time for us to be bold and determined, and to set achievable goals that guide us in our work to reduce our greenhouse gas emissions.

Acknowledgements

Mesa's Climate Action Plan was only made possible through the input and assistance of many individuals within the City of Mesa. The following list highlights the contributions of many but may not capture all who participated.

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Innovation and Technology
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Police
Public Information & Communications
Transit
Transportation
Water Resources

Executive Summary

The City of Mesa (City) created a Climate Action Plan (Plan) as our commitment to proactively and responsibly protect and conserve Mesa's environment and natural resources. The Plan will lower our climate impact, serve as guidance for sustainable growth, and build resiliency by reducing carbon pollution in our community. Through this Plan, we will further study mitigation and adaption strategies, implement intentional policy direction, and support the advancement of innovative technologies.

The City recognizes the significance of climate change. Human activities have increased greenhouse gas (GHG) concentrations in the atmosphere, disrupting the Earth's natural systems and weather patterns. Climate change means unpredictable precipitation patterns, hotter summer temperatures, increased risk of wildfires, and Arizona's worst drought in over a century.

The Plan begins by measuring our impact. Mesa's GHG emissions are estimated through a GHG Inventory, which documents all sources of emissions throughout the community at a point in time. This inventory helps to set the baseline of known gases to develop strategies that reduce emissions and to track progress of those efforts.

The Plan has listed four 'Aspirational Goals' that will be used as a guide for our vision for the future:

ASPIRATIONAL GOAL #1: **Carbon Neutrality**

- Achieve carbon neutrality by 2050 by reducing greenhouse gas emissions and enhancing carbon sinks
- Strive to reduce the greenhouse gas emissions from City Operations by 50% by 2030

ASPIRATIONAL GOAL #2: **Renewable Energy**

- Prioritize the use of renewable, resilient energy to achieve 100% renewable energy by 2050

ASPIRATIONAL GOAL #3: **Materials Management**

- Manage material responsibly and divert 90% waste from the landfill by 2050

ASPIRATIONAL GOAL #4: **Climate Ready Community**

- Enhance community resilience through collaboration and inclusive engagement

We set forth ambitious, community-focused goals that will contribute to the overall climate impact for Mesa. This is the second version of the Plan, updated June 2022, that reflects a community vision to enhance quality of life, embrace smart City innovation, and improve social equity for a vibrant healthy future for Mesa. The City will be leading by example through projects and programs that will achieve progress toward these goals based on data and targeted strategies.

Reduction targets are incorporated into six 'Focus Areas':

FOCUS AREAS

The Plan will be a living document that will evolve over time as new strategies, resources, technologies, and collaborations come to light. This Plan sets the framework for cross-sector collaboration between subject-matter experts, local businesses, community stakeholders, and residents alike to help put Mesa on the path to carbon neutrality. We will look to the community to help us develop a pathway of equitable and inclusive initiatives based on data, best practices, and local expertise that will contribute to the reduction of GHG emissions each year.

We know what we need to do. The Plan provides a pathway to accelerate our historical success so that we can more positively contribute to the global climate action impacts. We want Mesa to continue to be a vibrant, prosperous, and thriving city for generations to come.

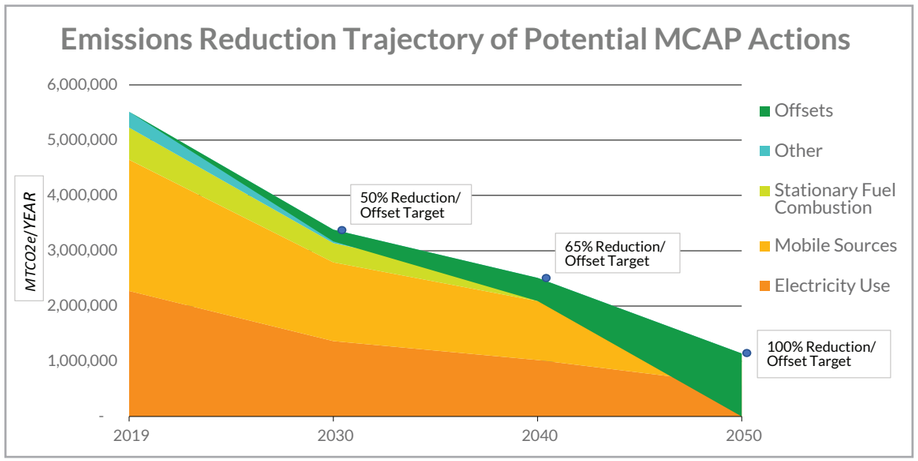
Ch 1. Looking to the Future

The Plan has four 'Aspirational Goals' that will be used as a guide for our future vision. To achieve these Aspirational Goals, we have identified efforts and initiatives needed to champion these impactful goals that support the Earth, our Mesa community, and future prosperity.

ASPIRATIONAL GOAL: **Carbon Neutrality**

Achieve carbon neutrality by 2050 by reducing greenhouse gas emissions and enhancing carbon sinks

Strive to reduce greenhouse gas emissions from City Operations by 50% by 2030

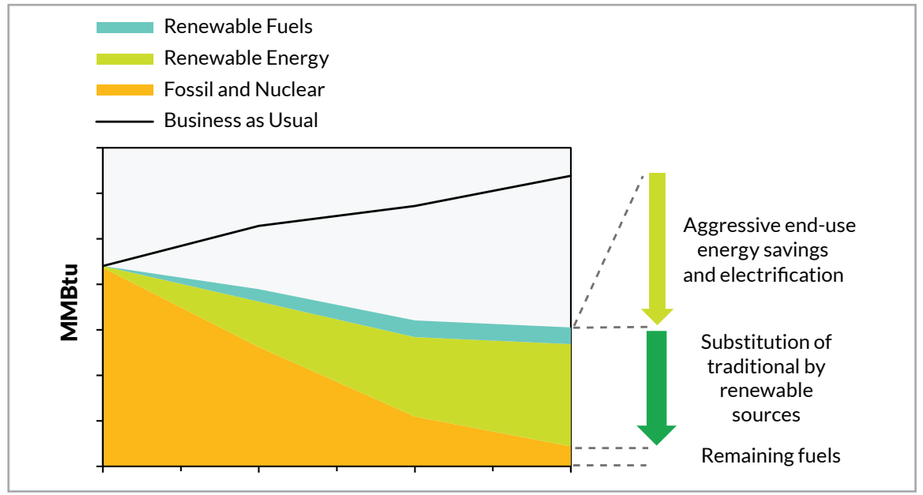


The following efforts will help Mesa achieve this goal:

1. Build smart, energy efficient buildings and operations with the goal of net-zero GHG emissions energy use.
2. Build a carbon-free transportation system, with walking, biking, carpooling, transit, and next generation mobility.
3. Transition to clean energy, such as hydropower, biogas, solar, and innovative technologies, to decarbonize the grid.
4. Transform the circular economy and reduce waste sent to the landfill.
5. Invest in neighborhood parks and preserve natural open space.
6. Study climate vulnerability in Mesa to guide decision making on land use, carbon-free energy, and energy efficiency policies.
7. Inspire community action to ensure environmental justice, equity, and affordability as Mesa transforms to carbon neutrality.

ASPIRATIONAL GOAL: **Renewable Energy**

Prioritize the use of renewable, resilient energy to achieve 100% renewable energy by 2050



The following efforts will help Mesa achieve this goal:

1. Support energy efficiency in buildings and vehicles, and pair with renewable energy strategies.
2. Develop utility-scale renewable electric and natural gas energy generating facilities.
3. Collaborate with the community to increase access to renewable energy.
4. Seek out wholesale and retail renewable energy purchases.
5. Use verified and proven carbon offsets where renewable energy options are not feasible.

ASPIRATIONAL GOAL: **Materials Management**

Manage material responsibly and divert 90% waste from the landfill by 2050

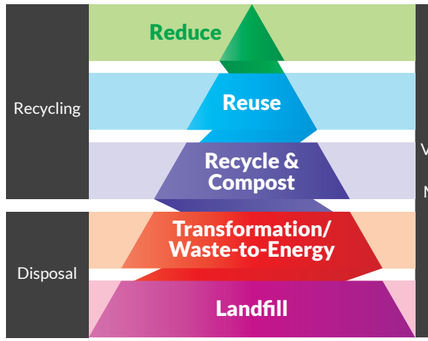


Figure 1: Traditional Waste Hierarchy

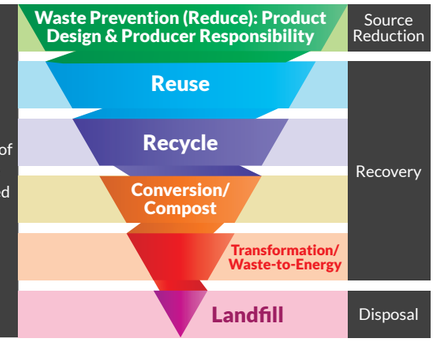


Figure 2: New Waste Management Paradigm

Change the Paradigm!

The following efforts will help Mesa achieve this goal:

1. Focus on waste reduction.
2. Inspire a zero-waste culture so people purchase mindfully; reduce, reuse, and recycle intentionally through the circular economy.
3. Advance the “Food Waste to Energy” and “Waste to Energy” programs.
4. Contribute to regional circular economy programs.

ASPIRATIONAL GOAL: **Climate Ready Community**

Enhance community resilience through collaboration and inclusive engagement

It is important to understand that climate change is a global challenge that the City cannot tackle alone. To achieve these aspirational goals, collaboration from a variety of stakeholders is necessary to accelerate emission reductions from sectors where the City has limited control. The City will lead by example but to make a difference, we also need community action.

The Plan incorporates priorities from a cross-sector collaboration of subject-matter experts, local businesses, community stakeholders, and residents to help put Mesa on the path to carbon neutrality. We looked to the community to identify the equitable and inclusive initiatives based on data, best practices, and expertise for community-based actions intended to act as a catalyst that will help to reduce GHG emissions each year.

The following efforts will help Mesa achieve this goal:

1. Education
2. Ongoing Communication
3. Strategic Partnerships
4. Funding and Incentives

Doing Our Part

OUR CLIMATE IS CHANGING faster than at any point in history

Ch 2. Sustainability & Climate Action Plan for Mesa

Our climate is changing faster than at any point in history, primarily due to generations of growth and human impact on the earth. Climate change has the ability to jeopardize everything we value: the resilience of our natural resources, our physical infrastructure, our financial security, economic competitiveness, and most importantly our health and well-being. Our collective global responsibility is to mitigate, prepare and adapt for a future that is projected to have hotter temperatures, harmful air pollution, longer droughts, more significant natural disasters, and more intense rain events. We will all need to work together, community and City alike, to build a sustainable future.

The City's Climate Vision

The City is in a unique position to be on the front lines of direct impact and to provide leadership to local efforts that will contribute towards meaningful and sustainable action. It is our role to set the framework for citywide measures and advance these goals across programmatic and departmental lines. The City has created this Plan as our commitment to proactively and responsibly protect and conserve Mesa's environment and natural resources.

The City is committed to fostering solutions with long-term community benefits, building resilience in City operations, and maximizing climate action for a healthy community with sustainable growth. The City has been making investments that support Mesa with clean air, clean water, and reduced emissions for many decades. These investments protect the resiliency of our natural resources, physical infrastructure, financial security, and economic competitiveness. The Plan will guide collaborative decision-making, future investments and daily operations that promote a shared vision for an innovative, resilient, and thriving community.

Many cities, including the City of Mesa, have embraced sustainability as a philosophy to enhance the viability of their organization and community. The benefits from this include reduced energy use, reduced operating costs, enhanced social services, preservation of valuable environmental resources, and motivating innovation. Our actions will be targeted towards local impact, improving our quality of life, and ensuring greater stability to climate impacts for generations to come. But climate change is a global challenge that does not account for local or national borders. Emissions anywhere affect people everywhere. We are proud to be joining a movement of global influencers coming together to combat and adapt to climate change.

What is Climate Change?

Climate change is the variation in average weather patterns and conditions spanning over years and decades. It encompasses the steady rise in temperatures, shifts in rainfall, elevated severity of weather events, and other fluctuations of the climate system driven in large part by human activity.

Statewide & Regional Climate Change

Data collected by the National Weather Service and National Oceanic and Atmospheric Administration, shows that year 2020 ended up being the 2nd warmest year recorded in the history of Metro Phoenix and the 2nd driest.

The number of years of above-average normal days are shown in Fig 1 and Fig 2. Figure 3 shows the downward trend in the 30-year average rainfall.

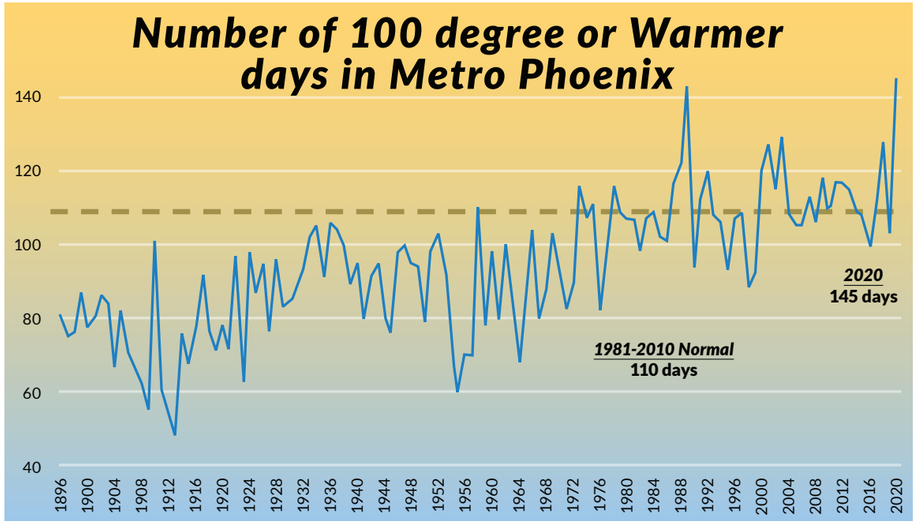


Figure 1

Data source: (National Weather Service, 2021)

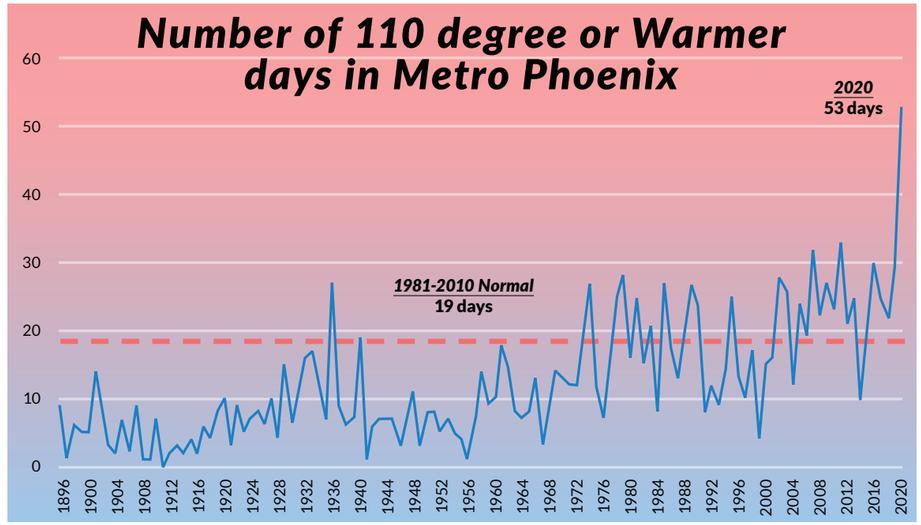


Figure 2

Data source: (National Weather Service, 2021)

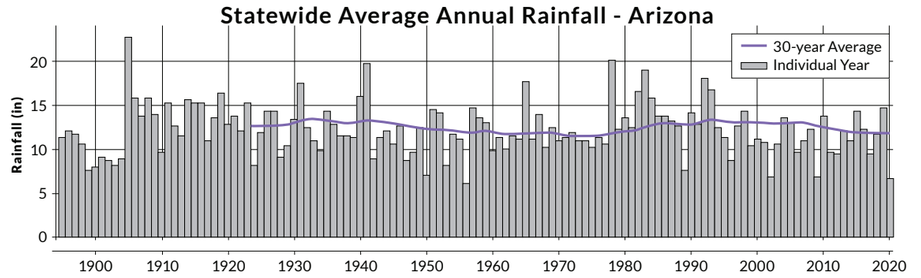


Figure 3

Data source: (National Weather Service, 2021)

There is a link between climate and carbon emissions that drive some of the effects we see above. To better understand the facets of climate change, the following elements have been identified:

GREENHOUSE GAS EMISSIONS: *The total amount of carbon dioxide and other carbon compounds, specifically greenhouse gases (GHG), emitted into the environment by direct actions. City operations depend on fossil fuel-based energy for activities, such as traveling, heating and cooling buildings, pumping water, and processing waste.*

CARBON NEUTRALITY: *Carbon neutrality means having a balance between the emission of carbon dioxide and other GHGs, with removal or mitigation measures intended to achieve net-zero carbon. For the City, this means reducing carbon emissions from buildings, transportation, waste, and our energy supply as much as possible, and supporting activities that remove carbon from the atmosphere (carbon offsets) to compensate for any remaining emissions.*

SUSTAINABILITY: *Sustainability means meeting the needs of today without compromising the ability to meet the needs of tomorrow for future generations (Sustainability, 2021). To support our natural environment, this means we must cultivate conditions where humans and nature can flourish together. The City embraces the three common pillars of sustainability: planet, people, and prosperity, to guide and frame decisions with environmental impacts.*

CO-BENEFITS: *The ability to have positive impacts in multiple areas at once. Many of the actions in the Plan have numerous co-benefits in addition to reducing emissions. For example, actions that reduce vehicle miles traveled (VMT) may also result in cost-savings by lowering transportation expenses and improving environmental quality by decreasing vehicle emissions. Consideration of these added benefits is an opportunity to prioritize actions that also positively impact other needs.*

Health Impacts and Equitable Solutions

Mesa is a vibrant and diverse community. We must proactively address and provide solutions for climate impacts and social vulnerability to remain resilient and ensure future equitability. National studies (Prevention, 2021) have found that climate change constitutes a threat to public health and welfare through direct and indirect effects on communities. More extreme weather events, heat waves, the spread of infectious diseases, and detrimental impacts on air and water quality can all negatively impact quality of life.

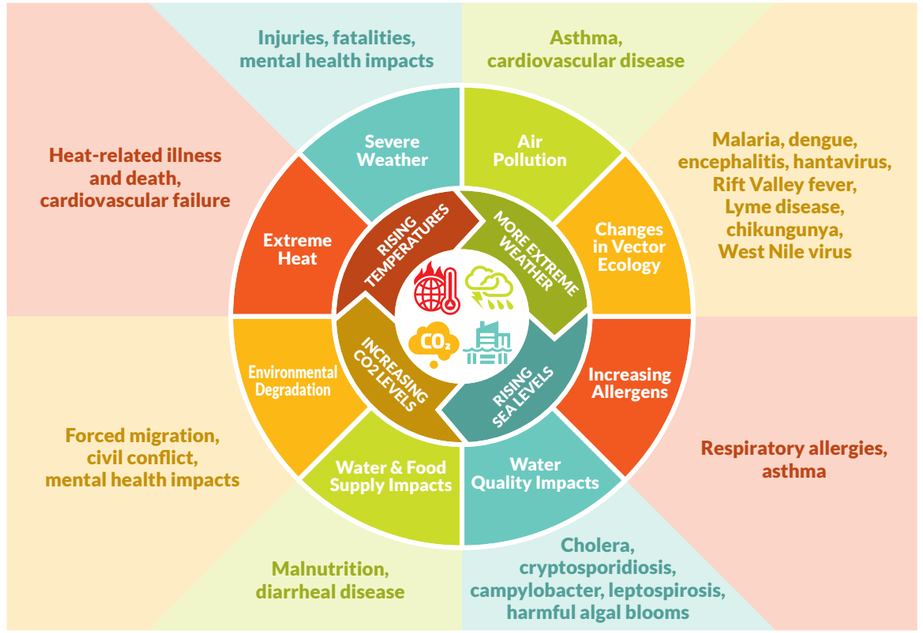
There are two main ways climate change directly affects health:

1. Severity or frequency of health problems directly caused by climate or weather factors.
2. Unprecedented or unanticipated health problems or threats in places where they have not previously occurred.

Additionally, some segments of the community can have greater vulnerability to health risks depending on varying factors such as language, economic, cultural, or geographic barriers. They may be disproportionately disadvantaged with limited resources and/or access to healthcare services. For example, a family with limited income living in a deteriorating home is more likely to experience disproportionate impacts and will be less likely to recover following extreme weather events, therefore increasing their vulnerability to climate-related health effects. Such a family will face tough decisions about how to spend limited funds: food, medical care, or repair/replace an aging air conditioning unit. Recognizing and identifying these health and equitable climate change impacts will lead toward interventions or actions that will reduce or prevent exposures to those at risk (Program, 2021).

Below is a chart provided by the Centers for Disease Control and Prevention depicting climate effects on health (Prevention, 2021):

Impact of Climate Change on Human Health



The City is committed to incorporating equitable solutions throughout the Plan that meet community needs and do not place additional burdens on vulnerable populations.

How the Plan Will be Used

The Plan will be a guiding document to support the direction of Mesa's City Council, City departments and community alike with shared sustainability and climate action vision and goals. Under the 'Healthy Environment' strategic initiative, the City Council stated that they want to proactively and responsibly protect and conserve Mesa's environment and natural resources to reduce urban heat, carbon, and waste for a healthy community for all. The Plan will be a living document used as a short-term and long-term planning tool to guide a strategic framework for these shared outcomes.

Within the City, individual departments will continue to be the owners of the projects and programs that will achieve progress toward these goals, but priority will be placed on actions that can be implemented quickly and achieve long-lasting positive impacts. While there has been measurable progress on the City's sustainable practices, the Plan will accelerate progress in a more coordinated manner and help achieve even more significant outcomes.

Ch 3. Measuring City's Impact: Understanding Mesa's Greenhouse Gas Emissions

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHGs such as carbon dioxide occur naturally and are emitted into the atmosphere through natural processes and human activities. Other GHGs are created and emitted solely through human activities (Agency, 2021). The principle GHGs that enter the atmosphere because of human activities are:

The principle GHGs are:

CARBON DIOXIDE (CO2): Carbon dioxide enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees, and wood products; and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.

METHANE (CH4): Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.

NITROUS OXIDE (N2O): Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste. N2O is commonly found in vehicle tailpipe emissions.

FLUORINATED GASES: Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic, powerful GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances (i.e., CFCs, HCFCs, and halons). These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as High Global Warming Potential gases ("High GWP gases").

The effect of each gas on climate change depends on three main factors:

How much is in the atmosphere? Concentration, or abundance, is the amount of a particular gas in the air. Larger emissions of GHGs lead to higher concentrations in the atmosphere. GHG concentrations are measured in parts per million, parts per billion, and even parts per trillion. One part per million is equivalent to one drop of water diluted into about 13 gallons of liquid (roughly the fuel tank of a compact car).

How long do they remain in the atmosphere? Each of these gases can remain in the atmosphere for different amounts of time, ranging from a few years to thousands of years. All of these gases remain in the atmosphere long enough to become well mixed, meaning that the amount that is measured in the atmosphere is roughly the same all over the world, regardless of the original emission source.

How strongly do they impact the atmosphere? For each GHG, a Global Warming Potential (GWP) has been calculated to reflect how long it remains in the atmosphere, on average, and how strongly it absorbs energy. Gases with a higher GWP absorb more energy, per pound, than gases with a lower GWP, and thus contribute more to warming Earth. (Agency, 2021)

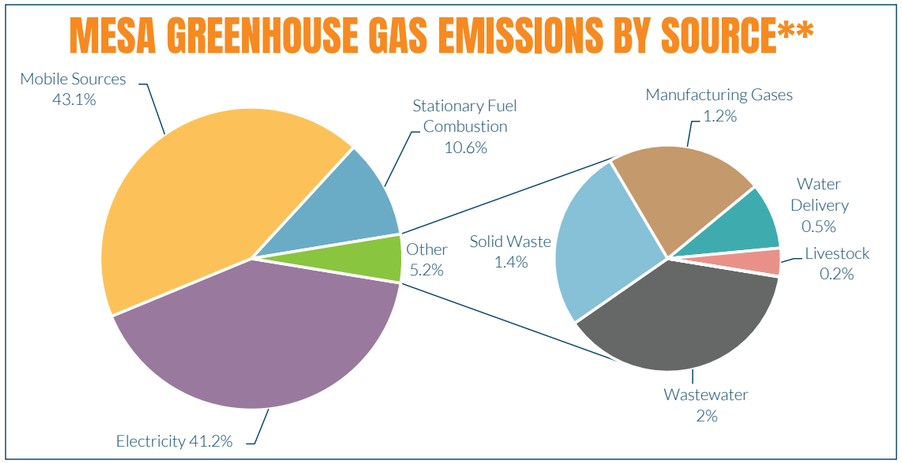
What is a GHG Inventory?

The United States Environmental Protection Agency (US EPA) defines a GHG inventory as a list of emission sources and the associated emissions quantified using standardized methods. Maricopa County Air Quality Department prepared this GHG emissions inventory to give our community an understanding of Mesa's emissions. By understanding the sources of GHG emissions, leaders can make operational decisions and implement voluntary programs to reduce GHG emissions within our community. Businesses and individuals can also make personal choices to reduce their GHG emissions.

Here is Mesa's GHG inventory and what it tells us:

The inventory identifies sectors with the highest overall GHG impacts. In Mesa, emissions from mobile sources (vehicles and transportation) and electricity account for a majority of emissions. Interestingly, emissions from the residential sector account for 53.2% of emissions, the commercial sector accounts for 33.7% and industrial activities account for the remaining 13.1%. This Plan identifies emission reduction strategies.

GHG Emission By Soruce	GHG Emmsions *MTCO$_2$e	Percent
Electricity Use	2,271,359	41.2
Mobile Sources	2,374,594	43.1
Stationary Fuel Combustion	583,297	10.6
Wastewater	107,874	2.0
Solid Waste	74,770	1.4
Manufacturing (Flouorinated Gas Use)	64,332	1.2
Imported Water (Electricity Used)	27,108	0.5
Livestock	11,554	0.2
Fertilizer Use	121	0.0
Total *MTCO$_2$e	5,515,009	



Ch 4. Community Climate Action

The Mesa community collectively possesses the skills, knowledge, and resources that can be harnessed to create solutions to mitigate Mesa's climate impact. Taking action needs to include all local community partners, as well as, support at the state and national levels. Everyone has a role, and everyone must do their part, both on a personal level and at the community level. If we think globally and act locally, we can collaboratively address the impacts of climate change together.

Study Approach

The Community Action Study (Study) commenced in August of 2021 branded as "Footprint for the Future" and concluded with findings and final recommendations at the start of 2022.

Community engagement efforts included:

- Community Workshops
- On-line Engagement through an interactive platform
- Virtual Public Meetings
- Climate Action Prioritization Survey

Equitable Engagement

Equitable and inclusive engagement is not only about ensuring that diverse perspectives are at the table but also that deliberate actions and targeted strategies are taken to ensure that underrepresented communities participate and contribute. To validate inclusive participation, providing equitable opportunities was at the forefront throughout the entire Study. Marketing materials for outreach activities were developed in English and Spanish, bi-lingual staff were present at community workshops, and the project website was multilingual.

Additionally, where appropriate, participants were asked to provide demographic information. Understanding the demographics of Mesa residents is important because it is reflective of the diversity, and values of the community. This type of information can assist the City in outreach opportunities that are relevant and meaningful to all City residents.

Community Implementation Strategies

Effective climate action depends on successfully communicating information about the Plan to the wider Mesa community and encouraging broader participation in climate-related activities. GHG emissions reduction goals will not be met without the community playing a key role. The following outlines strategies to assist with an inclusive approach to implementing community action within the Plan:

- Partnerships
- Continued Education and Outreach
- Tracking and Ongoing Communications

Community Priorities

Individuals and community groups have a key role to play in reaching Mesa's climate action goals.

Through our diverse and comprehensive outreach efforts, the following priorities to mitigate climate change and viewpoints on City led initiatives emerged:

Priorities

Responsible Water Management
Improve Air Quality
Transition to Renewable Energy

City initiatives viewed as providing the most benefit to mitigating the effects of climate change

Resilient Water Supply
Tree and Shade Plan
Increase Renewable Energy Infrastructure

To see the Community Action Study in its entirety, please see Appendix A.

Ch 5. Leading by Example: Closer Look at Focus Areas

Based on the City's GHG inventory, the Plan is organized into six 'Focus Areas.' These Focus Areas provide a framework for further areas of study that will evolve with innovation and new approaches over time. In many cases, the Focus Areas are interrelated and provide co-benefits to the identified targets.

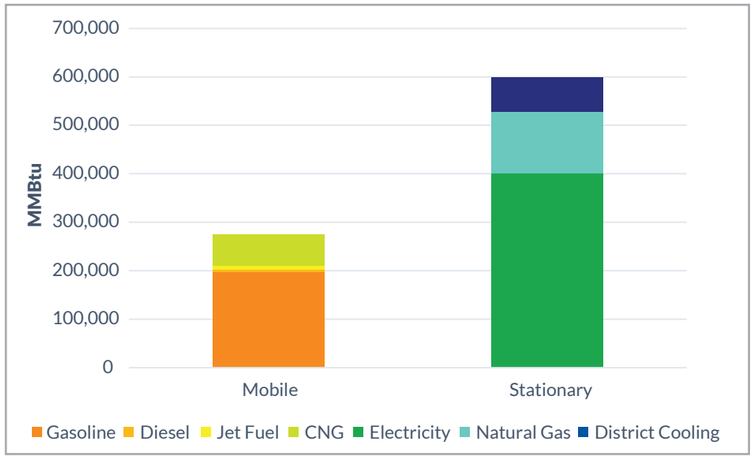
FOCUS AREA 1: **Energy**

Climate change means higher temperatures and higher demand for energy. Activities, such as traveling, heating and cooling buildings, and utility operations, are energy intensive and currently depend heavily on fossil fuel-based energy.

The most important step we can take to reduce Mesa's GHG emissions is to minimize energy use. The next step is to fulfill remaining energy needs with reliable, renewable, carbon-free energy. To account for and offset emissions from existing fossil-fuel power generation, the community must also continue to invest in new, cost-effective emission reduction strategies. Carbon sequestration, carbon capture, utilization and storage, and other negative emission strategies are key to reaching carbon neutrality.

ENERGY For a Sustainable Community

What kind of energy do we use in City operations today?



LEADING BY EXAMPLE: *Even as the City grows, Mesa has reduced energy use in City buildings over the last 3 years. The City is on track to have solar power for 25% of our electric energy use by 2025. The City will install technology that will capture renewable biogas for use in the City's Solid Waste fleet.*

TARGET 1.1: **Reduce energy use and decarbonize buildings**

STRATEGIES:

a. Develop programs that improve building energy efficiency, with a goal of net-zero GHG emission energy use.
b. Improve energy performance in less efficient buildings with periodic, cost effective and incremental energy efficiency improvements.
c. Weatherize City buildings in need of energy efficiency improvement. Pair with strategies like electric vehicle charging, energy storage, and fuel switching.
d. Promote use of established home energy rating system for all single-family home so potential buyers and renters can make informed decisions.
e. Partner with local utilities and non-profit organizations to weatherize homes and multifamily dwellings for those with the largest risk of the negative effects of climate change. Extend partnerships to commercial facilities to help small business stay ahead of potentially rising energy costs and climate challenges.

TARGET 1.2: **Reduce energy use and decarbonize transportation**

STRATEGIES:

a. Increase access to healthy transportation options, like active transportation (walking, biking), carpooling, public transit, and next generation mobility, with goal to reduce vehicle miles traveled in single occupant vehicles.

b. Develop an electric vehicle charging master plan for deployment of charging infrastructure at City sites, such as parks, libraries and rights-of-way, with special attention to neighborhoods where charging infrastructure is not available.

c. Work collaboratively with the community on strategies that will increase electric vehicle charging infrastructure-ready homes and businesses.

d. Advocate for access to electric vehicles for low-income people.

TARGETS 1.3: **Increase the use of clean, renewable energy and decarbonize the grid**

STRATEGIES:

a. Accelerate the use of carbon-free, renewable energy supplies that come from hydroelectric, solar, biogas, wind, and other innovative technologies in local utility energy portfolios.

b. Expand on-site renewable energy generation and storage capacity to support resilience in the community.

c. Subscribe to and advocate for utility scale renewable energy projects that provide energy for the community.

d. Accelerate the installation of infrastructure for electric vehicles and renewable natural gas vehicles.

e. Support community-based renewable energy initiatives.

f. Use verified and proven carbon offsets where renewable energy options are not feasible.

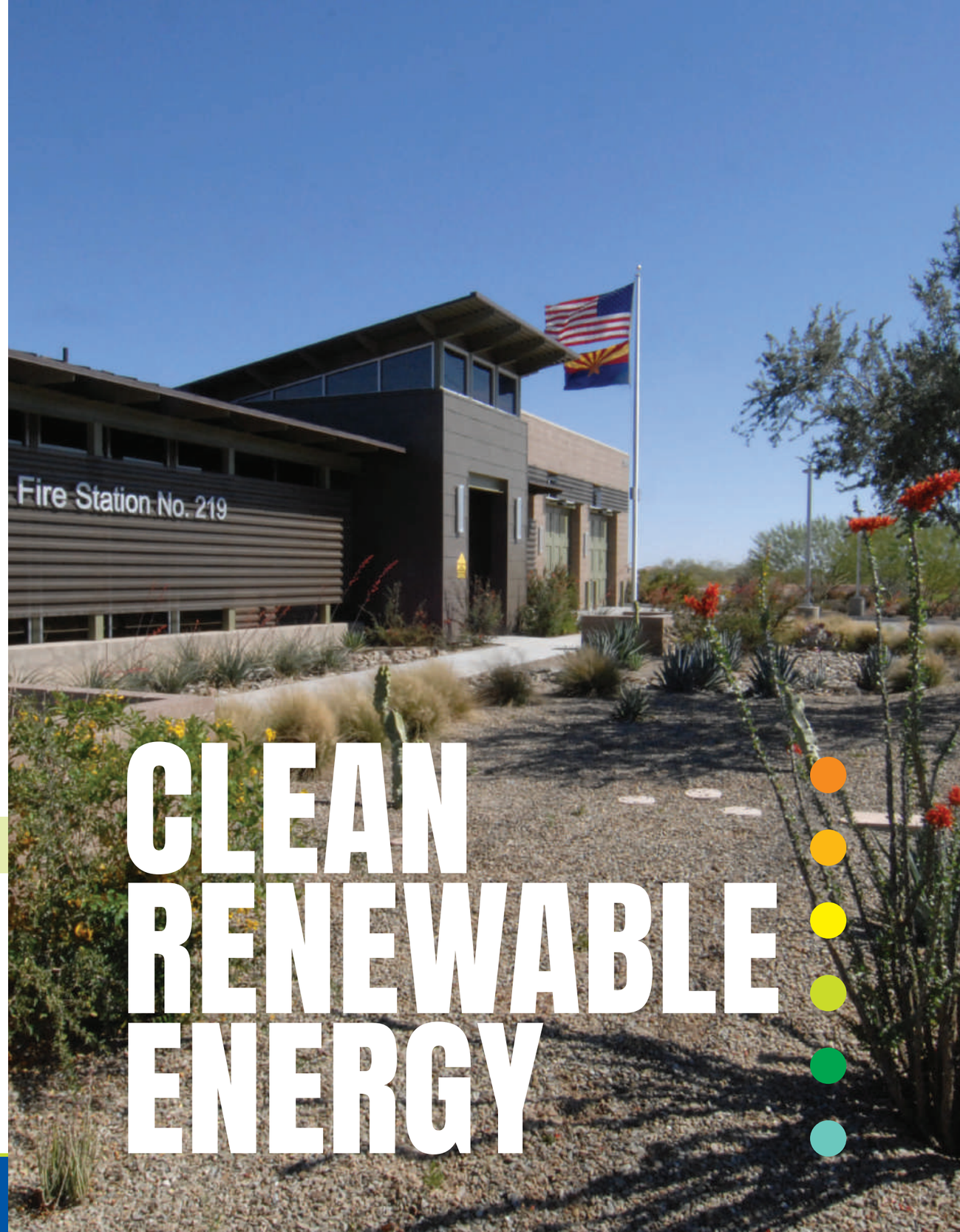
TARGET 1.4: **Maintain a resilient, clean energy supply**

STRATEGIES:

a. Invest in resilient energy sources and infrastructure.

b. Advocate for resilient energy supplies for the community.

Co-Benefits: **Air Quality, Heat Mitigation**



IMPROVING AIR QUALITY for Generations to Come

"We have a responsibility to future generations to pass along a community that is healthy at every level."

– Mayor John Giles

FOCUS AREA 2: **Air Quality**

Air quality is adversely affected by ozone, dust, and smoke. The community has identified improving air quality as a high priority.

Ozone at ground level is a harmful air pollutant. Ozone is not emitted directly into the air but is created by chemical reactions between oxides of nitrogen (NOx), a principal GHG, and volatile organic compounds (VOC). This happens when pollutants emitted by cars, gas powered landscape equipment, power plants, industrial boilers, refineries, chemical plants, and other sources react chemically in the presence of sunlight.

Two additional air pollutants of concern are dust and smoke. Prolonged drought and development has decreased natural vegetative ground cover on disturbed sites. City staff work with contractors, businesses, and residents to implement strategies that control dust generation. The City also partners with Maricopa County Air Quality Department on regional programs designed to reduce smoke generating activities, like wood burning, which can create poor air quality when the air is stagnant. Below are strategies that reduce GHG emissions, improve air quality and reduce carbon emissions that trigger climate change. The goal is to achieve a level of air quality that is healthy for humans and the environment.

LEADING BY EXAMPLE: *The City purchased the nation's first electric fire truck. The City plans to replace gas and diesel fleet vehicles with electric vehicles.*

TARGET 2.1: **Reduce GHGs and ozone**

STRATEGIES:

a. Implement programs that help Mesa meet US EPA National Ambient Air Quality Standards.
b. Educate community on the value of energy efficiency and the transition to carbon-free energy.
c. Enhance comfortable, walkable connections to public facilities, parks, and neighborhood-level services. Promote compact, healthy, livable land use patterns.
d. Develop a tree and shade master plan that will be part of the evaluation of walkable connections and promote carbon sequestration.
e. Provide transit options and transportation networks, such as electric vehicles charging stations, for longer trips.
f. Convert gasoline and diesel-powered powered equipment, such as landscaping and construction equipment, to electric or low-emission fuels.
g. Reduce vehicle trips on High Pollution Advisory Days.

TARGET 2.2: **Reduce dust**

STRATEGIES:

a. Implement strategies that result in stricter adherence with Maricopa County dust control regulations.

a. Invest in the urban forest, including appropriate plant selection, irrigation and care.

TARGET 2.3: **Reduce smoke**

STRATEGIES:

a. Enhance local compliance with smoke emission requirements on "no-burn" days through outreach and incentives.

TARGET 2.4: **Increase community commitment to air quality recommendations**

STRATEGIES:

a. Enhance inclusive community education on Maricopa County's Clean Air Make More program and other collaborative air quality programs.

Co-Benefits: **Energy, Heat Mitigation**

FOCUS AREA 3: **Urban Heat Mitigation**

Urban development has significantly raised daily high temperatures and overnight lows. Sustainability-minded urban design, landscape, building materials and cooling strategies can improve the quality of life during Mesa's extreme heat events.

Climate change threatens the livability and iconic landscapes of our region. The City is heavily committed to managing the urban built environment, open spaces, travel corridors, and urban landscapes to promote and protect equity, thermal comfort, and ecosystem health. Purposeful shade and landscape installations can prevent erosion, support air and water quality, and provide natural cooling.

Unequivocally, healthy landscapes mitigate climate change and reduce the urban heat island effect. Plants and, by association, their vibrant microbial soil capture and store carbon dioxide. Considering the large-scale impacts of urban heat and developing strategies to mitigate those effects will provide a path to maintaining the livability of the community.

LEADING BY EXAMPLE: *Community Leaders, Arizona State University (ASU), business benefactors and City staff are working on Heat Action initiatives in Mesa neighborhoods. The City has installed green infrastructure in parks and along streets, providing shade and reducing urban heat.*

TARGET 3.1: **Mitigate heat island effects in urban areas**

STRATEGIES:

a. Coordinate with ASU, Arizona Department of Health Services, National Oceanic and Atmospheric Administration and similar organizations on the collection and distribution of heat and weather data for the community.

b. Identify shading strategies for key pedestrian networks, including transit stops.

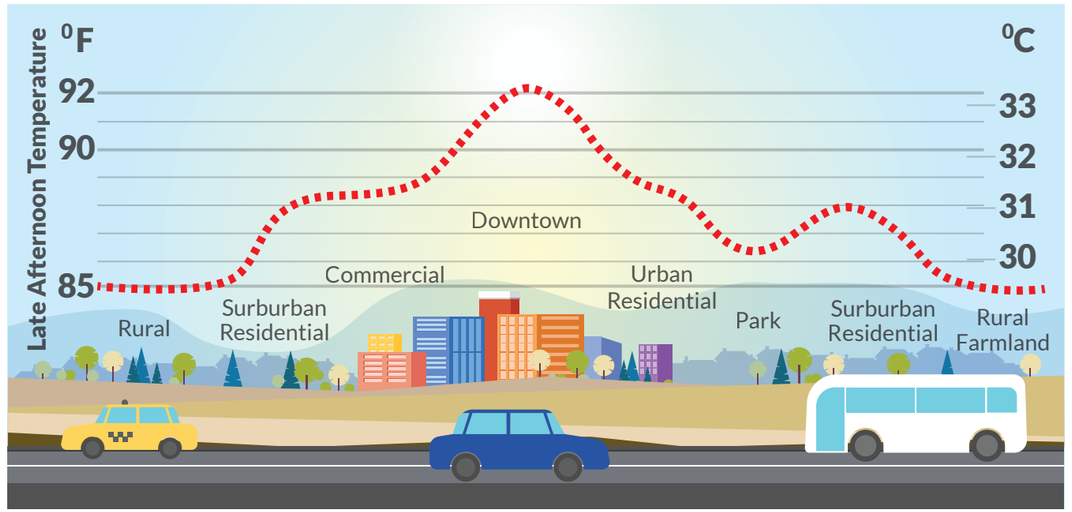
c. Develop a plan with recommendations for strategic placement of trees and structured shade.

d. Reduce the number of unshaded transit stops through the use of trees or structural shade elements.

e. Collaborate with designers, engineers and contractors to use alternative materials and coatings hold less heat and that more effectively dissipate heat.

f. Promote the use of green infrastructure and stormwater management.

g. Install solar canopy parking structures in parking lots.



TARGET 3.2: **Support resilient ecosystems and Mesa's natural ability to capture and store carbon**

STRATEGIES:

a. Collaborate with community partners to ensure a healthy urban forest.

b. Protect natural open space and conserve native wildlife, plants, and natural areas.

c. Manage areas to support resilient ecosystems and biodiversity.

d. Support resilient ecosystems through selection of desert adapted trees and plants that will thrive in the anticipated climate of 2030.

TARGET 3.3: **Prepare the community and workforce**

STRATEGIES:

a. Develop an energy performance and heat resilience program that provides a path to weatherize less efficient homes and businesses.

b. Foster a safe work environment by preparing workforce for climate change risks they may encounter at their work sites.

c. Provide the resources necessary to adequately prepare the community for climate change risks that may affect their home or work environment.

d. Work with the City's Community Engagement Division and local nonprofits to educate neighborhoods about heat concerns and issues.

Co-Benefits: **Energy, Air Quality, Water Stewardship**

HEALTHY LANDSCAPES

mitigate climate change and reduce the urban heat island effect

FOCUS AREA 4: **Water Stewardship**

Water is one of our most vital resources. It is essential to nearly every facet of life, from food cultivation to the generation of electricity. Yet, in the Sonoran Desert, it is also one of our most precious assets. The City and community at-large have made great strides in reducing the use of water. However, continuing drought, changing precipitation patterns, reduced snowpack and higher temperatures mean additional strategies will be needed.

It takes a tremendous amount of energy to transport and treat raw water to drinking level standards, pump it from reservoirs to businesses and homes, and then treat the wastewater. In addition to protecting renewable surface water supplies, saving water saves emissions required to treat and move water.

LEADING BY EXAMPLE: *The City continues to make strategic investments in wastewater infrastructure and beneficial reuse projects. The City is investing in new smart meters for all water customers that will show water use in near real-time and promote conservation, installing smart irrigation controllers with weather sensors, monitoring water use and setting leak alerts at all City sites. The City has installed green infrastructure on City owned property, including parks, landscape areas around City facilities, and along public streets. New City parks feature natural open space, eliminating the need for extensive irrigation.*

TARGET 4.1: **Efficient use of potable water**

STRATEGIES:

a. Install efficient fixtures and equipment.

b. Implement effective water conservation strategies and incentives.

c. Enhance incentives for customers to use water efficiently outdoors.

d. Provide water customers with detailed information about planting, caring for and the value of desert-adapted trees and landscaping. Encourage limiting grass to areas that have recreational value.

e. Conduct audits, install leak detection and replace water cooled equipment with efficient air-cooled equipment.

f. Collaborate with utilities and the community to develop a water use efficiency performance program, including incentives, so that less efficient users understand how to make periodic, cost-effective, incremental water efficiency improvements, indoors and out.

g. Expand the City's conservation education and outreach programs for students. Challenge students at all levels to learn about conservation strategies, engage in conservation research and develop water efficiency solutions.

h. Encourage the use of rainwater in the landscape areas by implementing green infrastructure and low impact development strategies that use rainwater on-site to reduce potable water use, reduce urban heat affect and improve air quality.

TARGETS 4.2: **Protect surface water resources**

STRATEGIES:

a. Look for opportunities in new City projects, parks, roads and buildings, as illustrated in the Low Impact Development Toolkit and the Greater Phoenix Green Infrastructure and Low Impact Development Details for Alternative Stormwater Management.

b. Reduce stormwater pollution by installing stormwater quality retrofit pilot projects on three City sites. Coordinate flood control with water quality projects.

c. Protect natural resources and conserve natural areas.

TARGET 4.3: **Maintain a resilient water supply for City operations**

STRATEGIES:

a. Invest in resilient water infrastructure projects to maintain resilient water supplies.

b. Implement strategies and infrastructure that optimize reuse and underground water storage.

Co-Benefits: **Energy, Air Quality, Heat Mitigation**

FOCUS AREA 5: **Materials Management**

The items we purchase, and the management of this material can emit many times more greenhouse gases than that of the energy used in our homes, businesses and schools. We should all think about sustainable alternatives to the things we purchase and use every day – use a reusable water bottle, reusable grocery bags, and buy only what we really need. These actions save energy, save water, and protect our natural resources. Recycling is great but reducing and reusing should always be our first choice in managing our waste. If we don't create waste, we don't have to worry about what to do with it.

Purchasing sustainably produced and locally manufactured materials can improve energy, water and waste efficiency and significantly reduce our GHG emissions. Making purchases with sustainability in mind can support local businesses, promote community prosperity, and mitigate climate change.

LEADING BY EXAMPLE: *The City is replacing hazardous materials with ones that are safer for workers and non-hazardous. City departments recycle office materials, batteries, old metal streetlights, meters, and wood pallets, to name a few.*

TARGET 5.1: **Eliminate GHG emissions, volatile organic compounds (VOCs) and hazardous material to the greatest extent possible**

STRATEGIES:

a. Replace chemicals and materials identified as GHG and VOC emitters with alternatives in construction, maintenance, and operations.
b. Select products with low supply chain emissions.
c. Purchase products sourced locally.

TARGET 5.2: **Reduce waste and transform the circular economy**

STRATEGIES:

a. Implement mindful purchasing for capital projects, maintenance projects and standard operations.
b. Expand options for reuse and recovery of hard to recycle materials.
c. Develop initiatives that support a circular economy framework and engage the community on upstream solutions to reduce waste.
d. Reuse, repair, refurbish, repurpose equipment and materials whenever possible and look into alternative markets for reuse.
e. Use the Recycle Right Wizard search tool available at MesaRecycles.org and on the MesaNow app.
f. Strategically set up waste stream systems that beneficially use waste that is not reusable or recyclable to create power from waste.
g. Reduce waste by converting heavy duty fleet and CNG powered vehicles to low-emission, renewable natural gas vehicles.
h. Work with local organizations to support local businesses that have similar goals.
i. Expand education and outreach for sustainable purchasing guidelines.

TARGET 5.3: **Ensure safe and cost-effective long-term disposal**

STRATEGIES:

a. Increase long-term landfill sustainability.
b. Advance multi-family and commercial recycling.
c. Turn waste into a resource and promote upstream solutions to reduce waste.

Co-Benefits: **Air Quality, Heat Mitigation, Water Stewardship**

CITY OF MESA CLIMATE ACTION PLAN: FOR A SUSTAINABLE COMMUNITY

FOCUS AREA 6: **Local, Sustainable Food Systems**

Local, sustainable food systems ensure that food is fresh, nutritious, and grown without harm to producers, our community members, or our environment. Food grown and produced locally reduces the environmental impacts of transportation, refrigeration, and preservation. Of great significance is that local food systems increase equitable access to affordable, healthy food, and reduce food waste.

LEADING BY EXAMPLE: *Mesa's libraries host programming on backyard gardening and urban farming. A local non-profit manages the Downtown Mesa Farmers Market and community volunteers manage the vibrant Mesa Urban Garden.*

TARGET 6.1: **Cultivate natural systems**

STRATEGIES:

a. Support low-carbon food production, distribution, and ecosystems. In addition to mitigating climate impacts, this strategy will support biodiversity.
b. Support sustainable urban growth that includes equitable access to local food systems.
c. Support a strong community network of successful and culturally diverse businesses that produce, process, cook, transport, and sell foods with the goal of preventing food loss and waste.
d. Optimize waste operations that create energy and compost from waste.
e. Incorporate sustainable growth, agriculture, food processing and distribution into existing and future economic development initiatives.

TARGET 6.2: **Cultivate local food systems and natural systems**

STRATEGIES:

a. Recognize that local food systems and natural systems are an integral part of the economy.
b. Encourage backyard gardens and urban gardens (for personal use or business).
c. Support sustainable urban growth that includes equitable access to local food systems.
d. Build agriculture (farms, processing, distribution and sales) into land use planning.
e. Support a strong community network of successful and culturally diverse businesses that produce, process, cook, transport, and sell foods with the goal of preventing food loss and waste.
f. Support local agriculture education programs.

TARGET 6.3: **Build a model where all people in Mesa have access to affordable, healthy, local food.**

STRATEGIES:

a. Encourage farmers markets, promote local gardening and sales.
b. Build local food purchases into procurement policies.
c. Partner with local organizations such as Local First Arizona, to provide technical assistance to business owners.
d. Provide economic development support for local food businesses.
e. Identify "food deserts" in Mesa, map available parcels, work with non-profits, and remove barriers to filling the gaps.

TARGET 6.4: **Waste and composting**

STRATEGIES:

a. Limit food waste by removing obstacles for efficient systems, partner with food banks and grocery stores.
b. Optimize waste operations that create energy and compost from waste. Lead by example - Food Waste to Energy project.
c. Work with Phoenix Metro partners to determine which reduction actions will reduce GHG emissions from the production, processing and delivery of food.

Co-Benefits: **Energy, Air Quality, Heat Mitigation, Water Stewardship, Materials Management**

A VIBRANT HEALTHY FUTURE FOR MESA

Ch. 6 Where We Go From Here: Plan Implementation

Mesa's Climate Action Plan is a dynamic document that will evolve over time as added resources, modern technologies, and collaborations come to light. There will be periodic updates when significant changes have been accomplished or identified to ensure that the intended vision is continuously reflected over the next several decades, or until the Aspirational Goals are achieved.

We set forth ambitious, community-focused goals that will make Mesa climate-ready. This is the second version of the Plan, updated in June 2022, that reflects a community vision to enhance quality of life, embrace smart City innovation and improve social equity for a vibrant healthy future for Mesa.

Monitoring Reports and Updates

The City will maintain updated reporting to easily track and monitor impacts to GHGs and other climate action progress. City staff will provide regular progress updates to the City Council and conduct future GHG inventories to evaluate the Plan's effectiveness. Public information, including metrics and reporting data, related to City operations and other known variables will be made available on the Open Data Portal listed under 'Healthy Environment'.

Financial Investments

The City is committed to ongoing financial investments to help meet our climate action goals. Current City operations that include sustainable initiatives are fully funded under an existing, adopted budget. Each year the City Council reviews and approves budgets with proposed new projects and full fiscal impact analysis. Although the actions outlined in the Plan are designed to demonstrate a pathway to achieve carbon neutrality by 2050, there is much uncertainty in predicting future technologies, costs, and regulations. Therefore, the City will continue to use its annual budget process as a mechanism to evaluate programs, projects, and services with the environmental lens, and adjust associated costs accordingly as new resources emerge and mature.

Project Ranking Tool

To support City Council with making fiscal and programming decisions, a project ranking tool was developed to identify environmental impacts and prioritize projects. The creation of this tool was created based on Council direction, community input and other decision-making factors. See Appendix B for the *Implementation Matrix*.

Ch. 7 Climate Care for All

Climate change is an unavoidable and unprecedented global issue that has great potential to cause disruption to our way of life if mitigative actions are not taken. Recent climate events have given us a preview of what may become the 'new abnormal.' However, this gives us a great reason to come together and collectively envision what we hope for Mesa's future.

We know what we need to do. We have identified solutions to reduce emissions, increase efficiency, promote economic vitality, and improve our quality of life. The Plan provides a pathway to accelerate our historic success so that we can more greatly contribute to the global climate action impacts. It is also a call to action for residents, community institutions, nonprofits, and businesses to also take an active part. Through a collective process, we will foster equity within our health and economy, increase our resiliency, and set up Mesa as a vibrant and sustainable community for generations to come.

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Appendices

Appendix A Community Action Study

Appendix B Implementation Matrix

This Plan was created with consideration of other community plans for best practices and discussion on regional efforts including: City of Phoenix, City of Tempe, Pima County, City of Houston, City of Santa Monica, and City of Cleveland.

This Plan also relies on research and data from the following agencies: Maricopa Association of Governments, Maricopa County Air Quality Department, Arizona State University, and National Oceanic and Atmospheric Administration among others.

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Appendix A

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CLIMATE ACTION PLAN

COMMUNITY ACTION STUDY

FOOTPRINT FOR THE FUTURE

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I. Introduction

Climate change is one of the defining challenges of the 21st century. The City of Mesa (City) recognizes the consensus among leading scientists that without action to reduce greenhouse gas (GHG) emissions the average temperature of the earth's surface will continue to rise. The Mesa community collectively possesses the skills, knowledge, and resources that can be harnessed to create solutions to mitigate Mesa's climate impact. Taking action needs to include all local community partners, as well as support at the state and national levels. Everyone has a role, and everyone must do their part, both on a personal level and at the community level. If we think globally and act locally, we can collaboratively address the impacts of climate change together.

In June 2021 the City took a critical step in affirming its commitment to protect and conserve Mesa's environment with the adoption of its first Mesa Climate Action Plan (MCAP). The MCAP is a Mayor and Council priority initiative to reduce GHG emissions, build resilience in the community and address the negative outcomes of a changing climate. The MCAP establishes policy directive, sets targets, and describes strategies that will increase sustainability in City operations.

The MCAP includes four 'Aspirational Goals' to provide a vision and guide for the future:

Carbon Neutrality

Achieve carbon neutrality by 2050 by reducing greenhouse gas emissions and enhancing carbon sinks

Strive to reduce the carbon footprint of City Operations by 50% by 2030

Renewable Energy

Prioritize the use of renewable, resilient energy to achieve 100% rewnewable energy by 2050

Materials Management

Manage material ressponsibility and divert 90% waste from the landfill by 2050

Community Action

Develop community based action items to be incorporated into the Plan

This supplemental Community Action Study (Study) seeks to support Aspirational Goal 4, to gain understanding on the community-based action that can be taken to reduce GHG emissions. Through a robust community engagement process, the Study seeks to discover initiatives built on community values.

Study Objective

The primary objective of this study is to enhance the MCAP with community-based action items, striving to reflect the viewpoints, priorities and needs of all Mesa residents, neighborhoods, businesses, and stakeholders. Through this effort, the City is seeking a pathway of equitable and inclusive initiatives based on data, best practices, and proposed community-based actions that will reduce GHG emissions each year.

II. Study Approach

To maximize the opportunities and reach of community engagement the City combined aspects of this Study with the development of the Parks, Recreation and Community Facilities (PRCF) Comprehensive Plan. Both efforts seek to develop a collective vision to make Mesa a more vibrant, prosperous, and thriving city for generations to come. The aligned endeavor provides efficiency and effectiveness in marketing, and staff resources. This combined effort is branded "Footprint for the Future."

This Study commenced in August of 2021 and concluded with findings and final recommendations at the start of 2022. A Project Team comprised of staff from the City Manager's Office and the Department of Environmental Management and Sustainability was assembled to guide the development and implementation of outreach opportunities.

Community engagement efforts included:

- Community Workshops
- On-line Engagement through an interactive platform
- Virtual Public Meetings
- Climate Action Prioritization Survey

The MCAP is organized into six (6) focus areas to guide City efforts to ensure a healthy environment. Reduction targets have been established for each focus area. Where possible, engagement opportunities were planned around the six focus areas.

Community Workshops

Community workshops provide an opportunity to inform, consult, involve, and collaborate. The City hosted six community workshops between September 14, 2021 – September 23, 2021 with the goal to gather input on climate action as well as PRCF services from resident stakeholders. The collective attendance for the workshop series was 127 community members.

Dot voting, also known as “sticker voting”, “dotmocracy” or “voting with dots” was the facilitation method used throughout the workshop series. It is an established form of cumulative voting. Dot-voting is a technique to identify problems or prioritize a long list of options or ideas. It allows participants to express a preference for more than one option at the same time.
At each workshop participants were asked to use dot voting to reflect the level of importance each of the following climate change impacts are to them:

- Drought/ Decreased seasonal rainfall
- Extreme Heat/Temperatures (Temps above 110, Heat-Related Illness, etc.)
- Hardship on Future Generations
- Human Health Impacts (Allergies, Mental Health, Diseases, etc.)
- Impacts on Agriculture and Food Production (Water and Food Supply)
- Loss of Biodiversity such as Wildlife, Species, and Ecosystems
- Power Outages, Availability of Electricity and Natural Gas Supply
- Reduced Air Quality (Asthma, Cardiovascular Disease)
- Severe Weather Events (Increased Flooding, High Winds, Monsoons, Dust Storms, etc.)

Four climate change impacts received the most interaction at 75 or more votes marked “very important”:

- Drought/Decreased seasonal rainfall
- Reduced Air Quality (Asthma, Cardiovascular Disease)
- Extreme Heat/Temperatures (Temps above 110, Heat-Related Illness, etc.)
- Impacts on Agriculture and Food Production (Water and Food Supply)

Workshop participants were next asked to evaluate a list of community actions they are currently taking or are willing to take to limit climate impacts.

Four community actions received the most interaction at 50 or more total votes:

- Plant trees
- Eat locally grown fruits and vegetables
- Buy greener products and avoid single use items (i.e., water bottles, etc.)
- Repair and reuse items

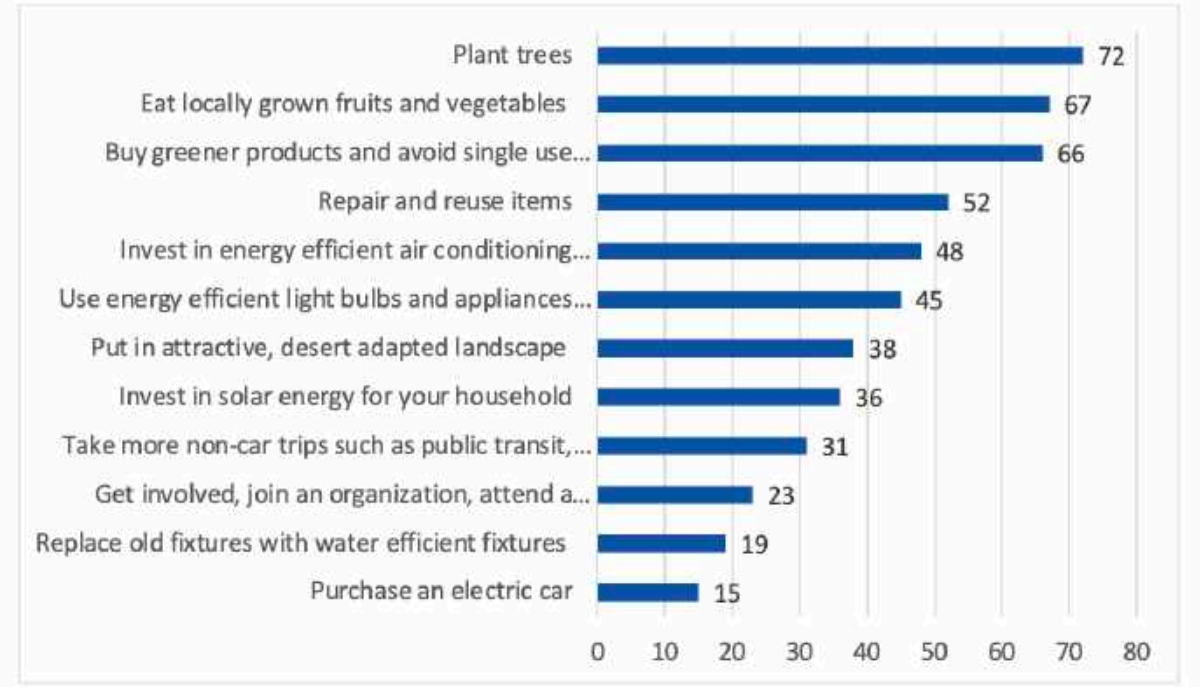

Figure 1: Workshop Outcomes – Community Action

Online Engagement

Bang the Table was used to host the project website, footprintfuturemesa.com. The multilingual online platform provided information about the MCAP and offered a mechanism for community members to contribute their ideas. The website utilized polls, an ideas board, and an online survey to gather community thoughts, priorities, and perspectives. The website launched in early September and remained in use through February 2022. During that time the website had over 6,000 visits and 2,297 "Engaged Visitors". A visitor is considered 'engaged' if they contribute or provide feedback to on the site. Appendix A provides a summary of site engagement.

Polls

Polls encourage people to provide a quick answer to one question, selecting from multiple choice answers. They are able to instantly see the poll results, piquing their interest and giving real-time insight. For this study two polls were used to gauge sentiment for reducing the effects of climate change. The results showed community members believe if the community works together the negative effects of climate change can be reduced (74% agree or strongly agree).

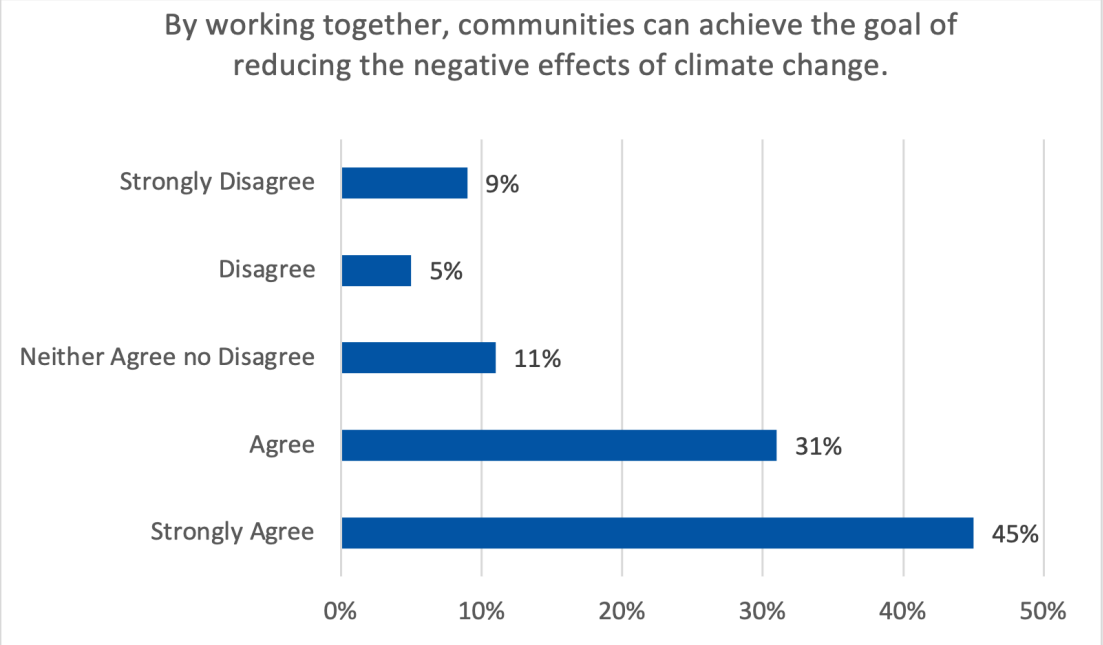

Figure 2: Quick Poll One Results

A second poll showed respondents are already considering what they can do to reduce their personal carbon footprint (75% agree or strongly agree).

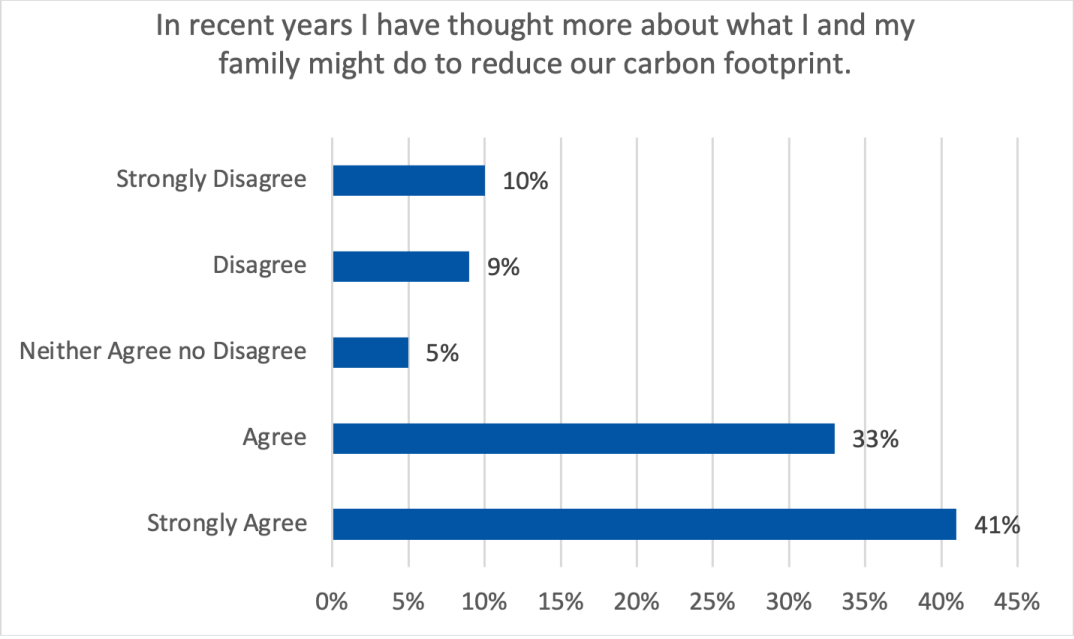

Figure 3: Quick Poll Two Results

Ideas

Community members were asked to contribute ideas related to the six (6) Focus Areas of the MCAP. Through the Bang the Table 'Ideas Tool', participants can post ideas or contribute by voting or commenting on other people's ideas. The MCAP Focus Area that generated the most interest and ideas was Energy.

Idea Category	Unique Visitors	Contributors	Ideas	Likes	Comments
Energy	80	33	13	37	6
Food Systems	22	11	5	10	1
Heat Mitigation	23	10	7	11	1
Air Quality	15	9	5	8	1
Materials Management	17	8	6	8	0
Water Stewardship	12	5	4	1	1

Table 1: Focus Area Ideas

The idea that received the most traffic and support is to "Promote Teleworking".

> **"If local governments and local companies offered more days of teleworking there would be less automotive travel on a daily basis."**

Another idea that received heavy visitor traffic and support was Solar Shade.

> **"More parking lots, playgrounds, outdoor areas, etc. with shade structures that have solar panels on top of them. We have sun almost every day of the year, its a shame to waste it."**

Appendix B includes all visitor generated ideas.

Virtual Public Meetings

In October and November 2021, a virtual lunchtime meeting series was conducted over six (6) consecutive weeks. The goal was to carry out focused engagement targeted at each of the MCAP Focus Areas. Each session included a brief overview of the MCAP and its goals, a short presentation on an MCAP Focus Area and an open forum for participants to share ideas and values.

Meeting registrations ranged from 69 – 90 individuals with an overall attendance rate of 33%. According to ON24 Webinar Benchmarks Report: COVID-19 Special Edition the typical webinar conversion rate for this size audience is approximately 35%. Additionally, the report found one-third (34%) of registrants access the on-demand version only, demonstrating the need to make webinars available to audiences on their terms. Videos from the meeting series were emailed to all registrants and uploaded on to project website. A review of registration, percentage of attendance rates, and YouTube views finds the focus area that received the most interest was Energy.

Topic	Registered	Attended	Percent Attended	YouTube Views
Energy	69	28	41%	30
Heat Mitigation	74	30	41%	21
Air Quality	80	28	35%	18
Water Stewardship	83	24	29%	16
Materials Management	90	23	26%	8
Food Systems	88	25	28%	21
Totals:	484	158	33%	114

Table 2: Virtual Public Meetings Participation

Climate Action Prioritization Survey

An online Climate Action Prioritization Survey (Survey) was conducted to garner feedback for the prioritization of climate action initiatives. Questions were drafted based on information gathered through the Community Workshop series, and project website.

The Survey was publicized through email lists, newsletters, ads on social media, public meetings, etc. A total of 2,221 responses were received. It is important to note that the survey is not random, so is not a statistically-valid survey. Therefore, it is not solely relied upon for determining recommendations, but did help shape and inform the key findings.

The Survey was open from mid-October through January 2022. Thirteen (13) questions asked about climate action priorities and potential community initiatives to reduce GHG emissions. The Survey report (provided in ***Appendix C***) includes a wealth of information to help guide the prioritization of climate action initiatives.

In regard to the climate related hazards surveyed, the majority of respondents viewed all threats as very concerning.

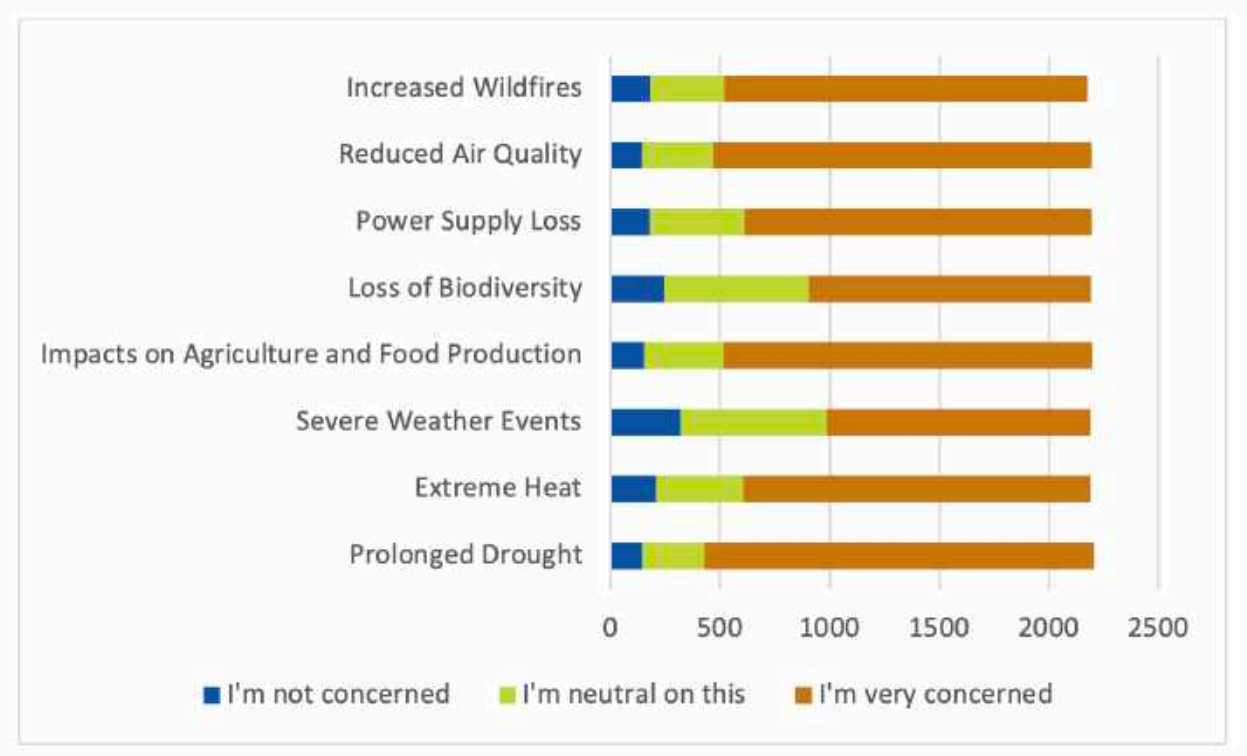

Figure 4: Prioritization Survey: Climate Hazard Concerns

Survey Highlights

The top priorities identified by respondents to help reduce climate change include:

Responsible Water Management: 25%

Transition to Renewable Energy: 18%

Improve Air Quality: 16%

Respondents identified the following City initiatives as providing the most benefit to mitigating the effects of climate change:

Resilient water supply: 23%

Tree and shade plan: 20%

Increase renewable energy infrastructure: 19%

On the subject of alternative modes of transportations, respondents would consider other modes of transportation if:

More stores within walking/biking distance: 16%

Enhanced bike and pedestrian paths: 16%

More shaded sidewalks and transit stops: 15%

The top three energy reducing actions participants are currently taking, or are willing to take include:

Maintain air conditioning system for efficiencies with filter changes and regular inspections: 24%

Energy efficiency upgrades, such as appliances, windows, and smart thermostats, etc.: 24%

Plant shade trees to reduce cooling costs: 18%

As it relates to purchases, the actions respondents are currently taking, or are willing to take include:

Reusable containers, rather than disposable: 23%

Locally produced items: 20%

Products made from renewable materials, or little or no packaging: 20%

Relative to waste management actions, respondents are currently taking, or are willing to take include:

Donate electronics, appliances, and other usable items for reuse : 22%

Dispose of end-of-life electronics, and appliances at recycling facilities: 19%

Managing shopping, use, and storage practices to reduce food waste: 19%

The top three water conservation actions respondents are currently taking, or are willing to start taking include the following:

Monitor water bill and water usage regularly: 21%

Install a desert-adapted landscape: 19%

Repair leaks to reduce water loss: 18%

Respondents expressed the following needs in order to eat more locally grown, lower impact foods:

Farmer's market or similar events: 26%

More farm-to-table restaurants near me: 12%

Access to a local farmers CSA (community supported agriculture) close to my home or workplace: 12%

The following actions received the strongest support for urban heat mitigation/reduction methods:

Tree planting initiatives and urban forest management programs: 22%

Solar covered parking at public buildings and businesses: 21%

Use of alternative asphalt types and paving materials to absorb less heat: 17%

Respondents felt they would be more likely to participate in climate solution activities if:

They saved me money: 25%

There was a tax break, incentive, or rebate: 22%

I knew that the City of Mesa was also taking action: 18%

PRCF Comprehensive Plan Survey

Similar questions related to views on climate action were included as part of the PRCF Comprehensive Plan statistically-valid survey. The PRCF survey was conducted using three primary methods: 1) a mailed invite survey to 4,200 households in Mesa, 2) an online, password protected invitation website, 3) an open link survey for all other residents who were not included in invitation sample. Results are kept separate to maintain the statistical validity of the invitation sample. A total of 2,402 responses for the PCRF survey were received.

Through the statistically-valid survey respondents rated all 12-actions identified to limit climate change as important or very important. The overall respondent rating reveals that a resilient water supply and a tree and shade plan are of the highest importance to respondents.

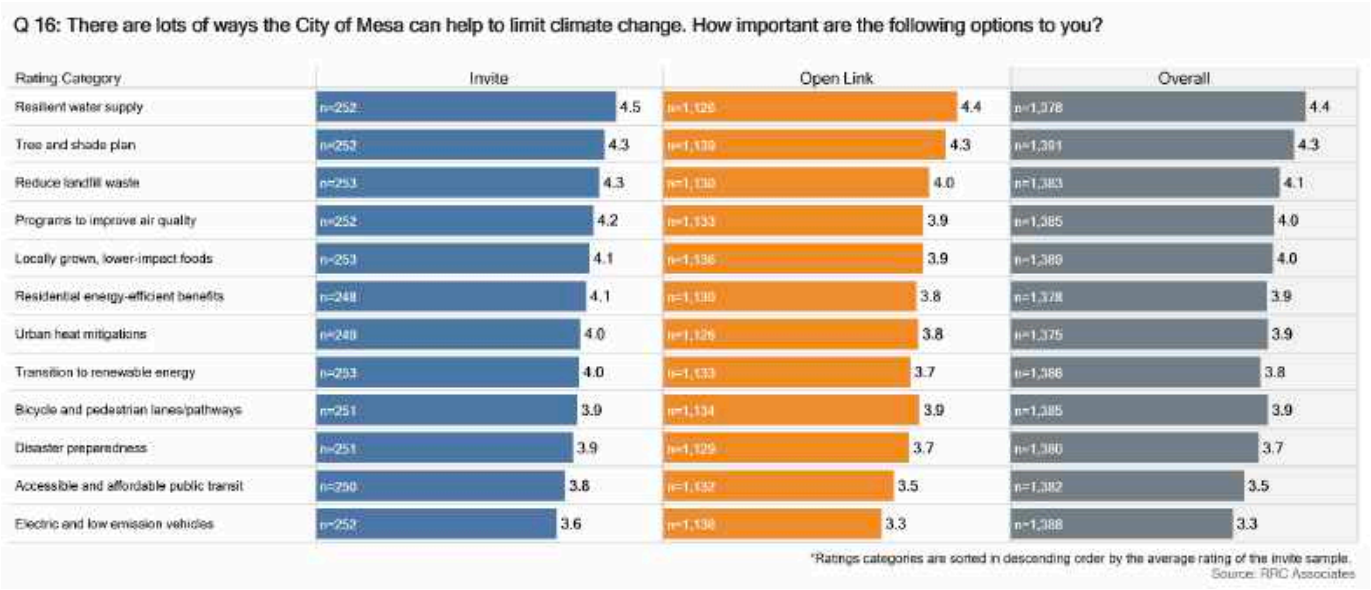

Figure 5: Statistically-Valid Survey: Important City Actions to Limit Climate Change

A follow-up question asked respondents to select their top three most urgent climate actions for the City to address. The overall responses show a resilient water supply was the top choice for nearly half of all respondents. There is also strong interest in programs to improve air quality and a tree and shade plan.

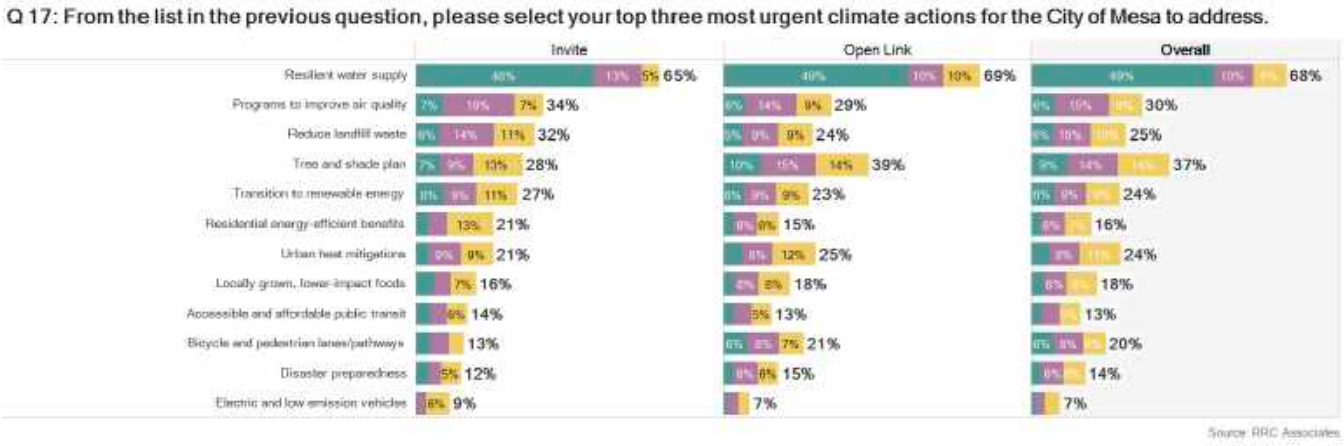

Figure 6: Statistically-Valid Survey: Top Three Climate Actions for the City to Address


CREATE
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III. Equitable Engagement

Understanding the demographics of Mesa residents is important because it is reflective of the diverse history, and values of the community. This type of information can assist the City in outreach opportunities that are relevant and meaningful to all City residents. Knowing that an estimated 30 percent of Mesa's population identifies as Hispanic, designing an inclusive engagement approach is a priority in developing community-based actions that will reduce GHG emissions each year.

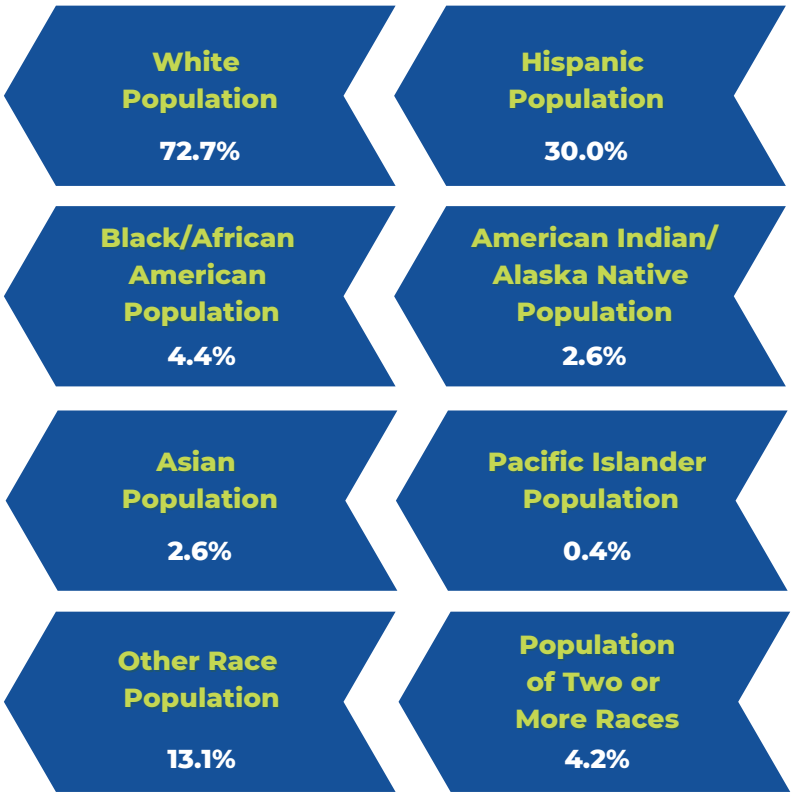


Figure 7: Race Comparison for Total Population in Mesa
Source: Esri Business Analyst, 2021

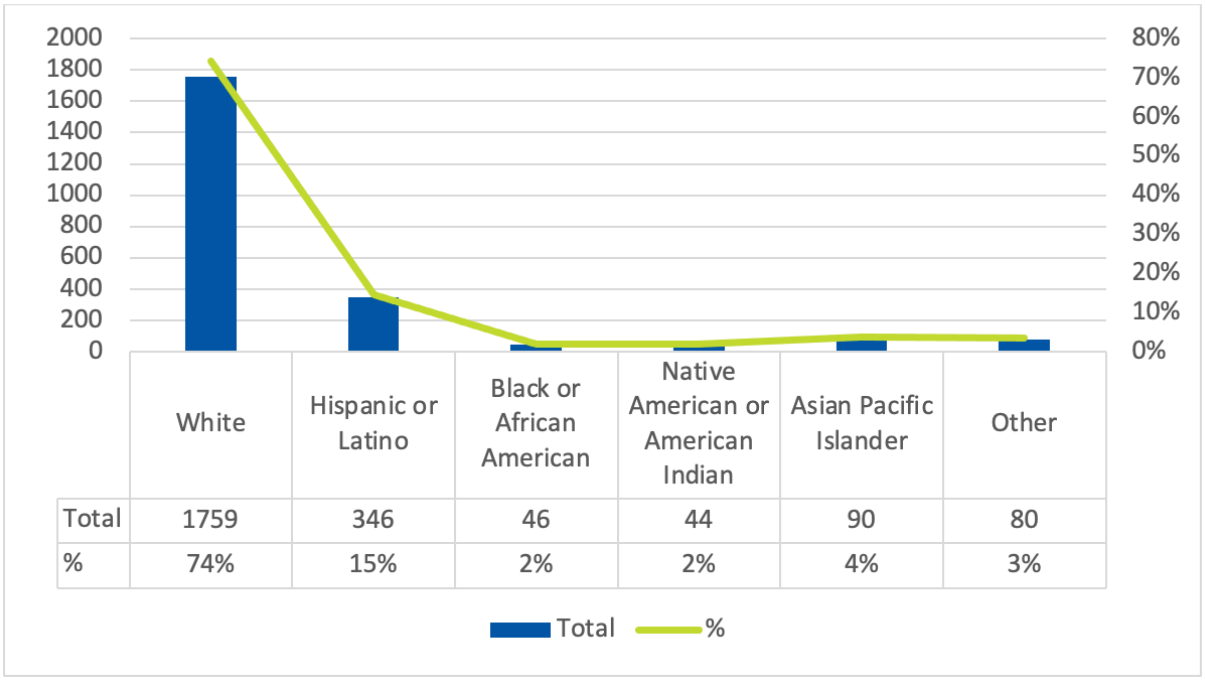
Equitable and inclusive engagement is not only about ensuring that diverse perspectives are at the table but also that deliberate actions and targeted strategies are taken to ensure that underrepresented communities participate and contribute. To validate inclusive participation, where appropriate, participants were asked to provide demographic information.

Throughout the Study providing equitable opportunities was at the forefront. Marketing material for outreach activities were developed in English and Spanish, bi-lingual staff were present at each of the six Community Workshops, and the project website was multilingual. For a complete list of marketing channels used in the Study see ***Appendix D***.

Who Participated?

During the Virtual Public Meeting series participants self-reported their ethnicity, their connection to Mesa, and area of Mesa they live, or frequent. The Survey provided another opportunity to gain demographic information by asking respondents about their age.

Through the Virtual Public Meeting series and Survey seventy-four percent of participants identified as White, while 15 percent identified as Hispanic/Latino. ***Table 9*** reflects the collective ethnicity reported by participants.



	White	Hispanic or Latino	Black or African American	Native American or American Indian	Asian Pacific Islander	Other
Total	1759	346	46	44	90	80
%	74%	15%	2%	2%	4%	3%

Figure 8: Participant Ethnicity

Figure 9 below shows the majority of participants of the Virtual Public Meetings and Survey live and/or study in Mesa. Nearly half the participants live in Mesa.

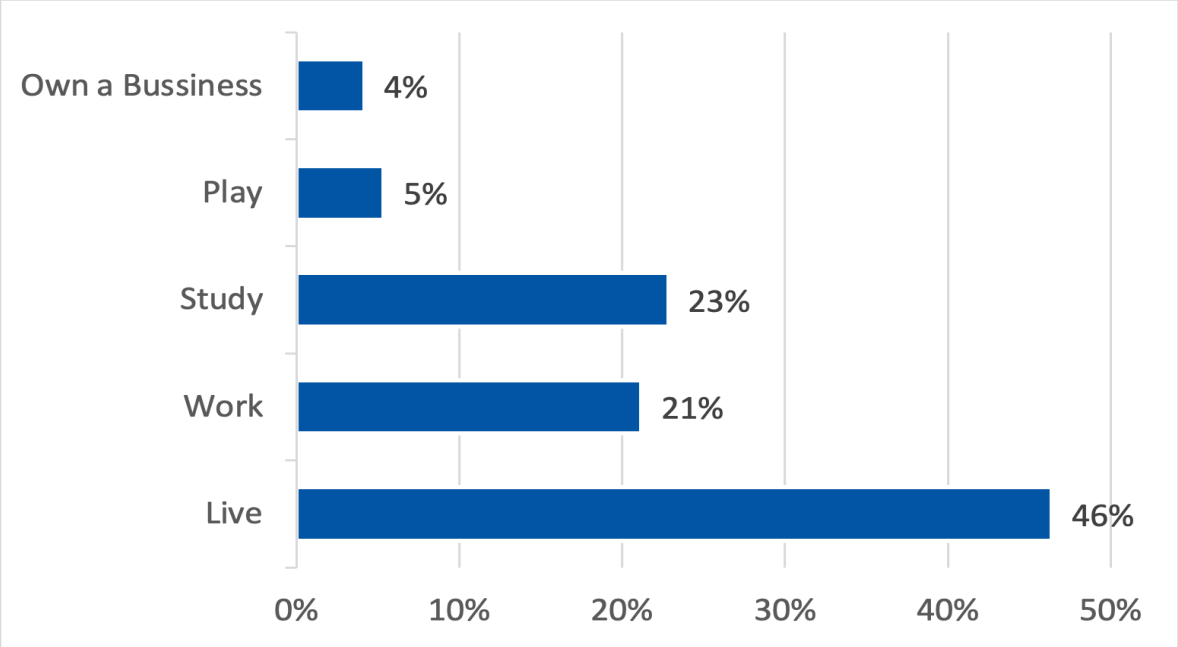


Figure 9: Participant Connection to Mesa

During the Virtual Public Meeting series participants were asked to select the Council District where they live or most frequently visit. Respondents could only select one option. Overall, the Council Districts were equally represented, with the exception of a slightly higher number of respondents selecting Council District 6.

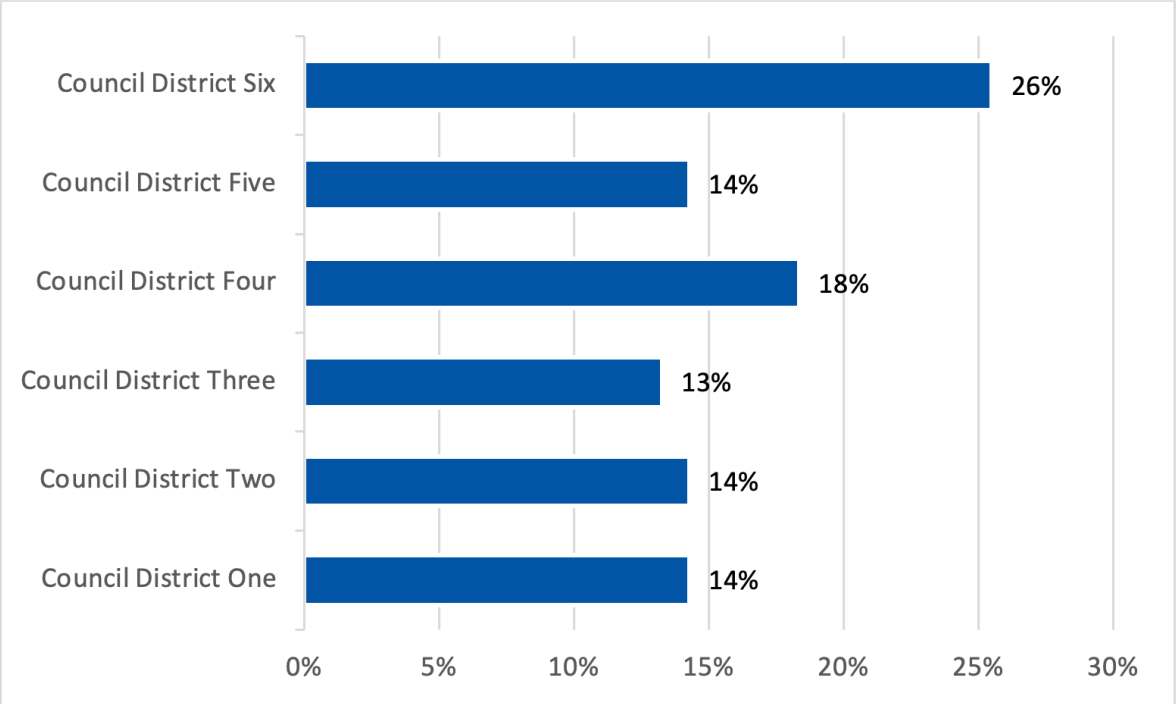


Figure 10: Virtual Public Meeting Participant by Council District

For the Survey respondents were asked to identify the Zip Code they live or most frequent in Mesa. The map below shows most respondents were from West Mesa, but overall participation was strong across the City.

Survey Response by Zip Code

Mesa, Arizona

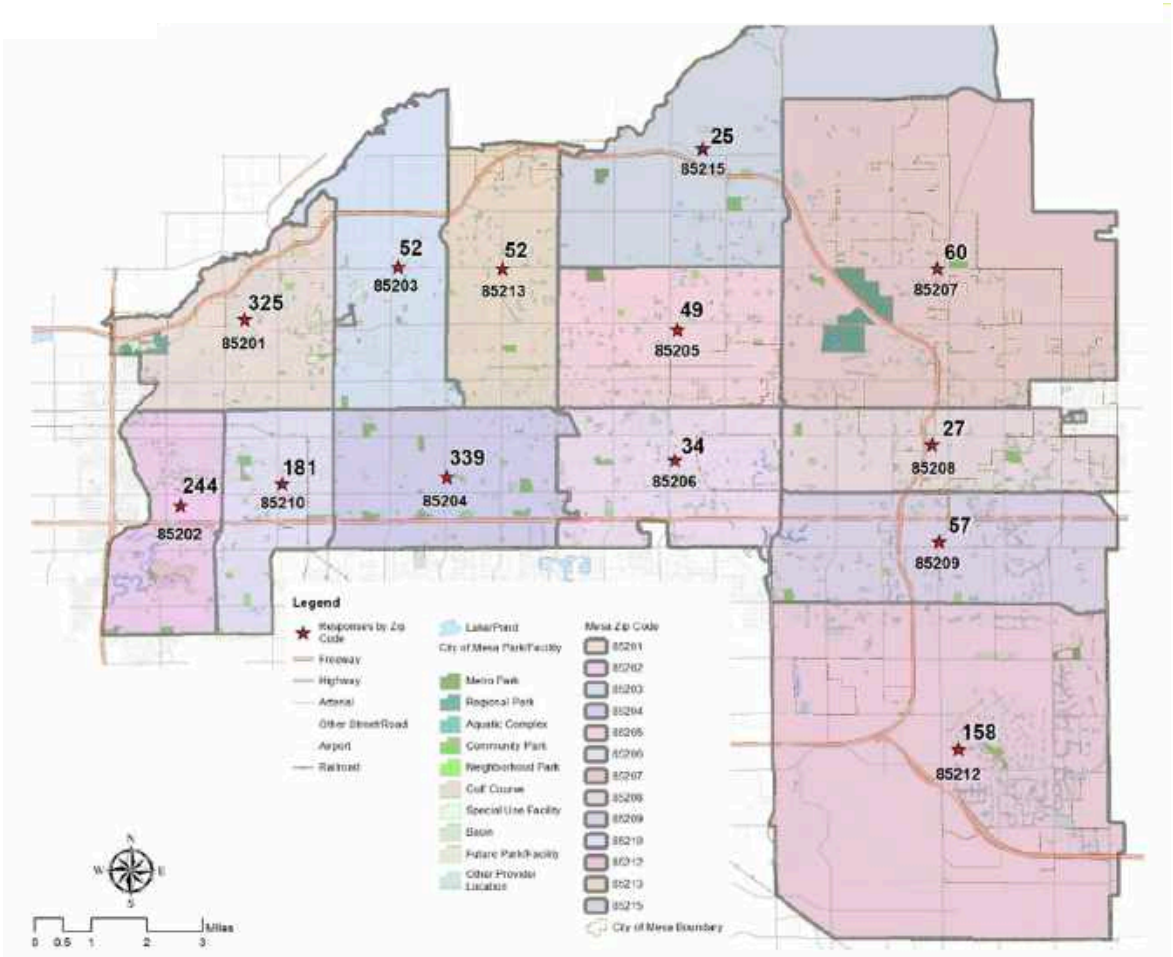
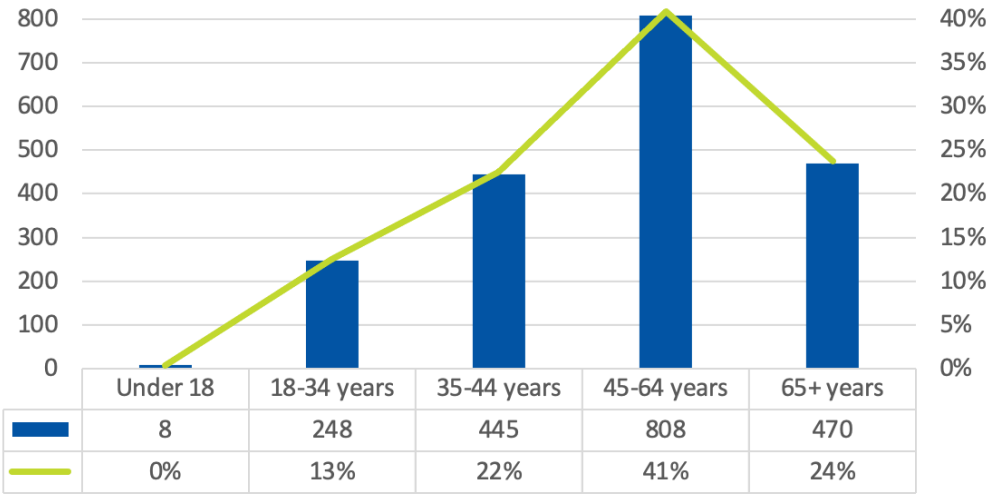


Figure 11: Survey Respondent by Zip Code

The final demographic question posed on the Survey was related to age.



	Under 18	18-34 years	35-44 years	45-64 years	65+ years
	8	248	445	808	470
	0%	13%	22%	41%	24%

Figure 12: Survey Respondent by Age

IV. Community Climate Action Implementation Strategies

Climate action depends on successfully communicating information about the MCAP to the wider Mesa community and encouraging broader participation in climate-related activities as the plan moves into implementation. GHG emissions reductions goals will not be met without the community playing a major role. This chapter outlines strategies to assist with an inclusive approach to implementing community action within the MCAP.

Partnerships

Community partnerships have been emerging as an important pathway to various types of local solutions. As the MCAP continues in its implementation, it will be important to map out and align the general roles and responsibilities of the City, the community as a whole, and potential key partners that will support MCAP. Community climate action is a collaborative, all-hands-on effort, and all partners in the community are needed to engage, support, and implement the MCAP together.

The City and community stakeholders will need to periodically assess their own roles and make pivots or shifts as needed. By continuing to reflect on how implementation approaches are progressing, the Mesa community can take lessons learned and apply them in implementing other planned strategies moving forward. Understanding the role of the City and of the community can provide a foundation for maximizing the collective impact on climate change. These ongoing partnerships can also optimize implementation actions and communications to support resilience and equitable outcomes.

Education and Outreach

Education and outreach will be vital as the MCAP moves through it's implementation and beyond. Continued education with schools (early education, primary, community colleges and universities), community organizations who have large networks of members, and other partners are essential to move climate efforts forward. Strategies in this area will include continuing to build partnerships with thought leaders, technical experts, non-profits, youth, and community leaders for climate action.

Education will work to create positive community-led action, broad-based support, and a sense of ownership for the MCAP. One of the most effective ways to educate the public on climate change impacts is the use of storytelling. The City and its partners may use narrative text grounded in the real-world experiences and concerns of the Mesa community to effectively communicate about climate change impacts in the area.

Tracking and Ongoing Communications

Ongoing communication, tracking performance, benchmarking, providing storytelling, and sharing lessons learned related to action implementation are vital to the success of MCAP. As part of the Prioritization Survey 18% of respondents expressed, they would be more likely to participate in climate solution activities if they knew the City was also taking action.

Some of the ways the City can demonstrate their ongoing action is through regular website and social media updates, continued education programs and news releases on large scale projects. Additionally, MCAP stakeholder feedback will keep the community informed about the implementation of the plan's actions and strategies, and progress toward climate goals. Moreover, monitoring provides concrete data to document the City's progress in reducing GHG emissions. Cities across the country are implementing annual reports and Open Data Portal to track progress on climate mitigation activities.

V. Recommendations

The main purpose of this endeavor has been to develop a pathway of equitable and inclusive community-based initiatives that will support the City's goal of achieving carbon neutrality by reducing GHG emissions by 2050. The extensive effort undertaken during this Study has brought to light key findings that are critical to addressing potential community actions that can be encouraged and applied in Mesa.

Individuals and community groups have an important role to play in reaching the MCAP climate action goals. Through collective, committed, and caring actions from all, Mesa can achieve carbon neutrality goals and become a more vibrant, prosperous, and carbon-neutral community for generations to come. Through a diverse and comprehensive outreach effort priorities to reduce climate change and viewpoints on City led initiatives to mitigate the effects of climate change emerged:

Priorities
Responsible Water Management
Improve Air Quality
Transition to Renewable Energy

City initiatives viewed as providing the most benefit to mitigating the effects of climate change
Resilient water supply
Tree and shade plan
Increase renewable energy infrastructure

Community-based initiatives should align with identified priorities. Importance is placed on initiatives that the community has identified as providing the highest benefit in mitigating the effects of climate change.

The tables below present key recommendations to drive community action for the MCAP. Recommendations have been developed and grouped into the following four focus areas:

1. Education
2. Ongoing Communication
3. Strategic Partnerships
4. Funding and Incentives

The recommendations are intended to act as a catalyst and internal work plan. As the MCAP implementation begins and continues over time, engagement and leadership will be vital to MCAP success.

Table 3: Recommendations

Focus Area One: Education

Strategy: Identify opportunities to educate the Mesa community on green living, cost savings, and climate education.	
1.1	Develop education and outreach that offers information on areas such as money saving tips, energy savings, transportation options, food, and recycling; while educating and connecting individual health with environmental quality and providing tools for taking action.
1.2	Create and continue to promote and update community resources, training, and educational material related to climate action; utilize partnerships to increase impact.
1.3	Storytelling as an effective way to educate the public on climate change impacts. Use narrative text grounded in the real-world experiences and concerns of the Mesa community to effectively communicate about climate change impacts in the area, mitigation strategies and action options
1.4	Sponsor periodic outreach events to directly inform and solicit the input, suggestions, and participation of the community at large.

Focus Area Two: Ongoing Inclusive Communication

Strategy: Provide ongoing communications to keep the community informed about the progress toward climate goals.	
2.1	Gauge perceptions about MCAP progress and shifting perceptions on climate-related issues over time. Administer a survey regularly to allow the City to evaluate trends and understand how perceptions change over time.
2.2	Create a system to track events and presentations that incorporate climate action activity to ensure you are reaching a broad and inclusive audience. The tracking system should include the number of briefings and presentations, visits to the project webpage, articles or other media coverage, and demographics where applicable (ethnicity, income, age, gender) for participants.
2.3	Utilize an environmental justice mapping tool to enhance understanding of environmental inequities and identify potential options for mitigation.
2.4	Increased engagement and knowledge sharing with the private sector to understand more about how it approaches and implements climate actions.
2.5	Ensure necessary resources to provide ongoing inclusive and bilingual communication on the MCAP implementation and GHG mitigation efforts.
2.6	Develop an environmental awareness campaign, such as a climate action challenge, to increase mindfulness of the effect of climate change and potential solutions. A. Engage the schools and other City programming to be inclusive of school age children. B. Engage community colleges and universities to be inclusive of students who are training for careers in relatable fields.

Focus Area Three: Strategic Partnerships

Strategy: Build community partnerships with thought leaders, technical experts, youth, and other community leaders for climate action outreach and education.	
3.1	Partner with community-based organizations on climate-related programming to address environmental justice, resilience, climate impacts, and empowerment of youth.
3.2	Develop an ongoing network and platform to engage with youth to spark community climate action from their perspective.
3.3	Partner with local technical and community leaders to embed climate action information into existing outreach and education.
3.4	Partner with key stakeholders to identify opportunities and technologies to innovate in areas such as energy, transportation, waste, water, resilience, health, equity, etc.

Focus Area Four: Funding and Incentives

Strategy: Provide ongoing communications to keep the community informed about the progress toward climate goals.	
4.1	Investigate and leverage public financing opportunities at the local, state, and federal levels to support MCAP implementation and a public awareness campaign. There may be opportunities to leverage funding in government agencies that may not traditionally be seen as climate-related, such as housing, health and human services, general services, economic development, emergency response, and transportation.
4.2	Seek to embed sustainability and climate action into existing funding and grant programs, including private foundation grants and private financing.


Mesa Fire Station No. 219

VI. Conclusion

This Study has been an examination of viewpoints, priorities and needs of Mesa residents, neighborhoods, businesses, and stakeholders to identify community-based action items to support GHG reduction goals. Climate change is a global challenge that the City cannot overcome alone. Successful implementation of the MCAP will rely heavily on the collective action of everyone in the Mesa community.

It has been our pleasure to assist the City and to work with the Environmental Management and Sustainability Department to develop a pathway of equitable and inclusive initiatives to reduce GHG emissions each year. As a living plan, the MCAP will evolve with the community over time to effectively support the City in achieving the MCAP aspirational goal of carbon neutrality through GHG emission reduction by 2050.

Appendices

Appendix A: Online Engagement Summary Report

Appendix B: Online Engagement Ideas Report

Appendix C: Prioritization Survey Report

Appendix D: Marketing Channels

Appendix A: Online Engagement Summary Report

Summary Report

18 August 2021 - 03 March 2022

Footprint Future Mesa

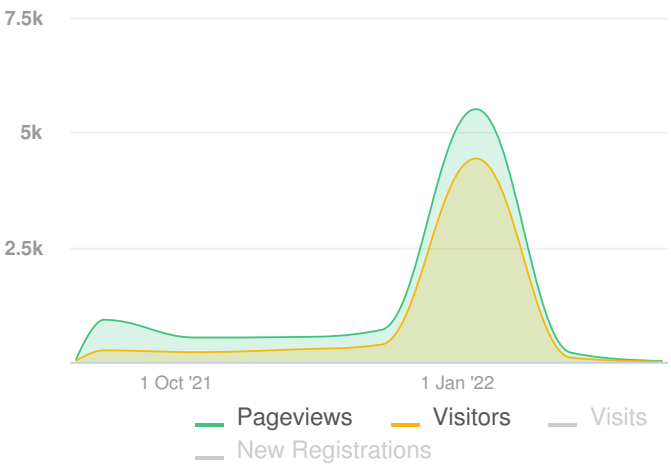
PROJECTS SELECTED: 1

Climate Action Plan

FULL LIST AT THE END OF THE REPORT

BANG THE TABLE engagementHQ

Visitors Summary



Highlights

TOTAL VISITS	MAX VISITORS PER DAY	NEW REGISTRATIONS
6.2 k	1.4 k	5

ENGAGED VISITORS	INFORMED VISITORS	AWARE VISITORS
2.3 k	2.5 k	4.9 k

PARTICIPANT SUMMARY

ENGAGED
INFORMED
AWARE

2,297 ENGAGED PARTICIPANTS

	Registered	Unverified	Anonymous
Contributed on Forums	0	0	0
Participated in Surveys	9	18	2,190
Contributed to Newsfeeds	0	0	0
Participated in Quick Polls	6	12	87
Posted on Guestbooks	0	0	0
Contributed to Stories	0	0	0
Asked Questions	0	0	0
Placed Pins on Places	0	0	0
Contributed to Ideas	4	25	23

** A single engaged participant can perform multiple actions*

(%)

Climate Action Plan	2,297 (46.8%)

** Calculated as a percentage of total visits to the Project*

ENGAGED
INFORMED
AWARE

2,460 INFORMED PARTICIPANTS

	Participants
Viewed a video	0
Viewed a photo	0
Downloaded a document	0
Visited the Key Dates page	191
Visited an FAQ list Page	0
Visited Instagram Page	0
Visited Multiple Project Pages	179
Contributed to a tool (engaged)	2,297

** A single informed participant can perform multiple actions*

(%)

Climate Action Plan	2,460 (50.1%)

** Calculated as a percentage of total visits to the Project*

ENGAGED
INFORMED
AWARE

4,912 AWARE PARTICIPANTS

	Participants
Visited at least one Page	4,912

** Aware user could have also performed an Informed or Engaged Action*

Climate Action Plan	4,912

** Total list of unique visitors to the project*

PARTICIPANT SUMMARY

ENGAGED
INFORMED
AWARE

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Placed Pins on Places	0	0	0
Contributed to Ideas	4	25	23

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	(%)
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** Calculated as a percentage of total visits to the Project*

ENGAGED
INFORMED
AWARE

2,460 INFORMED PARTICIPANTS

	Participants
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Viewed a photo	0
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Visited Instagram Page	0
Visited Multiple Project Pages	179
Contributed to a tool (engaged)	2,297

** A single informed participant can perform multiple actions*

	(%)
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ENGAGED
INFORMED
AWARE

4,912 AWARE PARTICIPANTS

	Participants
Visited at least one Page	4,912

** Aware user could have also performed an Informed or Engaged Action*

Climate Action Plan	4,912

** Total list of unique visitors to the project*

Appendix B: Online Engagement Ideas Report

Energy			
Title	Description	Votes	Visitors
Promote teleworking	If local governments and local companies offered more days of teleworking there would be less automotive travel on a daily basis.	8	26
Solar and encourage reusing		1	8
True Energy Independence	Any plans to discuss clean energy needs to include nuclear. If you do not consider nuclear energy as a viable option to achieve clean energy with minimal environmental impact then you are not actually serious about this issue. Nuclear is clean, produces zero carbon emissions, produces zero air pollutants, is highly containable to a small geographic region, and is energy rich. These things need to be considered since the technology for safe, clean power from nuclear already exists. We do not need to wait for decades for efficient solar or wind technologies to be made readily available to the public. We do not need to waste large amounts of land for gigantic solar or wind fields where nothing else can develop. We also do not need to fill our landfills with the dead equipment of solar and wind technologies with their own environmentally toxic components.	5	26
Don't blame humans	I disagree! Human activity is not largely responsible for climate change. It's due to divine design of natural physical forces of the Earth.	3	37
GHG Impact Assessments for future development proposals.	Pavement, sprawl, construction materials, induced traffic all has GHG consequences. In the development of Mesa's land use patterns/ decisions and transportation options have largely ignored these impacts and let concerns of traffic congestion and level of service mandate certain development outcomes. GHG Impacts should be considered to balance the Traffic Impacts that only see more pavement as a positive. See Smart Growth guidance, green infrastructure, and energy-efficient development design as long been advised by the EPA.	1	10
Corridors for high-quality transit	Prioritize corridors of the city that are prime for infill along key routes for transformative land-use and transportation morphology for sustainable outcomes.	2	14

Energy			
Title	Description	Votes	Visitors
Seek Co-Benefit Solutions: The Built Environment, Climate Change, and Health	ajpmonline.org/article/S0749-3797(08)00682-X/fulltext Quoting the abstract: "The earth's climate is changing, due largely to greenhouse gas emissions resulting from human activity. These human-generated gases derive in part from aspects of the built environment such as transportation systems and infrastructure, building construction and operation, and land-use planning. Transportation, the largest end-use consumer of energy, affects human health directly through air pollution and subsequent respiratory effects, as well as indirectly through physical activity behavior. Buildings contribute to climate change, influence transportation, and affect health through the materials utilized, decisions about sites, electricity and water usage, and landscape surroundings." In terms of the local government responsibility, transportation policy is largely in the government's hands. Local control of right-of-way is a public asset, but it's also a liability when it's impacts generate long-term harm to the climate/ecosystem, harm human lives, and burden economic sustainability with heavy tax burdens for unfunded maintenance projections. No private investment can alter the transportation system in the ways that public policy and transportation systems design can. THIS MAKES IT THE CITY'S RESPONSIBILITY TO PRIORITIZE THE CLIMATE RESPONSE IN TRANSPORTATION."	1	9
Solar shade	More parking lots, playgrounds, outdoor areas, etc. with shade structures that have solar panels on top of them. We have sun almost every day of the year, its a shame to waste it.	5	8
Wire New Construction to be EV Ready	All new construction in Mesa (houses and multi-family dwellings with garages) should including appropriate wiring to be electric vehicle-ready. Negligible cost compared to having to re-wire an existing dwelling later which might be a deterrent to purchasing an EV.	3	7

Energy			
Title	Description	Votes	Visitors
Changing building codes	We need to update building codes to ensure that new constructions are not utilizing natural gas or oil for heating, and perhaps are required to be prepared for or already have on-site renewable energy generation. I also think that any open parking lots should be covered with solar structures, shading and protecting vehicles from sun damage and excessive heat while also providing power to the grid. Solar won't be the answer for all our energy needs, but covering vacant space and rooftops will significantly help lower our fossil fuel dependence while providing the city with other benefits like shade.	2	4
Ban personal fireworks except for holidays	Personal fireworks should be banned except for holidays and enforce no burn days. People near downtown shoot fireworks very late at night.	4	2
Corporate and Household Food Waste Policy	Invest in prevention and keep waste out of landfills and enable better food diversion/donation programs. Each year, between 30-40% of all food in the US is unsold or uneaten. That's $408 billion worth of food—roughly 2% of US GDP—and about 4% of US GHG emissions. Most becomes food waste, heading straight to landfill, incineration, down the drain, or it's left in the fields be tilled back under. All while millions face hunger and our ecosystems are degraded.	3	3
Corporate and Household Food Waste Policy	Invest in prevention and keep waste out of landfills and enable better food diversion/donation programs. Each year, between 30-40% of all food in the US is unsold or uneaten. That's $408 billion worth of food—roughly 2% of US GDP—and about 4% of US GHG emissions. Most becomes food waste, heading straight to landfill, incineration, down the drain, or it's left in the fields be tilled back under. All while millions face hunger and our ecosystems are degraded.	3	3
Recycling	The recycling center has been burned down for years so nothing is actually getting recycled. The fees we paid for "recycling" should rebuilt.	1	4
Less water	We have to plan for less water. Lawns everywhere, except parks, need to go, and houses should be using recycled water.	1	2
Hot water recirc pumps	whole-house hot H20 recirc pumps required in ALL new homes being built could save THOUSANDS of gallons of H20 every year during the life of every home, simple AND inexpensive if installed during construction	0	0

Energy			
Title	Description	Votes	Visitors
Replace trees along public areas	It would be nice to see Mesa implement incentives or fines (depending on motivation) to property owners that remove trees along public areas without replacing them. We've watched hundreds of trees be removed in the last 3 years, with very little effort made to replace them. Trees are good for our community both aesthetically and environmentally.	1	3
Electric Vehicles	Add electric vehicle charging stations.	0	0
Comment response to “Promote teleworking “	Each company needs to decide if this is possible. However, incentives such as tax breaks would encourage companies to offer this.	0	0
Comment response to "Solar and encourage reusing"	Solar energy is extremely expensive and highly inefficient. They use rare earth minerals to build and will fill up our landfills. There are better ways, such as nuclear. Until someone comes up with a better solar panel that is affordable and actually produces energy that can be reserved for later use, nuclear and natural gas are clean and make more sense.	0	0
Comment response to "True Energy Independence"	Surely you are not advocating building another nuclear plant. Solar panels providing shaded spots on parking lots and on rooftops is not "wasting" land. Waste from solar technology is easier to recycle than nuclear waste.	0	0
Comment response to "True Energy Independence"	Solar panels are extremely expensive and still not at all efficient. They will create a lot of waste in landfills, use rare earth minerals to build, and give a tiny of fraction of energy compared to nuclear energy. Yes, build a second plant and we can get rid of coal, oil and natural gas and replace it with clean nuclear energy.	0	0
Comment response to "I disagree! Human activity is not largely responsible for climate change. It's due to divine design of natural physical forces of the Earth."	Unless you can provide real evidence that this is true, there is no reason to take this opinion seriously.	0	0
Comment response to "I disagree! Human activity is not largely responsible for climate change. It's due to divine design of natural physical forces of the Earth."	Whatever your beliefs and sources are about the cause of climate change, we all agree it is happening and we have to do something about it so that our community and futures can live in safer, more resilient and smarter environments. Try to contribute to solutions and we will be a better community for it.	0	0

Air Quality			
Title	Description	Votes	Visitors
Restraints	Limit use of leaf blowers by landscapers and prohibit use of consumer fireworks.	8	26
Prohibit consumer fireworks	They are loud, polluting, destructive, and wasteful.	3	3
Encourage Telecommuting	Give tax breaks to companies that encourage telecommuting.	1	0
Plant more trees.	Plant native trees, bushes and flowers.	2	2
Climate change is a hoax. Its nonsense. If you want to help environment have China and India stop. They are responsible for 80% of problem.	It's a cycle per 6. Research Vostok ice samples.	0	1
Comment response to "Limit use of leaf blowers by landscapers and prohibit use of consumer fireworks."	Not sire how leaf blowers hurt air quality permanently. That seems like wanting to outlaw dust storms.	0	0

Materials Management			
Title	Description	Votes	Visitors
Recycle and Compost	Have a better recycling system, have a community compost area.	3	6
Recycling in apartment complexes	We should change the law banning apartment complexes from recycling in Maricopa County. Or provide community recycling bins so those in apartments can recycle if they want to.	2	7
Improved Recycling Program	The city should improve the current recycling program. Almost nothing is accepted anymore and something should be added to be able to recycle plastic bags with the city.	2	4
Reduce Consumption of Plastic and Consumption Overall	Take to heart the 3 Rs - reduce, reuse, recycle. We somehow have to get over our addiction to buying plastic water bottles for daily use. Encourage purchase or facilitate a giveaway of reusable water bottles, or reuse a plastic one. Reuse other products rather than throw away after a single use. Before you purchase a product in a plastic container, determine if that product can be found in another form.	0	2
Consider Surcharge on Each Plastic Beverage Bottle Sold	A surcharge of ten cents on each plastic beverage bottle sold in any venue could be designated to used to develop a recycling program. It might influence some to not buy over and over again that bottle of water or soda.	1	1

Materials Management			
Title	Description	Votes	Visitors
Teach people HOW to recycle PROPERLY	The problem with recycling is that people don't know how to do it properly, which causes recycling centers to take on the expenses incurred because of it, and their machines to get messed up from plastic in the recycle bins in Mesa. I would suggest LARGE and CLEAR visual instructions NEXT to the recycling bins (not on the lids which nobody sees). Most people don't want to put effort into looking up what items can be recycled and instead "wishcycle" with the hope that whatever they throw into the containers will be recycled, but they are causing more harm than good. The city could educate people about alternative recycling drop-offs too, such as the local Household Hazardous Materials Facility, styrofoam center in Tempe, clothing & textile bins, and store drop-offs for certain plastics. When people have the proper knowledge, see how easy it can be to collect and drop off their items (pair it with an errand for example), and understand the benefits of doing so, they may be more likely to do recycle the right way. They can lead by example. I'm the type of person that will drive to Scottsdale to drop off my recycling (locations on their website) because they accept so many more items, and I'll drop things off at all the places mentioned above. It did take some time to research it all, but now that I know exactly what to do, I'm set for all my future recycling needs, and it can be this easy for everyone else too if the information is provided to them, minus the upfront research!	0	1

Food Systems			
Title	Description	Votes	Visitors
Less animal products	Reduce consumption of animal products - many scientists have said this is the main way we can help decrease greenhouse gas emissions.	5	8
Community vegetable gardens	People contribute time, money or resources and in return have fresh food for their families.	3	8
Preserve farm land along irrigation infrastructure	Join MARCo, codify food system health into the General Plan update, zoning code, and subdivision regulations.	0	3
Seek Co-Benefit Solutions: The Built Environment, Climate Change, and Health	ajpmonline.org/article/S0749-3797(08)00682-X/fulltext Quoting the abstract: "The earth's climate is changing, due largely to greenhouse gas emissions resulting from human activity. These human-generated gases derive in part from aspects of the built environment such as transportation systems and infrastructure, building construction and operation, and land-use planning. Transportation, the largest end-use consumer of energy, affects human health directly through air pollution and subsequent respiratory effects, as well as indirectly through physical activity behavior. Buildings contribute to climate change, influence transportation, and affect health through the materials utilized, decisions about sites, electricity and water usage, and landscape surroundings." In terms of the local government responsibility, transportation policy is largely in the government's hands. Local control of right-of-way is a public asset, but it's also a liability when it's impacts generate long-term harm to the climate/ecosystem, harm human lives, and burden economic sustainability with heavy tax burdens for unfunded maintenance projections. No private investment can alter the transportation system in the ways that public policy and transportation systems design can. THIS MAKES IT THE CITY'S RESPONSIBILITY TO PRIORITIZE THE CLIMATE RESPONSE IN TRANSPORTATION.	1	4

Food Systems			
Title	Description	Votes	Visitors
Urban Aeroponic Farming	Companies such as Bowery and AeroFarms have revolutionized farming of staples such as lettuce, arugula, and spices like basil, oregano, cilantro, etc. By utilizing old warehouse and industrial buildings to build vertical aeroponic farms, massive quantities of food can be grown all year round with far greater efficiency than traditional farming. The best part is, not only does this utilize abandoned buildings and land and create jobs within the city, but it also significantly reduces the need for dangerous pesticides, and greatly reduces emissions related with the transport of the produce, as it is grown directly within the city. The City of Mesa should try to invite a company like this to our city to create a farm of this kind, that will use far less water and land but still provide essential food items to much of our city's population.	1	1
Sustainable Classes	Classes/resources of how to start and maintain a successful, sustainable square-foot garden. More seed sharing programs.	0	0
Comment response to "community vegetable gardens"	Increase consumption of plant based foods majority of meals	0	0

Appendix C: Marketing Channels

Help Shape Mesa's Footprint for the Future

SURVEY RESPONSE REPORT

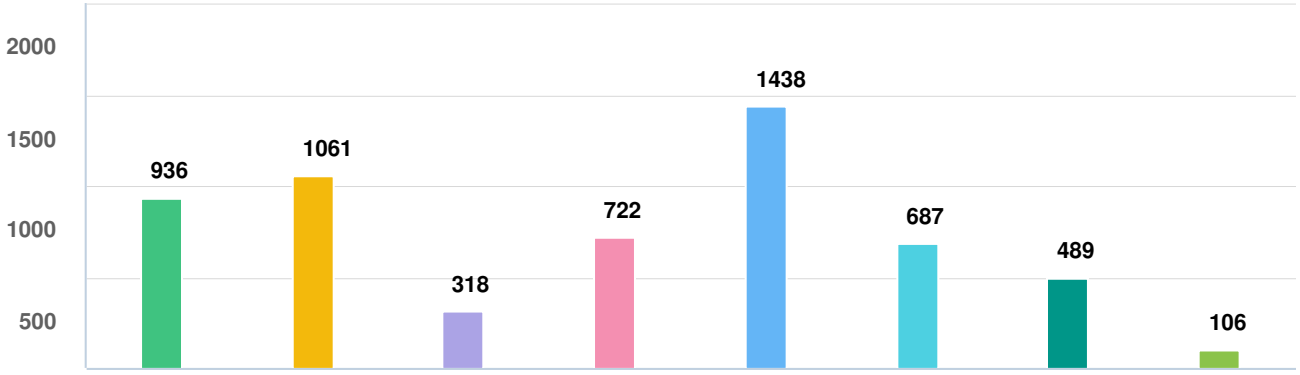
February 2022

PROJECT NAME:
Climate Action Plan

How important are the following climate-related hazards to you?

Optional question (2216 response(s), 5 skipped)
Question type: Likert Question

What are your top priorities to help reduce climate change impacts?

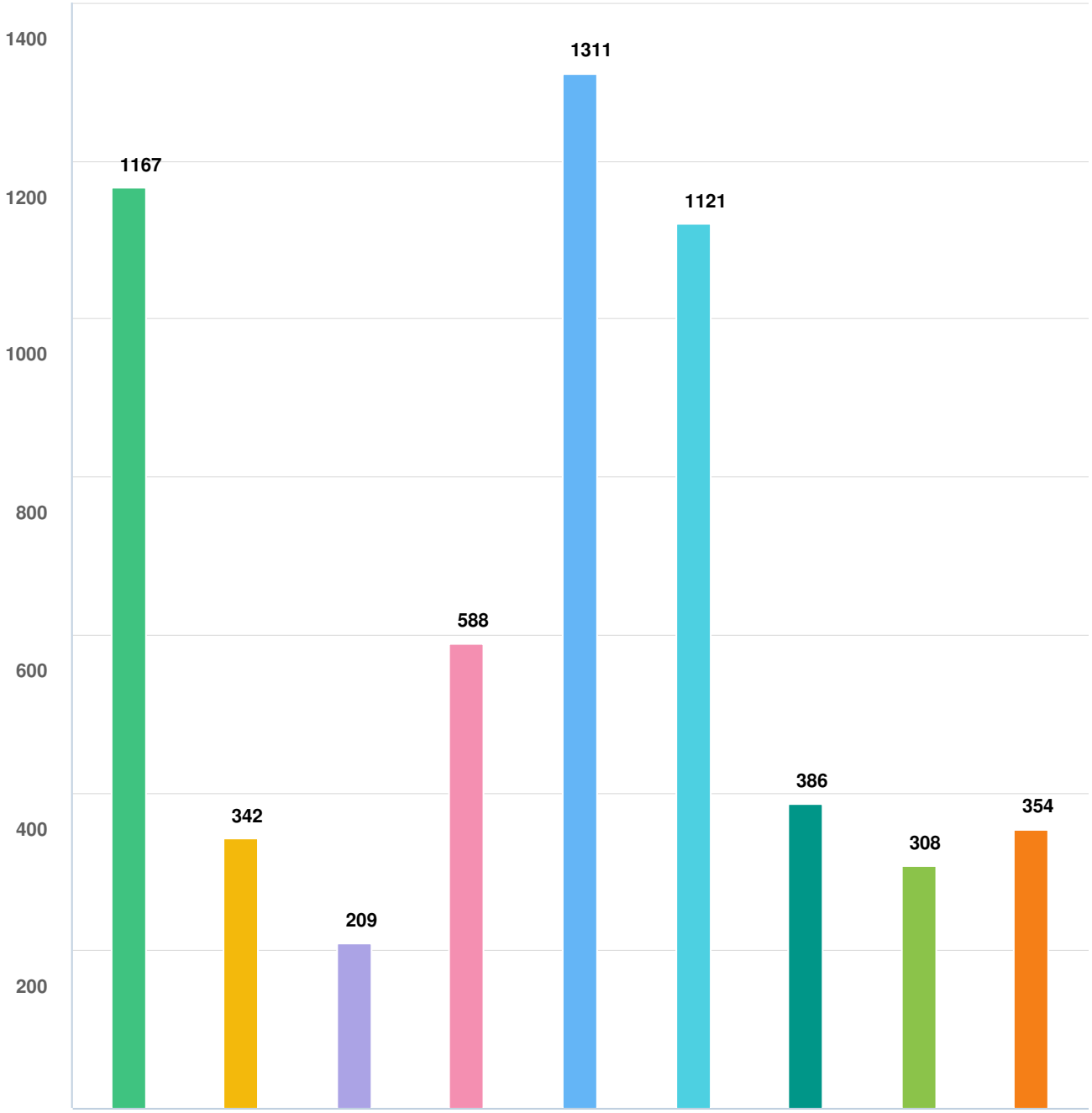


Question options

- Improve Air Quality
- Transition to Renewable Energy
- Improve Disaster Preparedness
- Reduce Landfill Waste
- Responsible Water Management
- Mitigate/Reduce Urban Heat
- More Sustainable Food Systems
- Other (please specify)

Optional question (2206 response(s), 15 skipped)
Question type: Checkbox Question

What City initiatives do you think would provide the most benefit?

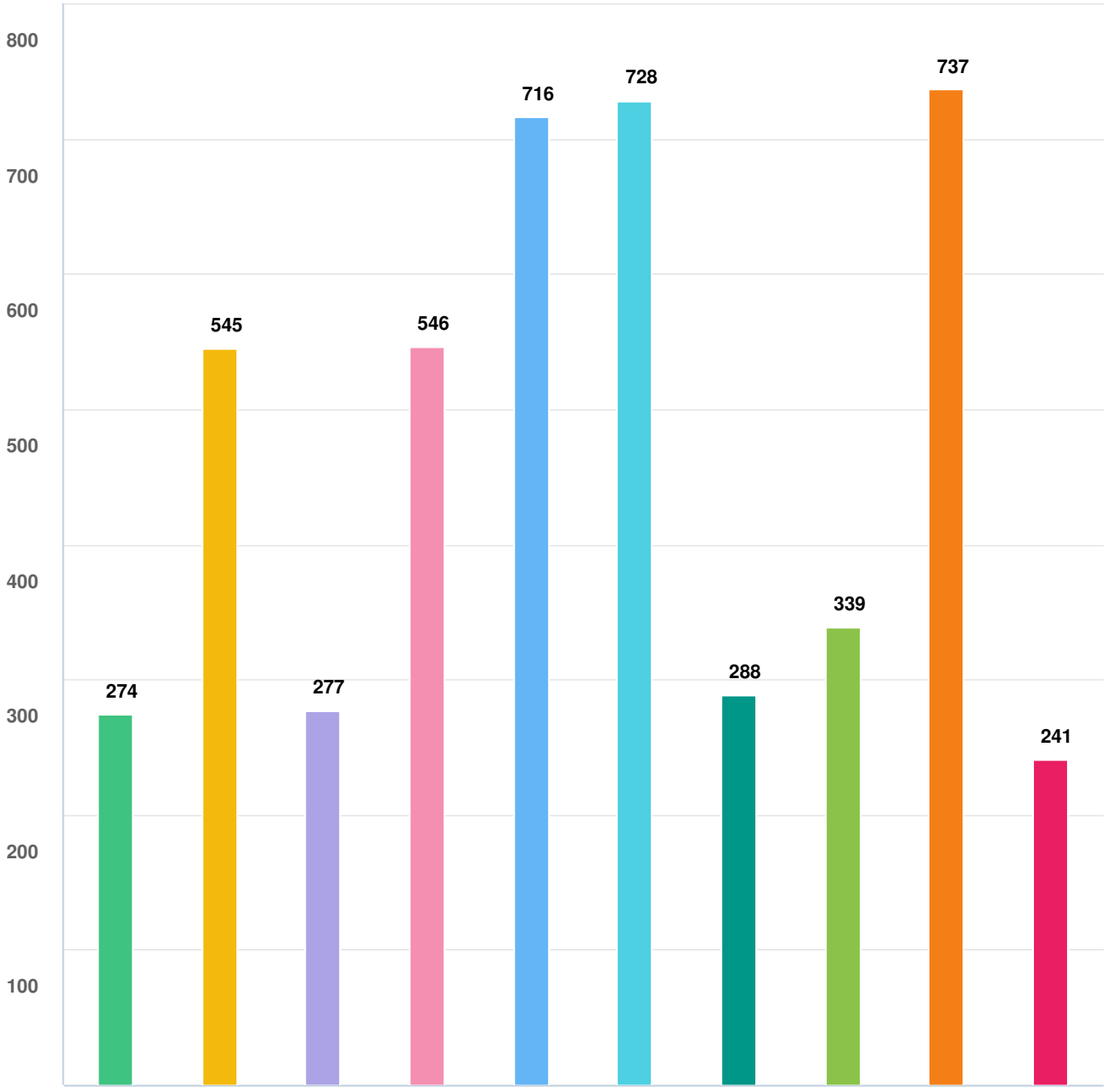


Question options

- Tree and shade plan
- Adopt advanced building standards
- Support for a carbon tax
- Producer waste solutions and/or policies
- Resilient water supply
- Increase renewable energy infrastructure
- Improve availability of electric and alternative vehicle options
- Conversion of vehicle fleets to natural gas or electric
- Increased bicycle and pedestrian lanes/pathways

Optional question (2188 response(s), 33 skipped)
Question type: Checkbox Question

What would make you consider modes of transportation other than a car?

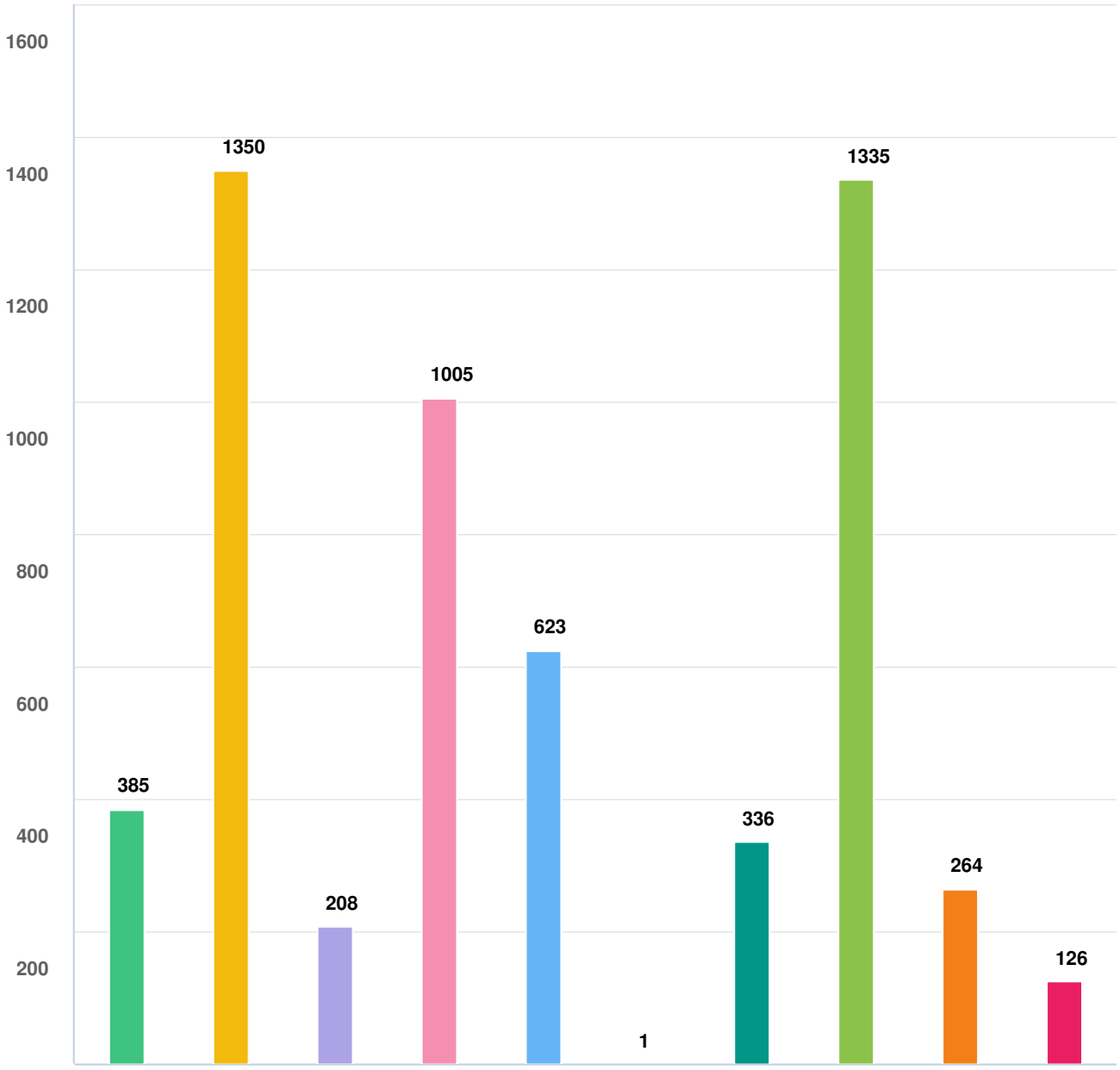


Question options

- More frequent bus service
- Bus or transit closer to my home, my business, or where I want to go
- Bus service later in the evening and better service on weekends
- More neighborhood routes (similar to the downtown Buzz)
- More shaded sidewalks and transit stops
- Enhanced bike and pedestrian paths like bike lanes, sidewalks, and crosswalks
- Electric bikeshare and/or scooter share programs
- Easier access to or employer supported carpools and vanpools
- More stores and services within walking/biking distance of my home
- Other (please specify)

Optional question (2092 response(s), 129 skipped)
Question type: Checkbox Question

Which of the top Energy reducing actions are you currently taking, or are you willing to start doing?

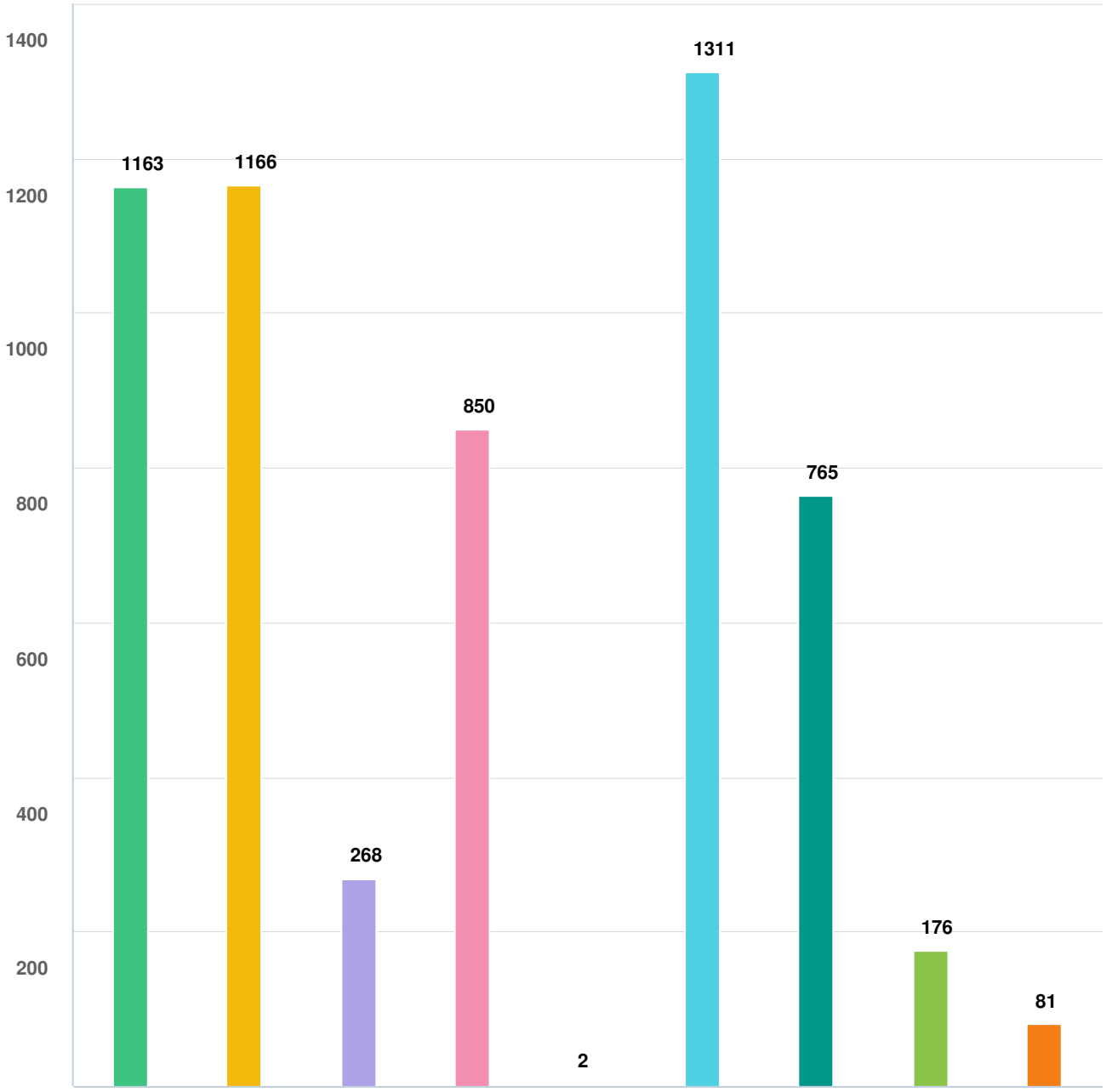


Question options

- Energy audit to evaluate best improvements to save energy
- Energy efficiency upgrades, such as appliances, windows, and smart thermostats, etc
- Plan, build, or renovate with net-zero energy concepts in mind
- Plant shade trees to reduce cooling costs
- Install solar energy
- Install a battery storage system for my solar photo-voltaic system to reduce peak energy usage
- Program to purchase solar energy
- Maintain air conditioning system for efficiencies with filter changes and regular inspections
- Programs to learn more about energy efficiency
- Other (please specify)

Optional question (2188 response(s), 33 skipped)
Question type: Checkbox Question

When making a purchase which actions are you currently taking, or are you willing to start doing?

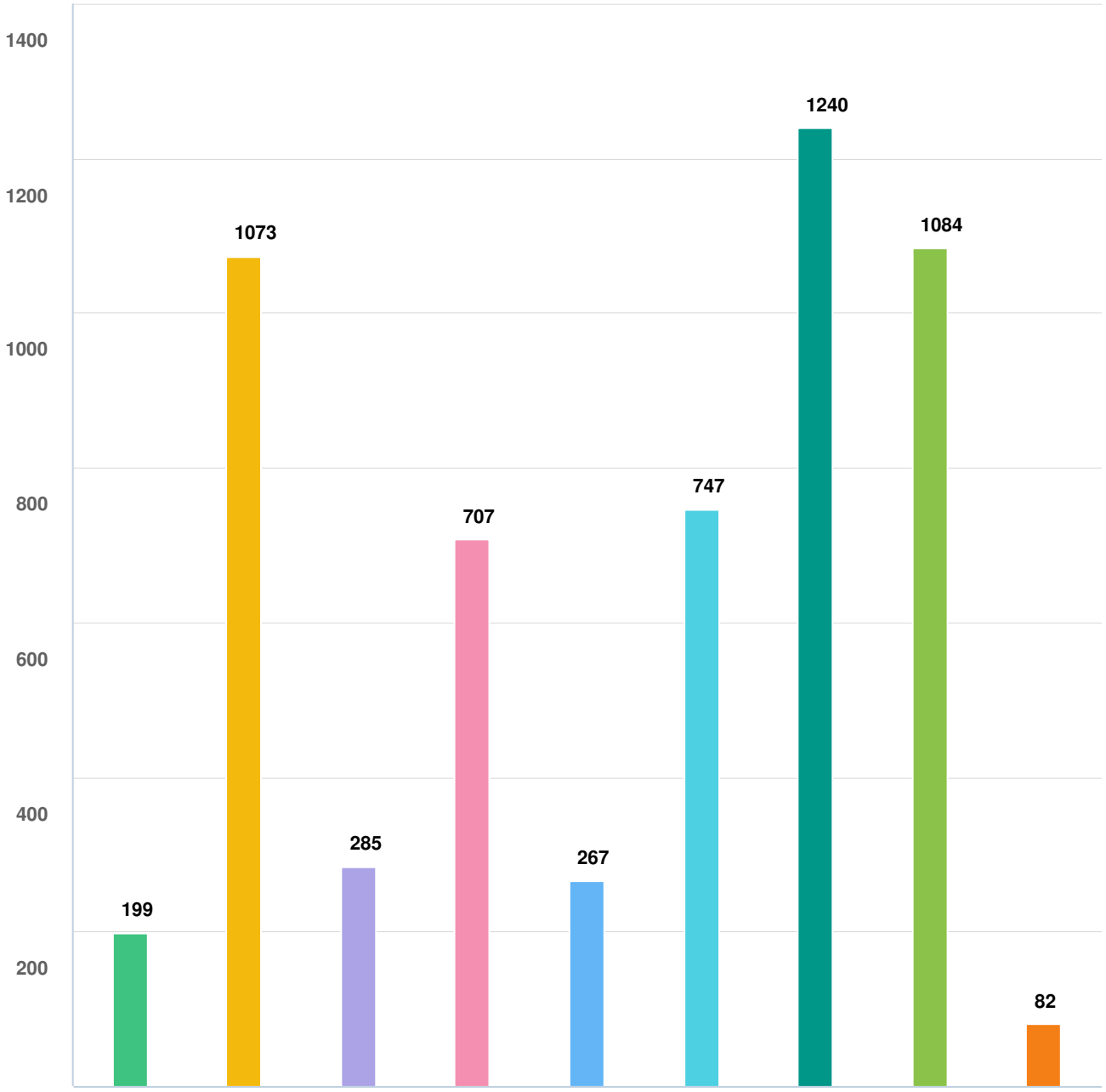


Question options

- Products made from renewable materials, or little or no packaging
- Locally produced items
- Carefully plan purchases to “right-size” orders
- Avoid single use items
- Buy products, including foods, with little to no packaging
- Reusable containers, rather than disposable
- Purchase repairable items/repair existing items
- Research manufacturer’s policies related to earth-friendly manufacturing
- Other (please specify)

Optional question (2186 response(s), 35 skipped)
Question type: Checkbox Question

Which actions are you currently taking, or are you willing to start doing to reduce waste at the landfill?

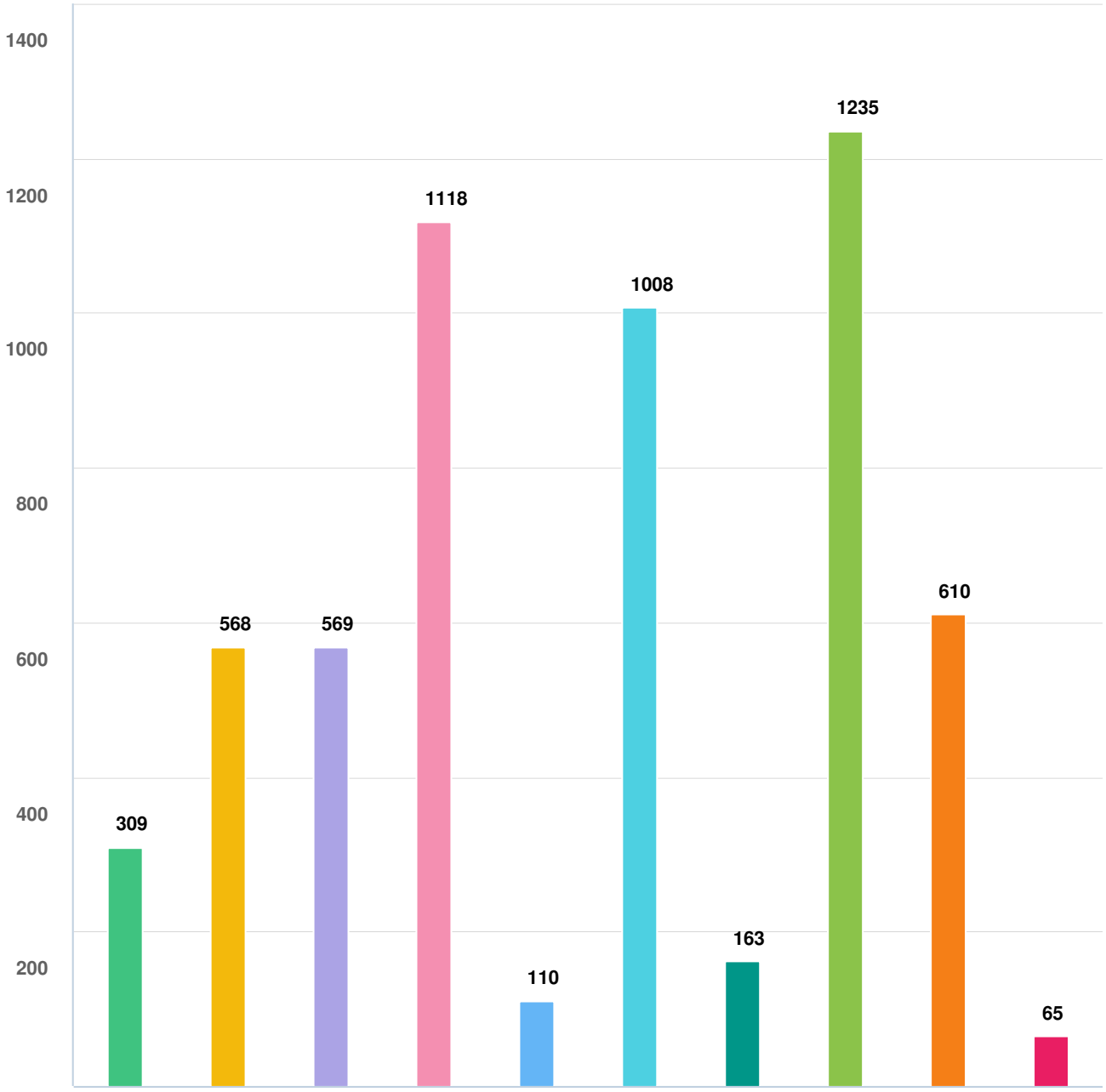


Question options

- Waste audit at your home or business
- Managing shopping, use, and storage practices to reduce food waste
- Food waste collection program at my home or work
- Compost food and landscaping waste
- 'Grasscycle' with a mulching lawn mower instead of bagging clippings
- Look for 'greener' and safer alternatives to products
- Donate electronics, appliances, equipment, and other usable items for reuse
- Dispose of end-of-life electronics, appliances, and equipment at recycling facilities or businesses
- Other (please specify)

Optional question (2179 response(s), 42 skipped)
Question type: Checkbox Question

Which water conservation actions are you currently taking or are you willing to start doing?

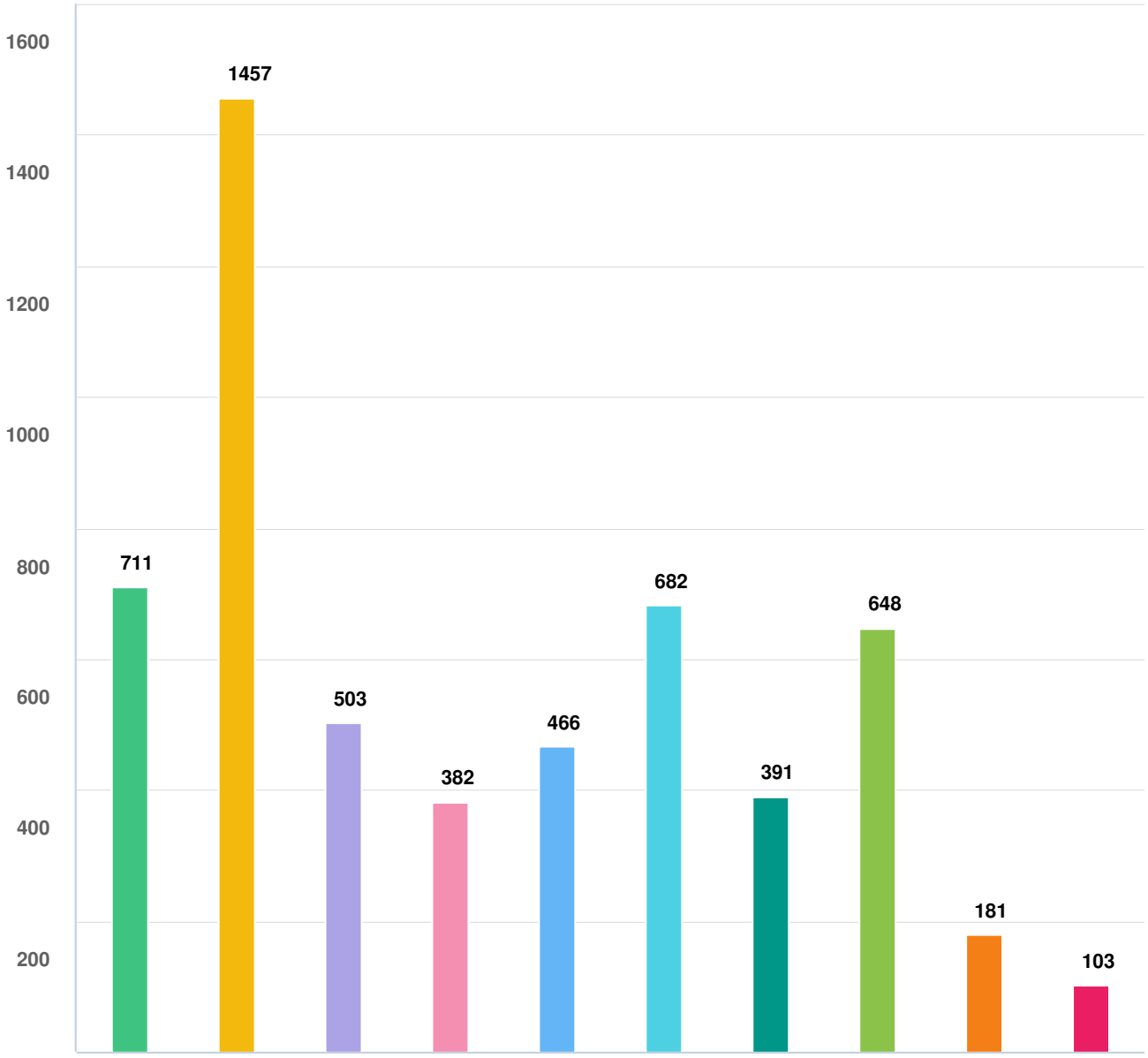


Question options

- Water audit to evaluate improvements to save water
- Install “WaterSense” labelled fixtures for toilets and showerheads
- Install smart irrigation equipment that adjusts watering seasonally
- Install a desert-adapted landscape
- Remove a pool or hot tub from the property
- Repair leaks to reduce water loss
- Add a cover to a pool or hot tub to reduce evaporative water losses
- Monitor water bill and water usage regularly
- Look for ways to harvest rainwater and greywater for the landscape
- Other (please specify)

Optional question (2190 response(s), 31 skipped)
Question type: Checkbox Question

What would encourage you and your family to eat more locally grown, lower impact foods?

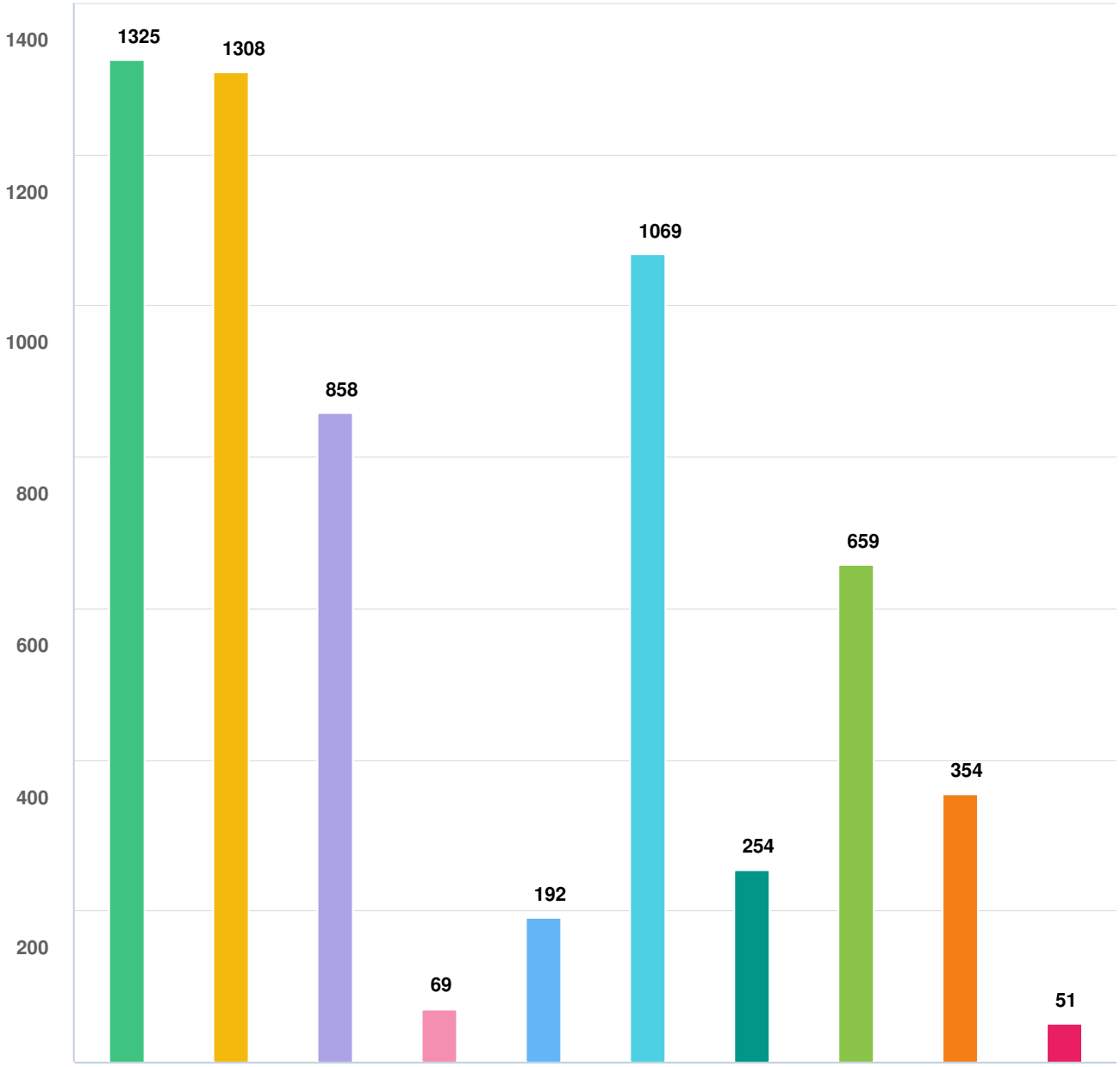


Question options

- Community garden close to my home or work
- Farmer's market or similar events
- Tasty and affordable alternatives to meat and dairy products
- Grocery store within walking distance
- Signage and labels to recognize organic or local produce
- More farm-to-table restaurants near me
- Educational workshops on how to grow and cook healthy foods
- Access to a local farmers CSA (community supported agriculture) close to my home or workplace
- A climate change food calculator app to measure my carbon impact, and change my buying and eating habits
- Other (please specify)

Optional question (2162 response(s), 59 skipped)
Question type: Checkbox Question

Which urban heat mitigation/reduction actions do you support?

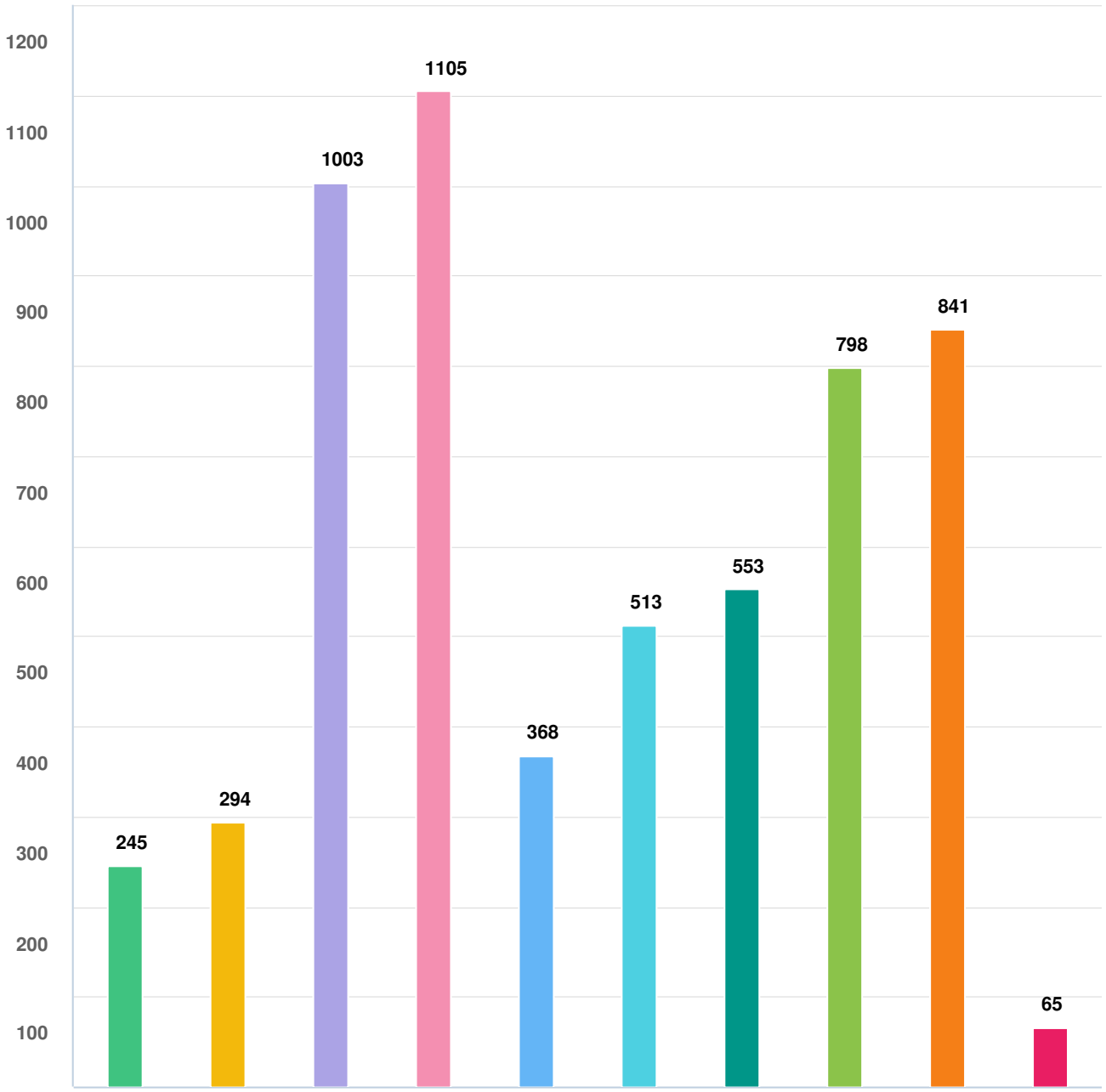


Question options

- Tree planting initiatives and urban forest management programs
- Solar covered parking at public buildings and businesses
- Conservation and preservation of natural areas and open space
- Preparation of the workforce for climate risks at work sites
- Community programs that educate and encourage checking on neighbors
- Use of alternative asphalt types and paving materials to absorb less heat
- Use of permeable paving and rain gardens
- Use of “cool roofs” that reflect sunlight and absorb less heat
- Cooling stations at public spaces during extreme heat events
- Other (please specify)

Optional question (2195 response(s), 26 skipped)
Question type: Checkbox Question

Which air quality improvement actions are you currently taking or are you willing to start doing?

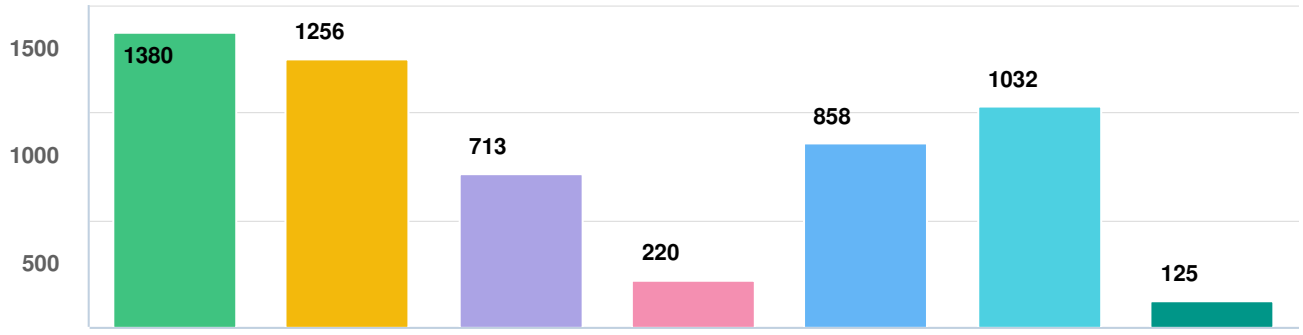


Question options

- Take a bus, carpool or work-from-home on high-pollution advisory days
- Walk or ride your bike to work
- Teleworking/work-from-home policies
- Plant more trees
- Replace or eliminate wood burning fireplaces and firepits
- Electric vehicle for personal or business use
- Use electric lawn equipment and reduce the use of leaf blowers
- Support restrictions of individual firework displays
- Drive smarter by accelerating and stopping gradually, combining errands, and limiting idling
- Other (please specify)

Optional question (2188 response(s), 33 skipped)
Question type: Checkbox Question

I would be more likely to participate in climate solution activities if:

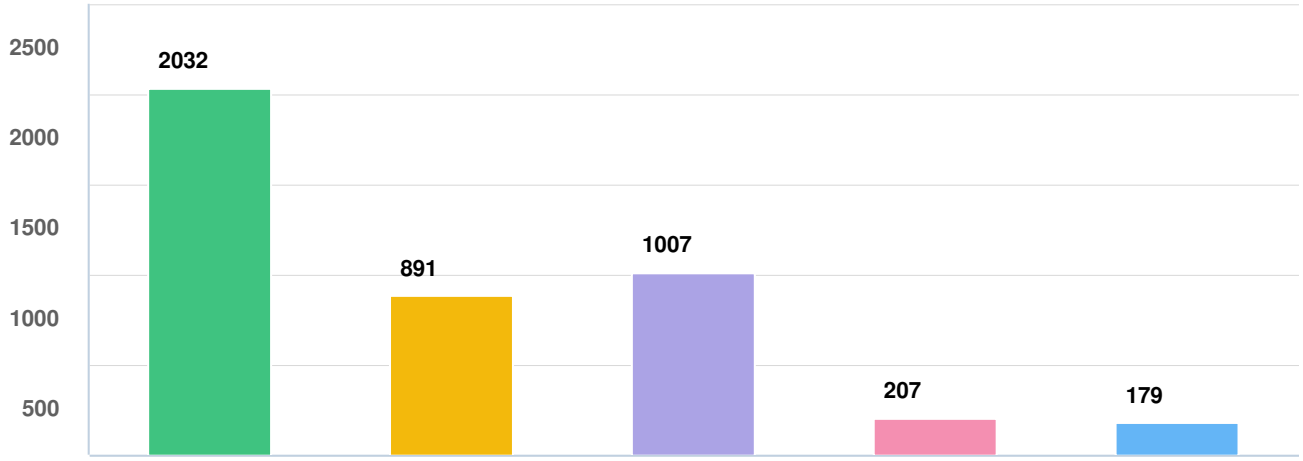


Question options

- They saved me money
- There was a tax break, incentive, or rebate
- If I better understood how I could help and how my actions make an impact
- The activities were something my friends, co-workers, or family members did
- They took place in my own neighborhood
- I knew that the City of Mesa was also taking action
- Other (please specify)

Optional question (2176 response(s), 45 skipped)
Question type: Checkbox Question

Select which of these describe you.



Question options

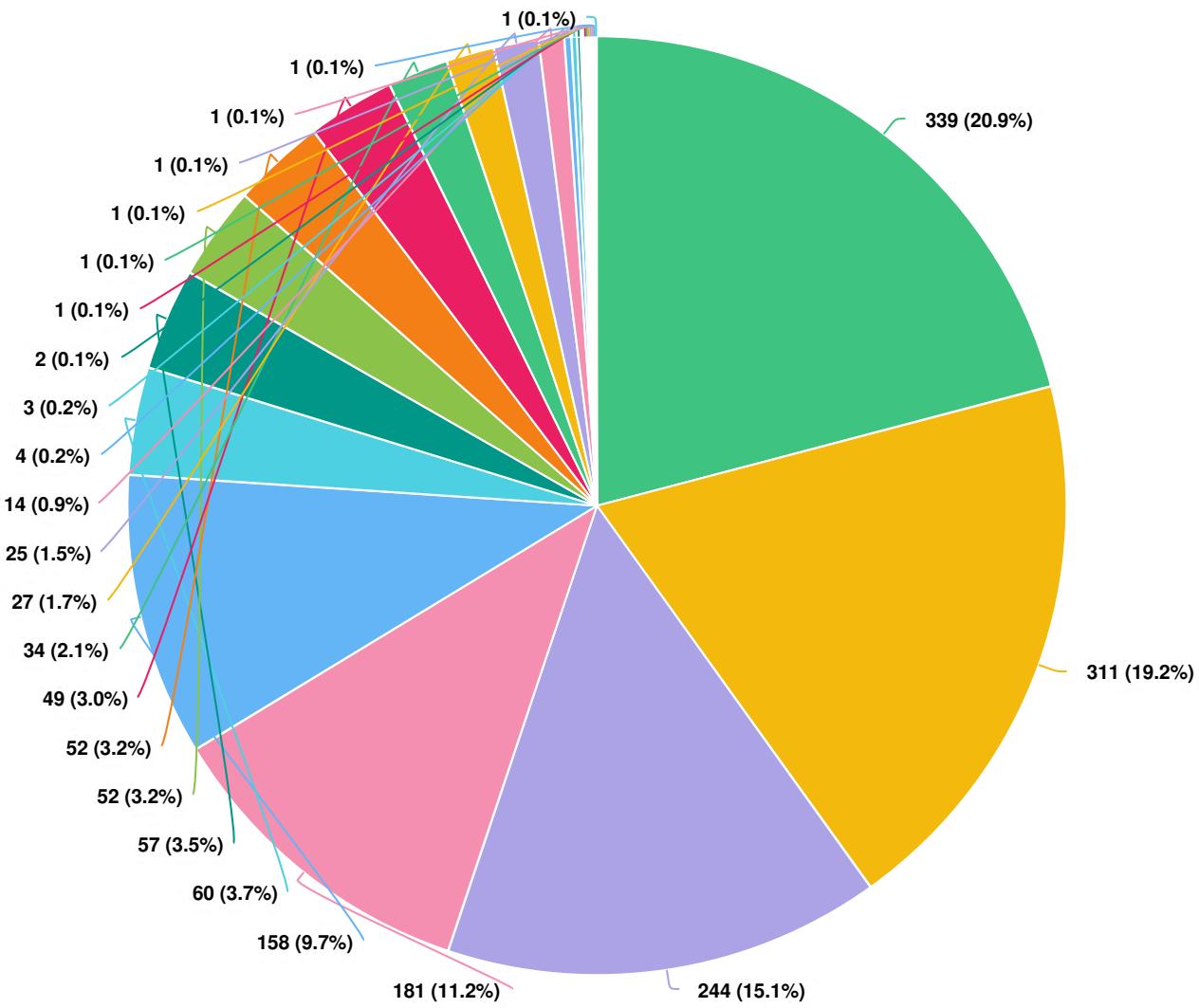
- Live in Mesa
- Work in Mesa
- Play in Mesa
- Study in Mesa
- Own a business in Mesa

Optional question (2207 response(s), 14 skipped)
Question type: Checkbox Question

How important to you are the following individual and community benefits provided by the implementation of climate solutions?

Optional question (2202 response(s), 19 skipped)
Question type: Likert Question

Enter the Zip code that you live or mostly frequently visit in Mesa.

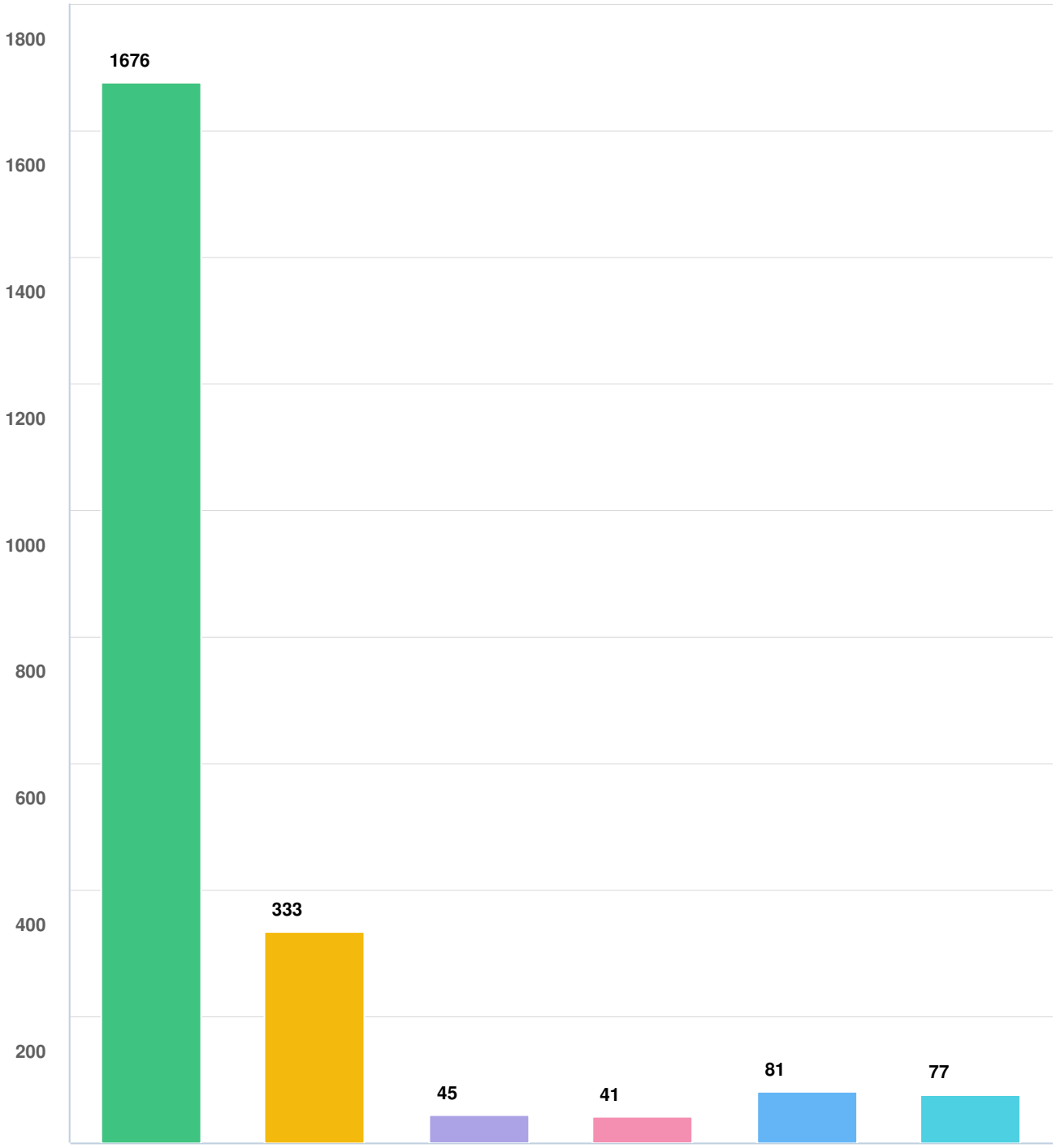


Question options

Mesa, AZ 85204 | Mesa, AZ 85201 | Mesa, AZ 85202 | Mesa, AZ 85210 | Mesa, AZ 85212
Mesa, AZ 85207 | Mesa, AZ 85209 | Mesa, AZ 85213 | Mesa, AZ 85203 | Mesa, AZ 85205
Mesa, AZ 85206 | Mesa, AZ 85208 | Mesa, AZ 85215 | Mesa, AZ 85211 | skipped
Queen Creek, AZ 85140 | Chandler, AZ 85224 | Gilbert, AZ 85234 | Tempe, AZ 85282 | Gilbert, AZ 85296
Gilbert, AZ 85298 | Queen Creek, AZ 85143 | Gilbert, AZ 85233 | Tempe, AZ 85283
Gold Canyon, AZ 85218 | Chandler, AZ 85249

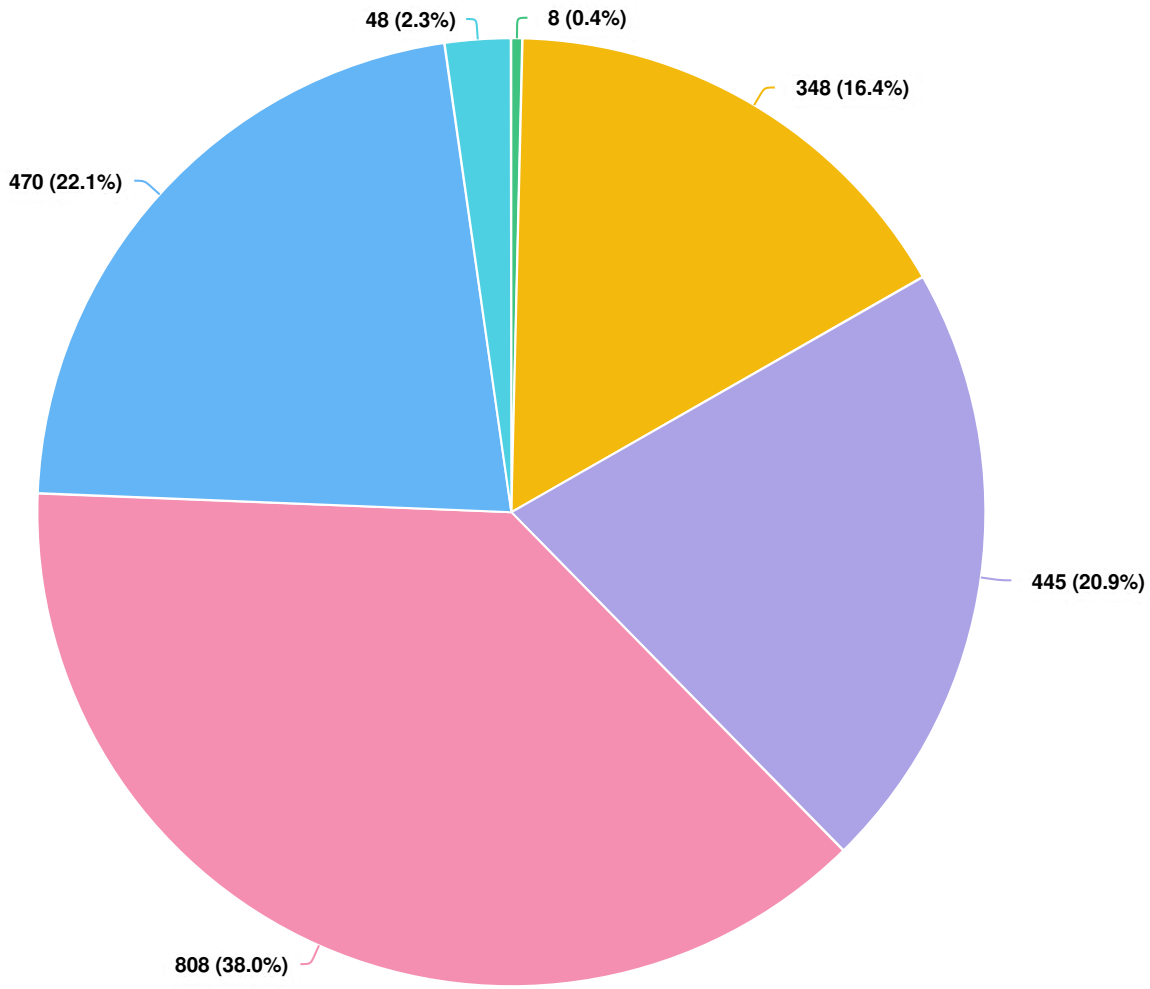
Optional question (1617 response(s), 604 skipped)
Question type: Region Question

What is your ethnicity?



Optional question (2145 response(s), 76 skipped)
Question type: Checkbox Question

What is your age?



Question options

Under 18 | 18-34 years | 35-44 years | 45-64 years | 65+ years | I prefer not to answer

Optional question (2127 response(s), 94 skipped)
Question type: Dropdown Question

Appendix D: Final Survey Responses Report

Mesa Climate Action Plan: Community Engagement Strategies	
Newsletters	• COM Email Blast - Targeted Zip Codes • Community Engagement eNewsletter • Economic Development Small Business eNewsletter • Green Living Magazine email blast • Library eNewsletter • Living Green Events eNewletter • OpenLine eNewsletter • Parks eNewsletter • Watering Reminder eNewsletter
Virtual Promotions	• Climate Action Plan Webpage • COM My Utility Portal • COM Social Media Accounts • COM Social Mesa Accounts for Councilmembers • COM Website Homescreen Banner • Community Webpages for neighborhoods: Dobson Ranch, Eastmark • Footprint for Future Mesa Website • Inside Mesa Webpage to City Employees • Sustainability Webpage
Digital Media	• COM Facebook • COM Facebook - Paid Ads (Targeted Audience) • COM Facebook en Espanol • COM Facebook en Espanol - Paid Ads (Targeted Audience) • COM Instagram Story (Contact Delia) • COM Twitter • Digital Billboards Around Mesa • Living Green Mesa Twitter • Mayor Facebook & Twitter • Mesa City Plaza TV in Lobby (web banner) • Mesa Public Schools Peach Jar – Paid Post (Flyer) • Next Door – 'Let's Get Quizzical' feature • Next Door - Posts (general messaging) • Other Councilmember Facebook & Twitter • Social Posts for Dobson Ranch Community (Nancy Roggio) • Social Posts for Eastmark Community (Stephanie Madden)
	"COM" Refers to City of Mesa

Mesa Climate Action Plan: Community Engagement Strategies	
Print Media	• Green Living Magazine Ad • Mesa Tribune Ads • Spoke Life Magazine Ad • Utility Paper Bill Text Message
Press Release	• Mesa Now Press Release
Specialty Groups	• Asian Chamber of Commerce • Downtown Mesa Association • East Valley Hispanic Chamber • East Valley NAACP • LISC • Local First Arizona • Mayor's Youth Committee • Mesa Association of Hispanic Citizens • Mesa Chamber of Commerce • Mesa Hispanic Network • RAIL Mesa
A-Frame Boards	• Arizona Museum of Natural History • IDEA Museum • Mesa Arts Center
Events	• Asian Festival • Celebrate Mesa • Human Relations Advisory Board Meeting
"COM" Refers to City of Mesa	

Focus Area	Target	Strategy	GHG Impact	Leads	Time frame	Co-Benefits
Energy						
1.1	**Reduce energy use and decarbonize buildings**					
	a	Develop programs that improve building energy efficiency, with a goal of net-zero GHG emission energy use.	High	City and Community	Medium	
	b	Improve energy performance in less efficient buildings with periodic, cost effective and incremental energy efficiency improvements.	High	City and Community	Ongoing	
	c	Weatherize City buildings in need of energy efficiency improvement. Pair with strategies like electric vehicle charging, energy storage, and fuel switching.	High	City	Ongoing	
	d	Promote use of established home energy rating system for all single-family home so potential buyers and renters can make informed decisions.	Medium	City	Medium	
	e	Partner with local utilities and non-profit organizations to weatherize homes and multifamily dwellings for those with the largest risk of the negative effects of climate change. Extend partnerships to commercial facilities to help small business stay ahead of potentially rising energy costs and climate challenges.	High	City and Community	Medium	
1.2	**Reduce energy use and decarbonize transportation**					
	a	Increase access to healthy transportation options, like active transportation (walking, biking), carpooling, public transit, and next generation mobility, with goal to reduce vehicle miles traveled in single occupant vehicles.	High	City and Community	Medium	
	b	Develop an electric vehicle charging master plan for deployment of charging infrastructure at City sites, such as parks, libraries and rights-of-way, with special attention to neighborhoods where charging infrastructure is not available.	High	City and Community	Short	
	c	Work collaboratively with the community on strategies that will increase electric vehicle charging infrastructure-ready homes and businesses.	High	City and Community	Medium	
	d	Advocate for access to electric vehicles for low-income people.	High	City and Community	Medium	
1.3	**Increase the use of clean, renewable energy and decarbonize the grid**					
	a	Accelerate the use of carbon-free, renewable energy supplies that come from hydroelectric, solar, biogas, wind, and other innovative technologies in local utility energy portfolios.	High	City	Short	
	b	Expand on-site renewable energy generation and storage capacity to support resilience in the community.	High	City and Community	Short	
	c	Subscribe to and advocate for utility scale renewable energy projects that provide energy for the community.	High	City	Short	
	d	Accelerate the installation of infrastructure for electric vehicles and renewable natural gas vehicles.	High	City and Community	Short	
	e	Support community-based renewable energy initiatives.	High	City and Community	Short	
	f	Use verified and proven carbon offsets where renewable energy options are not feasible.	High	City and Utility	Medium	
1.4	**Maintain a resilient, clean energy supply**					
	a	Invest in resilient energy sources and infrastructure.	Resilience	City and Utility	Short	
	b	Advocate for resilient energy supplies for the community.	Resilience	City and Community	Medium	

Focus Area	Target	Strategy	GHG Impact	Leads	Time frame	Co-Benefits
Air Quality						
2.1	**Reduce GHGs and ozone**					
	a	Implement programs that help Mesa meet US EPA National Ambient Air Quality Standards.	Resilience	City	Medium	
	b	Educate community on the value of energy efficiency and the transition to carbon-free energy.	High	City and Utility	Short	
	c	Enhance comfortable, walkable connections to public facilities, parks, and neighborhood-level services. Promote compact, healthy, livable land use patterns.	Resilience	City and Community	Short	
	d	Develop a tree and shade master plan that will be part of the evaluation of walkable connections and promote carbon sequestration.	Medium	City	Medium	
	e	Provide transit options and transportation networks, such as electric vehicles charging stations, for longer trips.	High	City and Community	Medium	
	f	Convert gasoline and diesel-powered powered equipment, such as landscaping and construction equipment, to electric or low-emission fuels.	High	City and Community	Medium	
	g	Reduce vehicle trips on High Pollution Advisory Days.	High	City and Community	Medium	
2.2	**Reduce dust**					
	a	Implement strategies that result in stricter adherence with Maricopa County dust control regulations.	Resilience	City	Medium	
	b	Invest in the urban forest, including appropriate plant selection, irrigation and care.	Resilience	City and Community	Short	
2.3	**Reduce smoke**					
	a	Enhance local compliance with smoke emission requirements on “no-burn” days through outreach and incentives.	Resilience	City	Medium	
2.4	**Increase community commitment to air quality recommendations**					
	a	Enhance inclusive community education on Maricopa County’s Clean Air Make More program and other collaborative air quality programs.	Resilience	City	Short	

Focus Area	Target	Strategy	GHG Impact	Leads	Time frame	Co-Benefits
Urban Heat Mitigation						
3.1	**Mitigate heat island effect in urban areas**					
	a	Coordinate with ASU, Arizona Department of Health Services, National Oceanic and Atmospheric Administration and similar organizations on the collection and distribution of heat and weather data for the community.	Resilience	City	Short	ENERGY, AIR QUALITY, WATER STEWARDSHIP
	b	Identify shading strategies for key pedestrian networks, including transit stops.	Resilience	City	Medium	
	c	Develop a plan with recommendations for strategic placement of trees and structured shade.	Medium	City	Medium	
	d	Reduce the number of unshaded transit stops through the use of trees or structural shade elements.	Resilience	City	Medium	WATER STEWARDSHIP
	e	Collaborate with designers, engineers and contractors to use alternative materials and coatings hold less heat and that more effectively dissipate heat.	Medium	City and Community	Medium	ENERGY, AIR QUALITY, WATER STEWARDSHIP, MATERIALS MANAGEMENT
	f	Promote the use of green infrastructure and stormwater management.	Medium	City	Medium	ENERGY, AIR QUALITY, WATER STEWARDSHIP
	g	Install solar canopy parking structures in parking lots.	Resilience	City and Community	Short	
3.2	**Support resilient ecosystems and Mesa's natural ability to capture and store carbon**					
	a	Collaborate with community partners to ensure a healthy urban forest.	Resilience	City and Community	Short	ENERGY, AIR QUALITY, WATER STEWARDSHIP
	b	Protect natural open space and conserve native wildlife, plants, and natural areas.	Resilience	City and Community	Medium	
	c	Manage areas to support resilient ecosystems and biodiversity.	Resilience	City and Community	Short	
	d	Support resilient ecosystems through selection of desert adapted trees and plants that will thrive in the anticipated climate of 2030.	Resilience	City and Community	Medium	
3.3	**Prepare the community and workforce**					
	a	Develop an energy performance and heat resilience program that provides a path to weatherize less efficient homes and businesses.	Resilience	City and Community	Medium	ENERGY, AIR QUALITY, WATER STEWARDSHIP
	b	Foster a safe work environment by preparing workforce for climate change risks they may encounter at their work sites.	Resilience	City and Employers	Short	ENERGY
	c	Provide the resources necessary to adequately prepare the community for climate change risks that may affect their home or work environment.	Resilience	City, Community and Employers	Medium	ENERGY, AIR QUALITY, WATER STEWARDSHIP
	d	Work with the City's Community Engagement Division and local nonprofits to educate neighborhoods about heat concerns and issues.	Resilience	City	Medium	

Focus Area	Target	Strategy	GHG Impact	Leads	Time frame	Co-Benefits
Water stewardship						
4.1	**Efficient use of potable water**					
	a	Install efficient fixtures and equipment.	Resilience	City and Community	Medium	
	b	Implement effective water conservation strategies and incentives.	Resilience	City and Community	Short	
	c	Enhance incentives for customers to use water efficiently outdoors.	Resilience	City	Medium	
	d	Provide water customers with detailed information about planting, caring for and the value of desert-adapted trees and landscaping. Encourage limiting grass to areas that have recreational value.	Resilience	City	Short	
	e	Conduct audits, install leak detection and replace water cooled equipment with efficient air-cooled equipment.	Resilience	City and Community	Medium	
	f	Collaborate with utilities and the community to develop a water use efficiency performance program, including incentives, so that less efficient users understand how to make periodic, cost-effective, incremental water efficiency improvements, indoors and out.	Resilience	City and Community	Short	
	g	Expand the City's conservation education and outreach programs for students. Challenge students at all levels to learn about conservation strategies, engage in conservation research and develop water efficiency solutions.	Resilience	City	Medium	
4.2	**Protect surface water resources**					
	a	Look for opportunities in new City projects, parks, roads and buildings, as illustrated in the Low Impact Development Toolkit and the Greater Phoenix Green Infrastructure and Low Impact Development Details for Alternative Stormwater Management.	Resilience	City	Medium	
	b	Reduce stormwater pollution by installing stormwater quality retrofit pilot projects on three City sites. Coordinate flood control with water quality projects.	Resilience	City	Short	
	c	Protect natural resources and conserve natural areas.	Resilience	City and Community	Medium	
4.3	**Maintain a resilient water supply for City operations**					
	a	Invest in resilient water infrastructure projects to maintain resilient water supplies.	Resilience	City	Short	
	b	Implement strategies and infrastructure that optimize reuse and underground water storage.	Resilience	City	Short	

Focus Area	Target	Strategy	GHG Impact	Leads	Time frame	Co-Benefits
Materials Management						
5.1	**Eliminate GHG emissions, volatile organic compounds (VOCs) and hazardous material to the greatest extent possible**					
	a	Replace chemicals and materials identified as GHG and VOC emitters with alternatives in construction, maintenance, and operations.	Resilience	City and Community	Short	
	b	Select products with low supply chain emissions.	High	City and Community	Short	
	c	Purchase products sourced locally.	High	City and Community	Short	
5.2	**Reduce waste and transform the circular economy**					
	a	Implement mindful purchasing for capital projects, maintenance projects and standard operations.	Medium	City and Community	Medium	
	b	Expand options for reuse and recovery of hard to recycle materials.	Medium	City and Community	Medium	
	c	Develop initiatives that support a circular economy framework and engage the community on upstream solutions to reduce waste.	Medium	City	Medium	 
	d	Reuse, repair, refurbish, repurpose equipment and materials whenever possible and look into alternative markets for reuse.	Medium	City and Community	Medium	
	e	Use the Recycle Right Wizard search tool available at MesaRecycles.org and on the MesaNow app.	Medium	Community	Short	
	f	Strategically set up waste stream systems that beneficially use waste that is not reusable or recyclable to create power from waste.	Medium	City and Community	Medium	 
	g	Reduce waste by converting heavy duty fleet and CNG powered vehicles to low-emission, renewable natural gas vehicles.	High	City	Short	
	h	Work with local organizations to support local businesses that have similar goals.	Medium	City	Short	
	i	Expand education and outreach for sustainable purchasing guidelines.	Medium	City	Medium	
5.3	**Ensure safe and cost-effective long-term disposal**					
	a	Increase long-term landfill sustainability.	Medium	City	Medium	
	b	Advance multi-family and commercial recycling.	Medium	City	Medium	
	c	Turn waste into a resource and promote upstream solutions to reduce waste.	Medium	City and Community	Medium	

Focus Area	Target	Strategy	GHG Impact	Leads	Time frame	Co-Benefits
Local, sustainable food systems						
6.1	**Cultivate natural systems**					
	a	Support low-carbon food production, distribution, and ecosystems. In addition to mitigating climate impacts, this strategy will support biodiversity.	High	City and Community	Medium	
	b	Support sustainable urban growth that includes equitable access to local food systems.	High	City	Medium	
	c	Support a strong community network of successful and culturally diverse businesses that produce, process, cook, transport, and sell foods with the goal of preventing food loss and waste.	Medium	City	Medium	
	d	Optimize waste operations that create energy and compost from waste.	Medium	City	Medium	
	e	Incorporate sustainable growth, agriculture, food processing and distribution into existing and future economic development initiatives.	High	City	Medium	
6.2	**Cultivate local food systems and natural systems**					
	a	Recognize that local food systems and natural systems are an integral part of the economy.	Medium	City and Community	Short	
	b	Encourage backyard gardens and urban gardens (for personal use or business).	Medium	City and Community	Short	
	c	Support sustainable urban growth that includes equitable access to local food systems.	High	City	Medium	
	d	Build agriculture (farms, processing, distribution and sales) into land use planning.	High	City	Medium	
	e	Support a strong community network of successful and culturally diverse businesses that produce, process, cook, transport, and sell foods with the goal of preventing food loss and waste.	High	City	Medium	
	f	Support local agriculture education programs.	Medium	City and Community	Medium	
6.3	**Build a model where all people in Mesa have access to affordable, healthy, local food**					
	a	Encourage farmers markets, promote local gardening and sales.	Medium	City and Community	Short	
	b	Build local food purchases into procurement policies.	Medium	City	Medium	
	c	Partner with local organizations such as Local First Arizona, to provide technical assistance to business owners.	Medium	City and Community	Short	
	d	Provide economic development support for local food businesses.	Medium	City	Medium	
	e	Identify "food deserts" in Mesa, map available parcels, work with non-profits, and remove barriers to filling the gaps.	Medium	City	Medium	
6.4	**Waste and composting**					
	a	Limit food waste by removing obstacles for efficient systems, partner with food banks and grocery stores.	High	City	Medium	
	b	Optimize waste operations that create energy and compost from waste. Lead by example - Food Waste to Energy project.	High	City	Medium	
	c	Work with Phoenix Metro partners to determine which reduction actions will reduce GHG emissions from the production, processing and delivery of food.	Medium	City and Community	Medium	