

CITY OF SEDONA

# Climate Action Plan 2021





# Overview

- ▲ Process Review
- ▲ Target Setting
- ▲ Action List Development
- ▲ Potential Actions
- ▲ Next Steps



# Desired Outcomes

- ▲ Direction on setting a community-wide target
- ▲ Direction on the initial action list

# Process Review





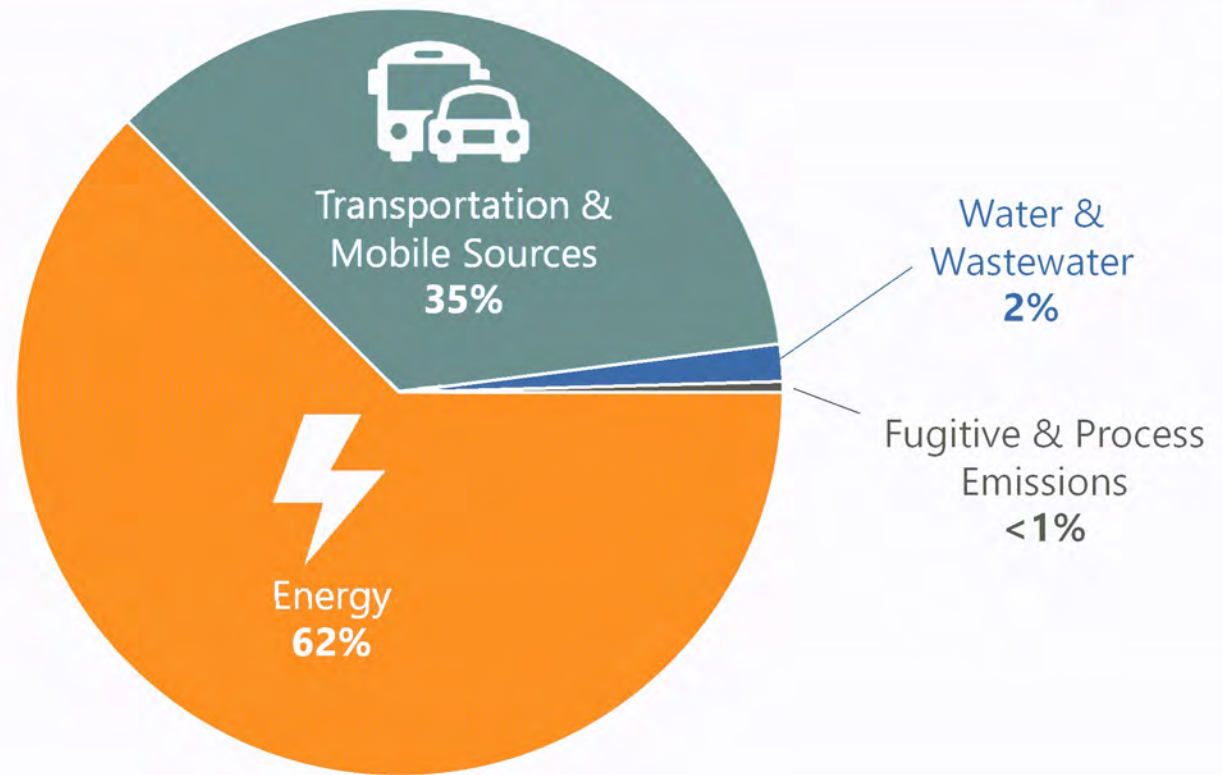
**Emissions** in  
Sedona are  
contributing  
to climate  
change

# Sedona's Top Emissions Sources



**#1**  
**Powering Buildings**  
(including heating & cooling)

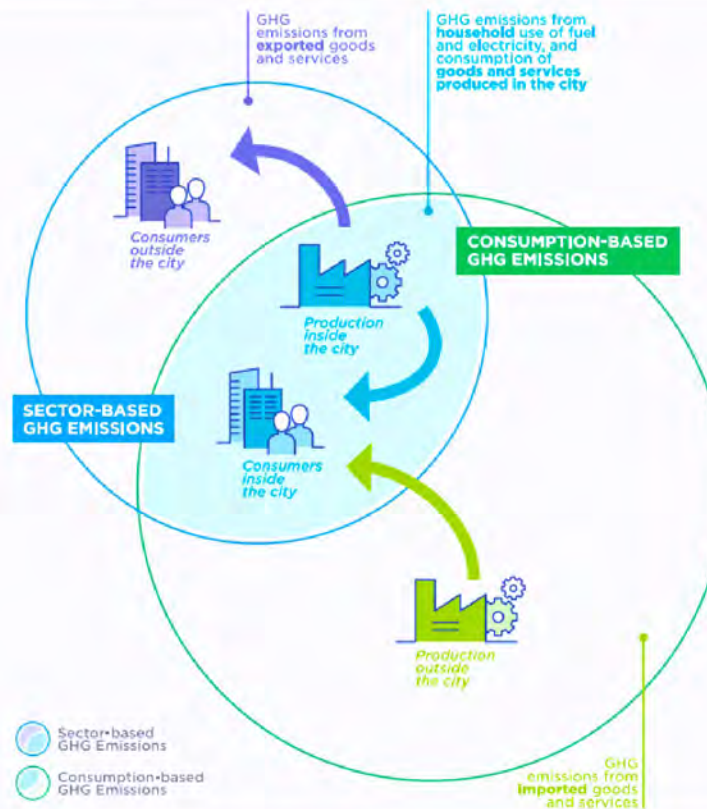
**#2**  
**Vehicle Emissions**





# Consumption-Based Emissions

- Sector-based emissions:  
~210,400 MTCO<sub>2</sub>e
- Consumption-based:  
~240,660 MTCO<sub>2</sub>e





# Why do we need a **Climate Action Plan?**





Climate change poses risks to everything from our health and our infrastructure to local ecosystems



# The **benefits** of a plan for Sedona are **broad**



Enhancing local habitat and recreational opportunities.




Supporting low-income and disadvantaged communities.



Improving quality of life, well-being, and the local economy.



Promoting healthier lifestyles and public health.



A Sedona  
Climate Action  
Plan will establish  
a **clear road  
map** of priority  
actions and  
projects

# Areas of Focus



Transportation  
& Land Use



Water &  
Natural  
Resources



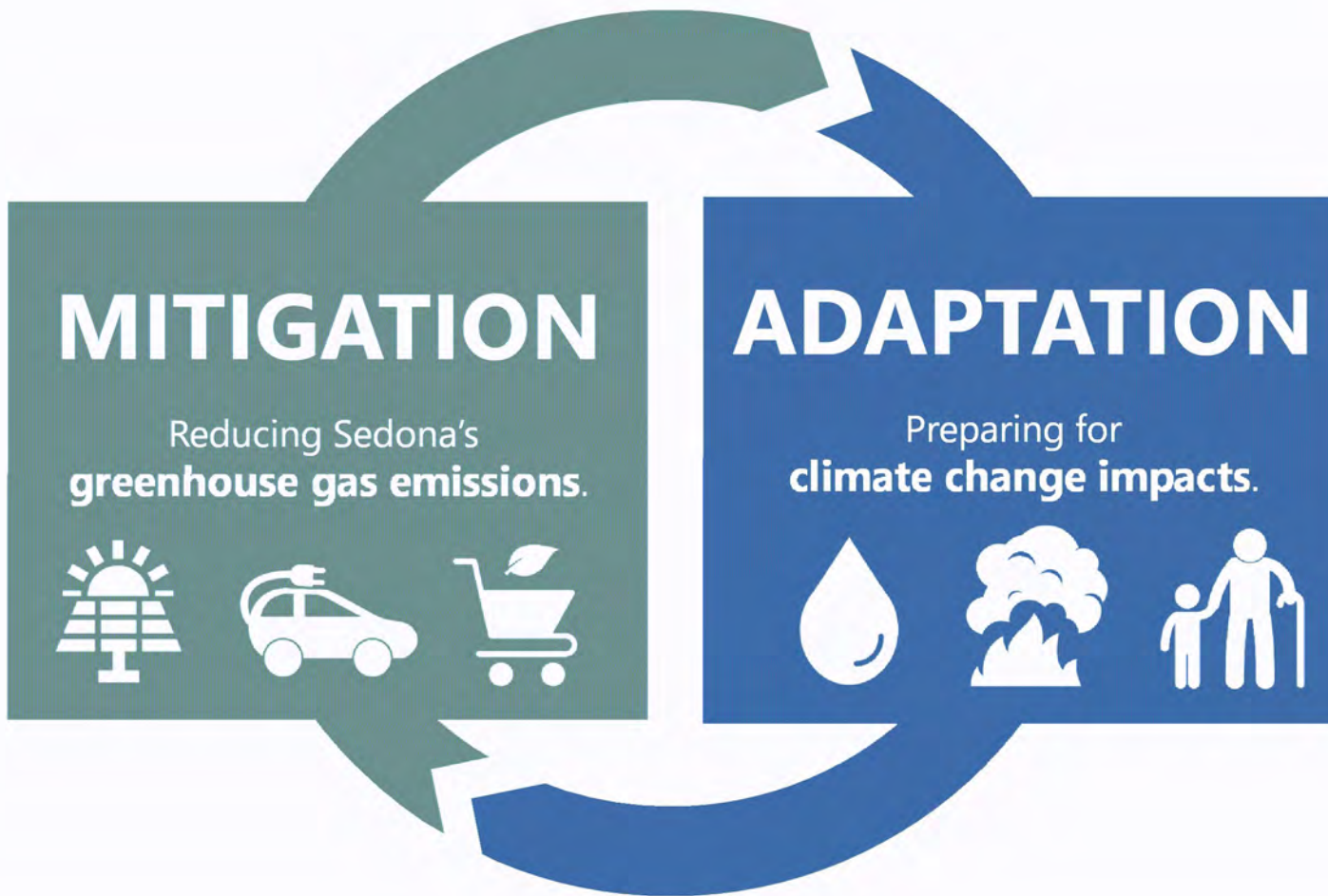
Community  
Resiliency



Waste &  
Consumption



Buildings &  
Energy



# MITIGATION

Reducing Sedona's  
**greenhouse gas emissions.**



# ADAPTATION

Preparing for  
**climate change impacts.**



# Diversity, Equity and Inclusion (DEI)



The Climate Action Plan (CAP) prioritizes strategies and actions that ensure the inclusion of disadvantaged populations and promote equity in the distribution of benefits and burdens.



# Timeline & Process Overview



\*These events will occur throughout the CAP process.

# Advisory Committee



Arizona Public Service

Arizona Water Company

Coconino National Forest

Coconino County

Friends of the Verde

Healthy World Sedona

Northern Arizona Climate Change Alliance

Sedona Chamber of Commerce

Sedona Fire District

Sedona XYZ

Sustainability Alliance

Yavapai County Emergency Management



# This plan will build on the great work that the City and community have already been doing... and identify additional opportunities



## Household hazardous waste and electronics recycling

Sedona and Yavapai County host free household hazardous waste and electronics collection events.



## Sedona in Motion

focuses on projects that reduce environmental and visitor traffic impacts, improve traffic flow, support transit, and expand walking and bike-riding infrastructure and safety.



## The Verde Valley Sustainability Alliance

collaborates with non-profits to foster sustainability take action on climate change.



## Oak Creek Watershed Council

and Friends of the Verde River work to protect the health of our watershed and coordinate watershed cleanups and activities.



## The Municipal Sustainability Plan

which outlines clear steps to addressing sustainability and resilience in City operations over the next two years.



## Sedona Recycles

which provides recycling drop-off locations and educates the community on waste reduction, reuse, and recycling.

# Community Engagement

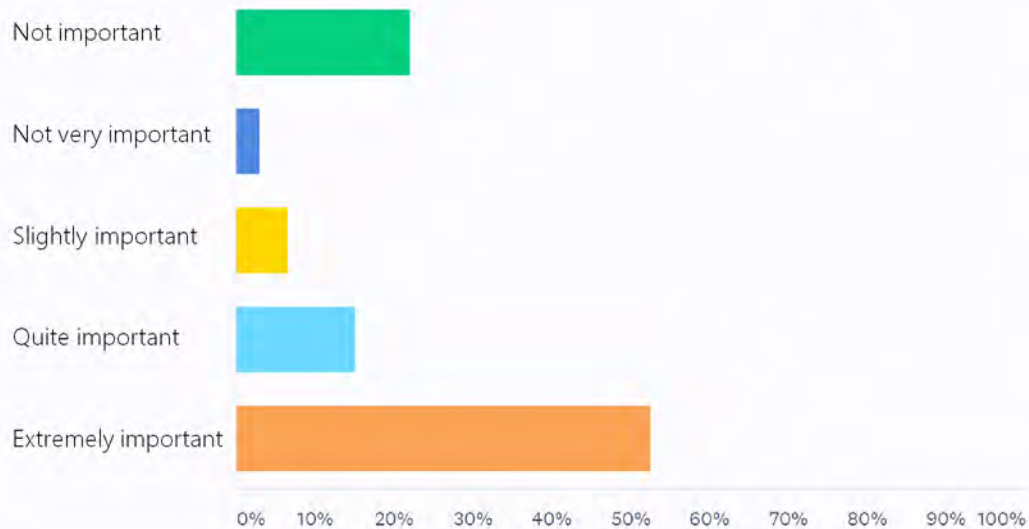


- ▲ 5 Virtual Open Houses
- ▲ 2 Community Surveys
- ▲ 3 Non-profit Presentations
- ▲ Over **600 community members** participated in a survey, open house, or non-profit presentation

# Initial Findings



- ▲ How important is it to you that the City of Sedona take action on climate change?



- ▲ 53% answered "Extremely important"
- ▲ 15% answered "Quite important"
- ▲ 7% answered "Slightly important"
- ▲ 3% answered "Not very important"
- ▲ 22% answered "Not important"

# Target Setting



# Target Drivers



- ▲ What's needed to avoid catastrophic climate change impacts
- ▲ Peer city comparison, desire to be leader
- ▲ Social pressure

## Sedona's Context – Relevant City Targets



- ▲ Flagstaff, AZ: **Carbon neutral by 2030**
- ▲ Park City, UT: **Carbon neutral by 2030**
- ▲ Boulder, CO: **80% reduction** in emissions by **2030**
- ▲ Durango, CO: **80% reduction** in emissions by **2050**
- ▲ Missoula, MT: **Carbon neutral by 2050**
- ▲ Salt Lake City, UT: **80% reduction** in emissions by **2040**

# Community Survey Results



What methodology should Sedona take when developing a greenhouse gas emissions target?

- ▲ 63% thought Sedona should do what is necessary to control global temperature rise.
- ▲ 23% thought Sedona should not set a target.



# External Factors

- ▲ Utility efforts to achieve carbon neutrality and transition the grid
- ▲ State and utility investments in transportation electrification
- ▲ Federal policy related to vehicle emission standards and energy efficiency standards
- ▲ Federal investment in transportation electrification, clean technology, and carbon capture
- ▲ Falling cost of battery storage and electric vehicles





# Cost of Achieving Carbon Neutrality

## Example:

Researchers at the University of Dayton modeled the cost of achieving carbon neutrality for campus operations by 2025 and found a 2.4% increase in lifecycle costs.

## Context:

The university has 10,800 students and produces 1/3 of greenhouse gas emissions of the Sedona community.



# Cost of Achieving Carbon Neutrality

## University of Dayton Example:

- ▲ The majority of the premium was due to costs associated with transitioning natural gas operations to geothermal heat pumps.
- ▲ Significant cost savings were found by electrifying the campus fleet and conducting energy upgrades.

*This is an imperfect comparison, but it provides insights into the cost of rapid decarbonization.*



# Financial Considerations

## Staff and Technical Capacity

Some actions do not require additional program funding but do require additional staff and technical capacity.

*Examples: solar purchase cooperatives, emergency preparedness outreach*

## Upfront Investment

Some actions require increased upfront investment but have a high financial return on investment for the organization.

*Examples: fleet electrification, electric transit, building upgrades*

# Financial Considerations



## Ongoing Investment

Some actions require ongoing investment and result in cost savings and community benefits for residents and businesses.

*Examples: energy upgrades for residents and businesses, rebate and incentive programs*

# Science-based Target



## Recommendation:

Community and stakeholder consensus demonstrated that **a reduction of at least 50% in community emissions by 2030** is appropriate for Sedona.



# Action List

# Action List Development



# Multi-criteria Analysis



<b>Effectiveness</b>	How likely is it the action will work to address plan goals and targets? Is the action addressing a major sustainability need?
<b>Cost</b>	What is the relative ease of covering the costs of the action with City budget, grants, etc.? Is the cost of inaction significant? How affordable is the action to residents/businesses?
<b>Feasibility</b>	Is it possible to implement the action with current capacities within the City? Are there regulatory, political, or technological constraints?
<b>Support</b>	Is there strong support for action from the resident and business community?
<b>Equity</b>	Does the action address the needs of vulnerable and historically marginalized populations? Does the action reduce vulnerability for all populations?
<b>Co-benefits</b>	Does the action address multiple goals, or other City or community objectives? Does the action work with other City activities to amplify the collective impact?





# Buildings and Energy

- ▲ Reduce building energy demand
- ▲ Shift to electric fuels in buildings
- ▲ Maximize renewable energy generation and storage

# Transportation and Land Use



- ▲ Develop and maintain a safe, convenient, and effective system for pedestrians, bicyclists, and other active forms of transportation
- ▲ Improve and increase transit ridership
- ▲ Increase fuel efficiency, clean fuel use, and shared-use mobility services

# Materials and Consumption



- ▲ Enhance sustainable production and consumption
- ▲ Increase waste diversion

# Water and Natural Systems



- ▲ Expand and improve green spaces, including increased ecosystem quality, connectivity and accessibility
- ▲ Reduce water use
- ▲ Expand water reuse and improve water infrastructure

# Climate Resiliency



- ▲ Institutionalize consideration of climate change across city activities and decision-making
- ▲ Increase community capacity and awareness of climate change risks and impacts
- ▲ Adequately fund services for disaster preparedness
- ▲ Identify and target support for at-risk populations

## Next Steps



- ▲ Advisory Committee will prioritize actions and identify relevant community partners
- ▲ Return to Council with a draft of the Climate Action Plan

Questions?

