SEDONA CLIMATE ACTION PLAN

CONTENTS

KEY TERMS AND ABBREVIATIONS

KEY TERMS

Carbon sequestration: Carbon sequestration is the process of capturing and storing atmospheric carbon dioxide in soils, oceans, vegetation, and geologic formations. It is one method of reducing the amount of carbon dioxide in the atmosphere with the goal of reducing global climate change.

Community choice aggregation: Community choice aggregation (CCA) allows local government or another public entity to procure energy from alternative utilities on behalf of residents and businesses. This allows locals to choose from multiple utility providers and provides the opportunity to purchase exclusively renewable energy if desired.

Cooling center: A cooling center is any public location where people can get out of the sun, access water, or be in a public air-conditioned space. Park ramadas and libraries often provide these services which are essential on hot days for those without homes.

EV-ready parking spaces: EV-ready parking spaces are those with the infrastructure and capacity to handle the installation of an electric vehicle charging station. Additionally, EV-ready spaces have outlets compatible for personal charging.

Frontline communities: Frontline communities are those that experience the consequences of climate change first and most drastically. These are low-income communities and communities of color whose neighborhoods often lack basic infrastructure and who will be increasingly vulnerable as our climate deteriorates.

Green infrastructure: Green infrastructure is an approach to water management that emphasizes conservation and protects local watersheds by filtering runoff.

Low-impact business: Those businesses which can provide goods and services while minimizing consumption of natural resources (water, energy, plastics, etc.) are considered low-impact. Likewise, low-impact businesses produce little waste or pollution.

Resilience hub: Resilience hubs are spaces created through the partnership of local government and trusted community-based organizations (e.g. recreation centers or faith-based institutions). They provide services such as job training, childcare, and community programming. Resilience hubs also support crisis response through coordinating communication and distributing resources such as potable water, healthy food, and batteries.

ABBREVIATIONS

EVs	**Electric vehicles** are vehicles that derive all or part of their power from electricity.
GHG	**Greenhouse gases** are heat-trapping gases that warm the atmosphere such as carbon dioxide, methane, and nitrous oxide.
MTCO2e	**Metric tons of carbon dioxide equivalent** is a common unit of measurement for greenhouse gases that includes consideration of major greenhouse gases, including carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O).
VMT	**Vehicle miles traveled** is a metric used in transportation planning to measure the cumulative miles traveled by all vehicles in a geographic region over a given time period.

LETTER FROM THE MAYOR

The City of Sedona is committed to sustaining our community's striking landscape, small-town charm, and high quality of life. In order to ensure that generations to come can enjoy the same vibrant city we know today, we must respond to climate change immediately and intentionally. The Sedona Climate Action Plan (CAP) positions Sedona to be a leader by presenting a coordinated strategy that holistically responds to the challenges of a changing climate.

The people and businesses of Sedona are already experiencing the threats of climate change firsthand. Recent events such as the 2016 monsoon flash flood and ongoing threats from wildfires exemplify the risks the city faces from climate change. As temperatures continue to rise globally, climate change is expected to introduce even more disruption to our daily lives and to Sedona's natural landscapes. As a small, isolated community, it is imperative that the Sedona community build resilience to these threats and do its part to reduce climate-changing greenhouse gas emissions.

Although our community faces a momentous challenge, we also have the opportunity to facilitate clean, efficient, and effective solutions that reduce our exposure to the impacts of climate change. At the same time, these solutions can bolster our local economy and protect the health of our neighbors. Through proper action, future generations of residents and visitors will be able to enjoy Sedona's natural beauty just as we do today.

The steps laid out in this plan are informed by Verde Valley climate science data, an inventory of Sedona's greenhouse gas emissions sources, and input from local businesses and residents. These actions have been carefully tailored and evaluated to bring tangible and measurable benefits to the Sedona community and to ensure a safe, healthy, and prosperous future for all.

Sandra J. Moriarty
Mayor, City of Sedona, AZ
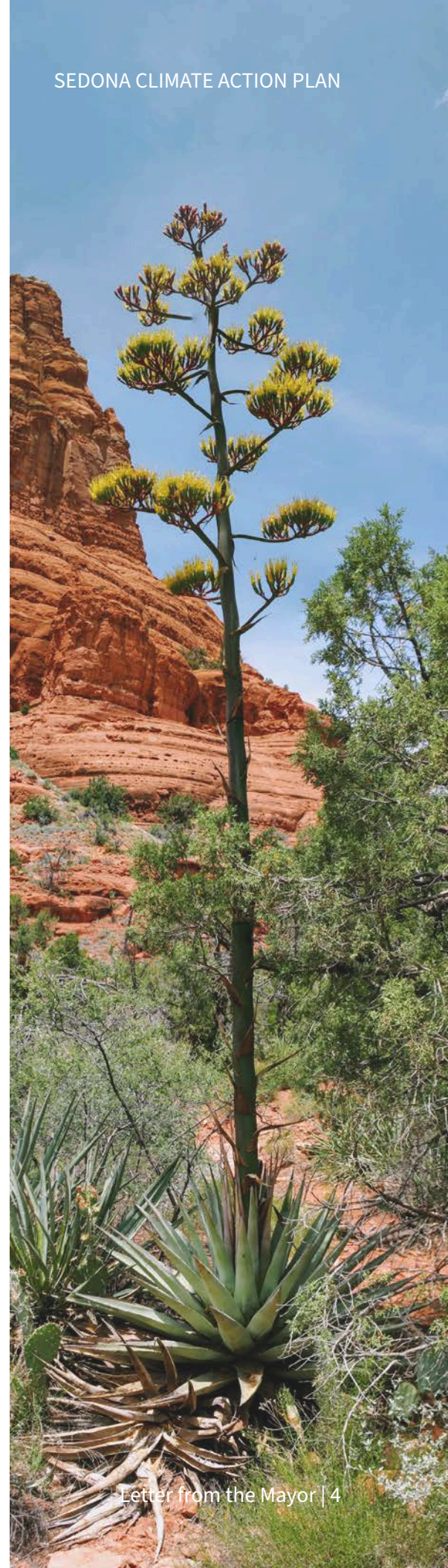
ACKNOWLEDGMENTS

COMMUNITY

We acknowledge and appreciate the many Sedona citizens who participated in meetings, workshops, surveys, and other public involvement efforts.

YAVAPAI-APACHE NATION

Chris Coder | Tribal Archaeologist
Vincent Randall | Apache Culture Director
Gertrude Smith | Yavapai Culture Director

CITY COUNCIL

Sandra Moriarty | Mayor
Scott Jablow | Vice-Mayor
Kathy Kinsella | Councilor
Tom Lamkin | Councilor
Holli Ploog | Councilor
Jon Thompson | Councilor
Jessica Williamson | Councilor

CITY OF SEDONA

Lauren Browne | Communications Manager
Warren Campbell | Assistant Director of Community Development
Justin Clifton | City Manager
Stephen Craver | Engineering Supervisor
JoAnne Cook | Human Resources Specialist
Gabe Desmond | Sustainability Specialist
J. Andrew Dickey | Public Works Director
Larry Farhat | Facilities Maintenance Supervisor
Chuck Hardy | Information Technology Manager
Ryan Hayes | City Maintenance Supervisor
Roxanne Holland | Wastewater Director
McKenzie Jones | Sustainability Manager
Joanne Keene | Deputy City Manager
Cynthia Lovely | Senior Planner
Steve Mertes | Chief Building Official
Karen Osburn | City Manager
David Peck | Associate Engineer
Molly Spangler | Economic Development Director
Steve Richardson | Parks and Recreation Manager
Kaileigh Walker | Sustainability Specialist
Cherie Wright | Finance Director

ADVISORY COMMITTEE

Amanda Acheson | Coconino County
Darla Deville | Arizona Public Service
Kali Gajewski | Sedona XYZ
Darcy Hitchcock | Sustainability Alliance
Jenna Ortega | Northern Arizona Climate Change Alliance
Frances Riemer | Northern Arizona Climate Change Alliance
Tom Runyon | Coconino National Forest
Ron Sauntman | Yavapai County
John Snickers | Arizona Water Company
Nancy Steele | Friends of the Verde River
Jon Thompson | Healthy World Sedona
Judson Tillinghast | Arizona Public Service
Jon Trautwein| Sedona Fire District
Jennifer Wesselhoff | Sedona Chamber of Commerce

CONSULTANT TEAM

Andrea Martin | Cascadia Consulting Group
Tristan Smit | Cascadia Consulting Group
Julie Stein | Cascadia Consulting Group

LAND ACKNOWLEDGMENT

The City of Sedona acknowledges the original residents of Sedona and the Verde Valley and their role as the traditional stewards of the land on which this plan is set. For centuries prior to the arrival of Euro-American settlers, the Yavapai and Apache People lived with respect for the land and with a light hand on the landscape.

The Apaches refer to this land as She Ke Yaa, our homeland. The modern Yavapai-Apache Nation is the amalgamation of two historically distinct tribes through the Indian Reorganization Act (1934). Today, these groups reside on several reservation parcels in the Upper Verde Valley. The Yavapai refer to themselves as Wipuhk'a'bah (the Red Rock People) and speak a Yuman language. The Apache refer to themselves as Dil'zhe'e (the Hunters) and speak an Athabaskan language.

In 1871, the federal government established the 900 square mile Camp Verde Indian Reserve in the Upper Verde Valley as a permanent refuge for tribal people. The people were prospering. Then, without warning or consent, in February of 1875, 1,700 Yavapai and Apache prisoners of war were forcibly marched 180 miles to the San Carlos agency east of Phoenix. The march resulted in the loss of many lives and ultimately many traditions. The Reserve was rescinded by a presidential executive order in April 1875. The people began drifting back into the Verde Valley after 1890 to find their homelands had been occupied by newcomers. The original inhabitants had been pushed to the fringes. The forced removal of indigenous people from their lands is commemorated annually as Exodus Day by the Yavapai-Apache Nation.

While the Yavapai-Apache Nation is the tribal government with direct ties to these lands, the following tribes and groups are also inextricably linked by common history to the Upper Verde Valley.

The Tonto Apache Tribe of Payson
Yavapai Prescott Indian Tribe
Fort McDowell Yavapai Nation
The Hopi Tribe

This Climate Action Plan identifies the necessity of building equity among all residents of Sedona and the surrounding area if we are to recognize our climate goals and sustain life in this region. This includes learning from and working with local indigenous communities. Of particular importance is our shared need to sustain flows in the Verde River. The Yavapai-Apache Nation considers the Verde to be both a source of and an interconnected part of life. In 1937 tribal elder Mary Sine said, "As long as the river flows, life will be good."

VISION AND GOALS

Our Vision: Sedona is a community that nurtures connections between people, encourages healthy and active lifestyles, and supports a diverse and prosperous economy, with priority given to the protection of the environment.

To realize this vision, this plan sets a goal to cut Sedona's greenhouse gas emissions by 50% by 2030. Reaching this target—which aligns with the international scientific recommendation for preventing the worst climate change impacts—will require involvement and commitment from the entire city. Local government, residents, businesses, and community leaders must work together to bring forth innovative and impactful solutions that work for Sedona.

WE CANNOT ACT ALONE: BROADER POLICY AND TECHNOLOGY CONTEXT

Addressing the enormity of the climate challenge will require action at all levels of government. Sedona sits within the context of **broader regional, state, and federal policy** that influence our community's activities and GHG emissions. While many climate actions are within the purview of local government—such as those related to land use, local transportation systems, and building construction—others must be addressed at the state or federal level. Federal fuel economy standards and state renewable energy portfolio standards are examples of broader policies that affect local activities and emissions. Sedona must prioritize actions within its purview while also advocating for and responding to relevant policy beyond its borders.

In addition to a changing policy landscape, Sedona's future emissions will also be subject to **changing technologies** and **innovations**. As low-carbon technologies improve, emissions may be reduced in ways that are currently unforeseeable, allowing us to reach more ambitious climate goals. This plan aims to leverage both existing and emerging technologies to achieve deep, long-lasting climate and societal benefits.

HOW IT CAME TOGETHER

Crafting a Climate Action Plan that truly reflects Sedona's unique community and priorities required help and input from across the community. This plan reflects the culmination of a year-long process that included technical assessments, consultation with local experts and key stakeholders, and engagement and discussion with the broader community.

TECHNICAL ADVISORY COMMITTEE

A group of 13 volunteer stakeholders convened at multiple points in the process to identify, refine, and evaluate strategies for the plan.

PUBLIC WORKSHOPS

The City hosted 5 public workshops to present on the CAP and engage in discussions around priorities, concerns, and ideas.

PUBLIC SURVEYS

The City hosted 3 online public surveys as a venue for hearing the community's thoughts, gathering feedback, and improving our approaches.

INTERNAL CITY ENGAGEMENT

The City hosted 1 staff workshop and conducted ongoing engagement with City staff across all City departments.

WHAT WE HEARD

We heard you! Themes we heard from our engagement activities are summarized below.

TRANSPORTATION IMPROVEMENTS

We heard a desire for transportation-related actions—including bike/pedestrian infrastructure, better transit, low-carbon transportation, and reduced congestion.

HEAT AND WILDFIRE RISK

Many residents are concerned about increased warming and fire risk in Sedona—highlighting public health and safety concerns.

RENEWABLE ENERGY

We heard support for renewable energy actions to both reduce climate pollution and build a more resilient power grid.

WASTE MANAGEMENT

Locals want more community education and outreach related to waste management and desire expanded recycling and composting services throughout the city.

WATER RESOURCES AND FLOODING

Some residents support actions that protect personal and recreational water resources—and are concerned about future water quality and flooding.

TOURISM AND ECO-TOURISM

We heard support for actions that address tourism impacts and tourism-related vehicle emissions.

CITY LEADERSHIP

Constituents want to see the City lead by example with a green vehicle fleet and visible renewable energy projects.

COST OF LIVING

There is concern about how CAP actions could increase the cost of living in Sedona, and there is a desire for rebates to make the transition more affordable.

CLIMATE CHANGE IN SEDONA

Climate change is a global problem, but the impacts are felt locally. Sedona is seeing increased flooding, more frequent and severe wildfires and smoke, and rising temperatures that strain water resources. As global greenhouse gas emissions continue to rise, these changes will increase over time and continue to threaten our safety, natural resources, and economy.

A TWO-PRONGED APPROACH

Reduce GHG emissions to limit additional warming

MITIGATE & ADAPT

Prepare for and build resilience to the impacts of climate change
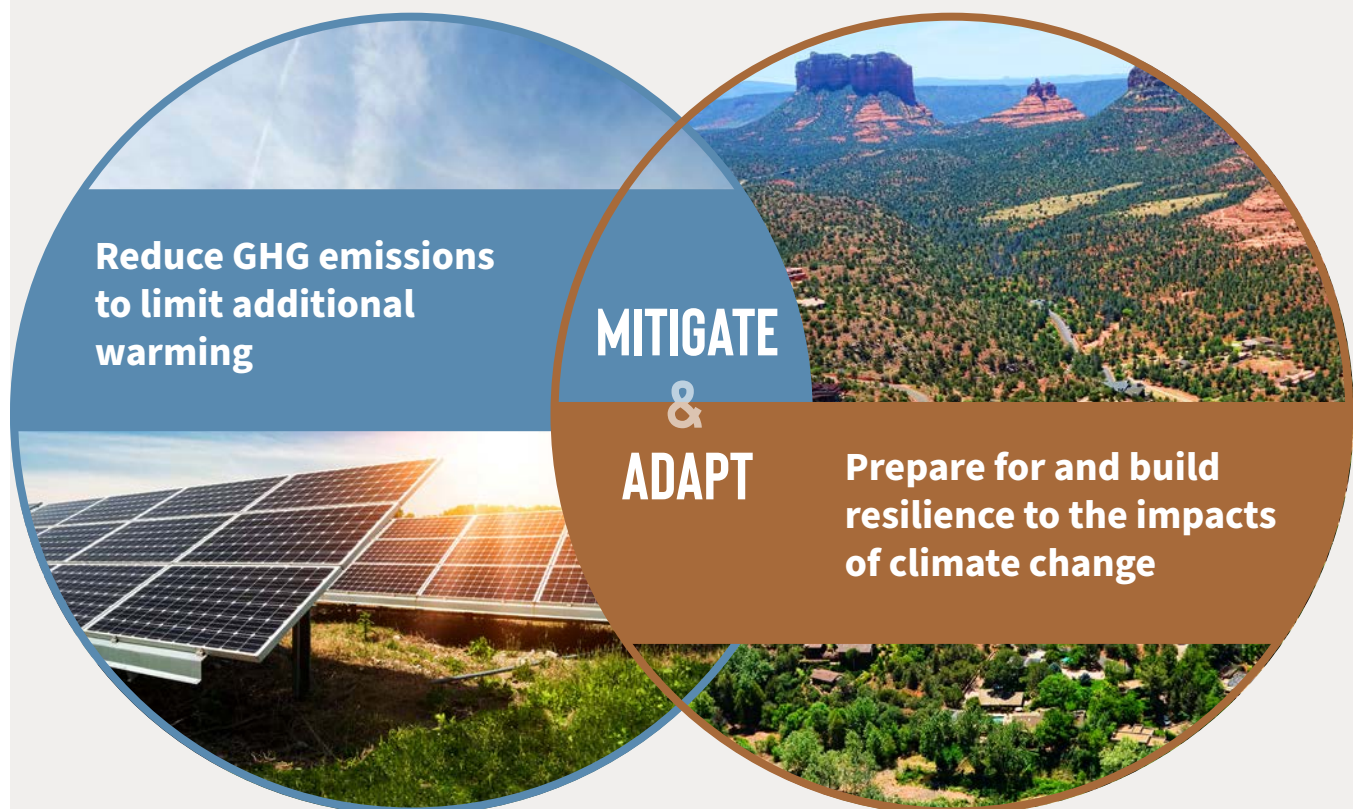
Climate mitigation is preventative

Mitigation measures reduce GHG emissions to limit additional warming. These effects are felt globally, and corresponding action should be done in conjunction with local and federal governments across the world. These measures often also have localized co-benefits that can be felt here in Sedona.

Climate adaptation is responsive

Adaptation measures prepare for and build resilience to the impacts of climate change. The effects of these measures are felt locally, although they can also provide regional benefits through stopping the spread of climate-related disasters.

HOW CLIMATE CHANGE WILL IMPACT SEDONA

Sedona and the Verde Valley are already experiencing climate changes, and many of these changes are projected to worsen in the future. Key changes include:

HOTTER TEMPERATURES

Warming brings more summer heat waves, wildfires, and drought.

MORE EXTREME HEAT

On average, the Verde Valley experiences 8 days a year above 100°F. By 2100, that number may rise to 75 days per year.

LARGER AND FASTER SPREADING FIRES

Future wildfire frequency is anticipated to increase 25% in the Southwest —leading to increased health impacts from smoke and poor air quality.

HEAVIER AND MORE FREQUENT STORMS

Extreme weather can lead to more flooding and high wind events.

INCREASED HEALTH IMPACTS

Poor air quality, extreme heat, and dust storms can create serious health problems.

CHANGING STREAMFLOWS

Rising summer temperatures and increased seasonal demands will strain water availability.

AGRICULTURAL IMPACTS

Excessive heat, reduced water resources, and wildfires will threaten common crops grown in the Verde Valley.

REDUCED TOURISM

More wildfire, smoke, or extreme heat may temporarily reduce recreation and tourism in summer, spring, and fall.

INCREASED RISK OF VECTOR-BORNE DISEASES

Warmer temperatures will create a more welcoming environment for vectors like mosquitos that carry West Nile Virus.

More information on anticipated climate changes can be found in the *Climate Profile for the Verde Valley.*

BENEFITS OF CLIMATE ACTION

Climate action will look different for each person, business, and group in our community. While we all will need to make sacrifices for the greater good, the benefits of climate action can also enhance our quality of life.

BOOST OUR LOCAL ECONOMY

Investments in the construction, clean technology, green infrastructure, and natural resource management sectors provide businesses with opportunities for growth and create skilled, well-paying 'green' jobs for the community.

Improved bike and pedestrian access can generate more visibility for local shops and outlets—enhancing the viability and financial sustainability of small businesses.

KEEP OUR SKIES CLEAR AND LANDSCAPES BEAUTIFUL

Taking climate action can enhance parks, green spaces, and public amenities while providing other services like carbon sequestration, shade, and wildlife habitat.

Prioritizing native plants in parks and other public properties can sequester carbon, minimize water use, and enhance habitat for native species.

MAKE US HEALTHIER

Actions to mitigate climate change can benefit post-pandemic life by prioritizing health and well-being, cleaning our air, improving healthy food access, and increasing safety.

Transitioning to electric vehicles reduces exposure and health impacts from local air pollutants.

SAVE US MONEY

Many climate actions reduce ongoing maintenance and utility costs—providing long-term cost savings and a positive return on investment.

Switching to efficient equipment like electric heat pumps reduces energy use and costs.

GLOBAL BENEFITS

While there are many benefits and co-benefits of climate action that are felt locally, emission reductions can also have a positive influence globally. Although Sedona's emissions are a small fraction of total global emissions, by doing our part, we can encourage cities across the nation and world to do the same. As a small, rural community with a global reputation and influence, we can be a leader in demonstrating what is possible to other cities and towns.

GREENHOUSE GAS EMISSIONS

EMISSIONS SOURCES

In 2018, we estimate that Sedona's residents, businesses, employees, and visitors produced over 165,800 metric tons of carbon dioxide equivalent (MTCO2e). Energy used to power and heat our buildings (largely electricity and natural gas) make up more than three-quarters (79%) of greenhouse gas emissions. Energy used to power and move our vehicles accounts for the bulk of the remaining emissions in the city (18%).

BUILDINGS & ENERGY		79%
TRANSPORTATION & MOBILE SOURCES		18%
WATER & WASTEWATER		2%
SOLID WASTE		<1%
PROCESS & FUGITIVE EMISSIONS		<1%

TOTAL 2018 Emissions: 165,800 MTCO₂e

What about consumption-based emissions?

The emissions estimate above reflects many of the primary and direct sources of GHG emissions in the community. However, it does not account for GHG emissions that we indirectly produce through the purchase of goods, services, or food produced in other areas and transported to Sedona. While these sources are much more difficult to estimate at the local level, the City recognizes the significant and important role these "consumption-based" emissions play in our overall carbon footprint. This plan includes strategies and actions for lowering emissions from our consumption, including implementation of a municipal sustainable procurement policy.

What about tourism-related emissions?

While our inventory captures the emission-related impacts of tourists once they arrive in Sedona, it does not address emissions associated with travel to Sedona.

HOW WE GET THERE

This plan is organized into the following sectors. Each sector presents our strategies and actions for reducing climate pollution and fostering climate resilience in Sedona.

BUILDINGS & ENERGY

Ensuring long-term access to clean energy while reducing the fiscal and environmental impacts of consumption
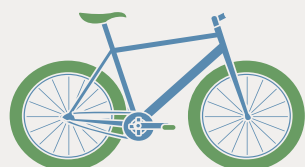
TRANSPORTATION & LAND USE

Reducing transportation emissions and enhancing community mobility

MATERIALS & CONSUMPTION

Increasing the diversion of waste from the landfill and reducing GHG emissions associated with consumption of goods and services

WATER & NATURAL SYSTEMS

Conserving community water resources by maximizing water efficiency technologies while ensuring a secure and sustainable water supply in the face of climate change impacts. Managing, restoring, and fostering resilient ecosystems, landscapes, and resources

CLIMATE RESILIENCE

Ensuring Sedona and its residents, businesses, visitors, facilities, and services are prepared for climate impacts, especially those at the highest risk

WHAT WILL IT TAKE?

To achieve a 50% reduction by 2030, we will need to meet the outcomes below. The actions in the CAP implementation matrix will get the community approximately halfway to our goal. The remaining 25% reduction will rely on new and innovative technologies, additional federal and state action, and regular reevaluation of Sedona's progress.

Strategy Impact

Strategies

- Reductions from current state and national policies and programs
- Reductions in building energy consumption
- Transition to renewable energy sources
- Reductions in vehicle miles traveled (VMT)
- Transition to electric vehicles (EV)
- Waste diversion
- Carbon sequestration

50% reduction in greenhouse gas emissions by 2030
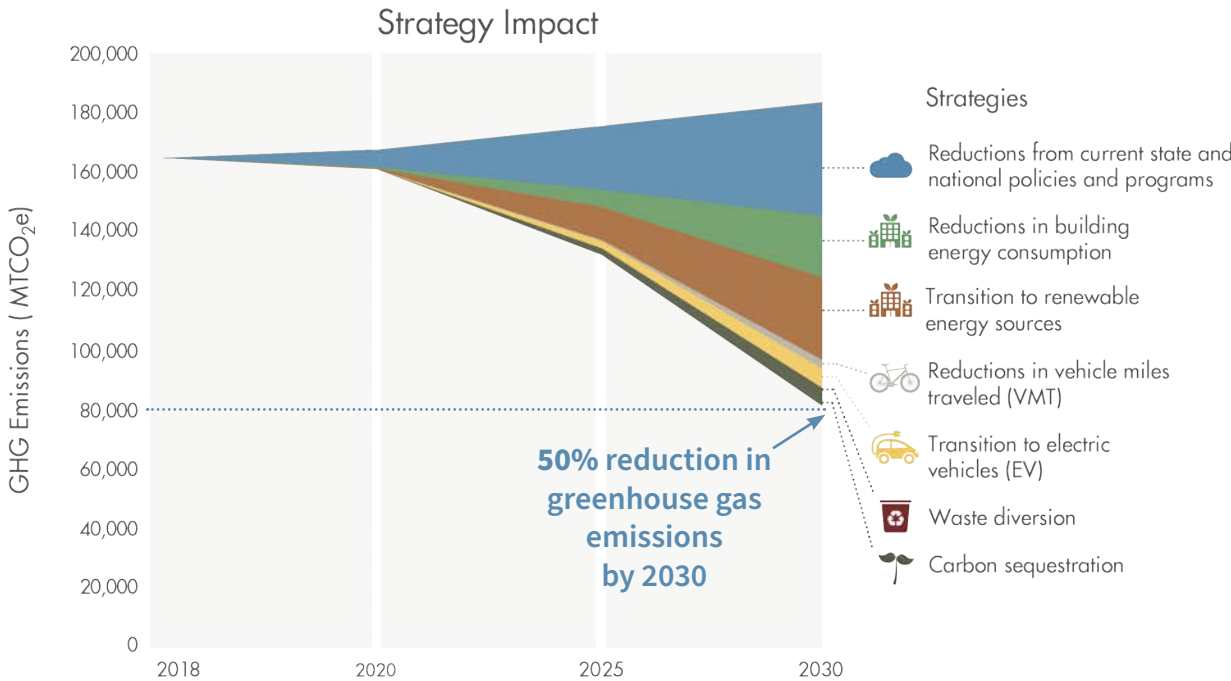
WHAT'S NEEDED?

EXAMPLE ACTIONS

Action	Outcome
Energy efficiency retrofit incentives	• Reduce building energy consumption by 15%
Rooftop solar incentives; Electrification incentives and contractor training	• Increase consumption of clean energy in buildings from 27% to 50% • Utilize 60% of suitable rooftop space for solar panels
Bike, pedestrian, and transit infrastructure; Transit-oriented and mixed-use development	• Reduce community-wide VMT by 10%
EV infrastructure and incentives; EV-ready code	• Increase EV use to 20% of VMT
Food waste prevention; Community-wide organics composting program	• Reduce amount of landfilled organic waste by 15%

BUILDINGS & ENERGY

GOAL: Ensure long-term access to clean energy while reducing the fiscal and environmental impacts of consumption

SUMMARY

Greenhouse gases are released during the combustion of fossil fuels—such as coal, oil, and natural gas—to heat, cool, and power buildings. The generation, transmission, and distribution of electricity and natural gas is the single largest contributor to Sedona's carbon footprint. State and local action will be needed to transition to cleaner energy sources.

The strategies and actions included in this section will focus on an equitable transition to clean, reliable, and affordable energy. Shifting our building energy sources from fossil fuels to clean electricity sources like wind and solar will be critical in meeting our long-term goals. Making this shift will require that we continue to reduce building energy demand, introduce incentives for building electrification, and expand renewable energy and battery storage infrastructure.

GREENHOUSE GAS EMISSIONS (2018)
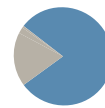
131,828 MTCO$_2$e
79% of total emissions

CO-BENEFIT: COST SAVINGS

Reducing energy consumption saves on energy bills. Solar is now less expensive than other energy sources such as natural gas.

SEDONA HIGHLIGHT

Sedona was designated as a SolSmart Bronze community for its efforts to make it faster and easier to switch to solar energy.

STRATEGIES

Reduce building energy demand

Shift to electric heating and power in buildings
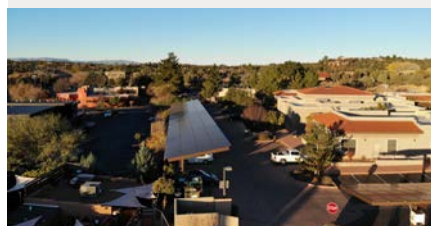
Maximize renewable energy generation and storage capacity
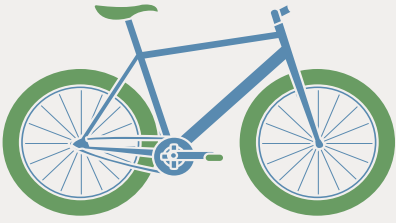
TRANSPORTATION AND LAND USE

GOAL: Reduce transportation emissions and enhance community mobility

SUMMARY

The second largest source of greenhouse gas emissions in Sedona is from the combustion of fossil fuels in vehicles and equipment. Within the transportation sector, the use of gasoline and diesel passenger vehicles by residents and visitors contribute the most to transportation emissions. Strategies for these emissions focus on transitioning to electric and other low-carbon fuels and transitioning to alternative modes of travel such as carpooling, public transit, biking, and walking.

GREENHOUSE GAS EMISSIONS (2018)
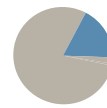
29,456 MTCO₂e
18% of total emissions

CO-BENEFIT: EQUITY

Expanding affordable transportation choices can increase mobility and access for low-income households.

SEDONA HIGHLIGHT

The City recently installed 6 public EV charging spots and purchased its first all-electric fleet vehicle.

STRATEGIES

Develop and maintain a safe, convenient, and effective system for walking, biking, and other active forms of transportation

Improve and increase transit ridership

Increase fuel efficiency and clean fuel use.
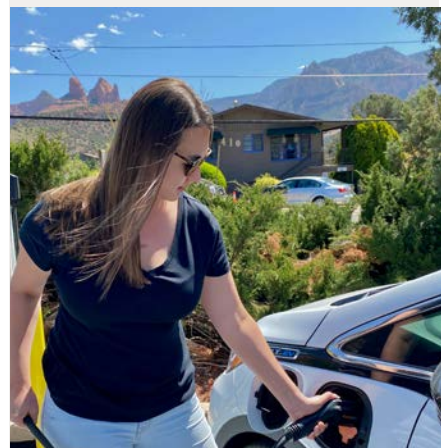
MATERIALS AND CONSUMPTION

GOAL: Increase the diversion of waste from the landfill and reduce GHG emissions associated with the consumption of goods and services

SUMMARY

While the transport and disposal of solid waste only contribute a small portion of Sedona's carbon footprint, the emissions associated with the manufacture, transport, and use of those disposed materials can be significant. Every phase of a product's life cycle—from origin, to production and manufacturing, to transportation and distribution, and ultimately to disposal—releases climate pollution.

Strategies to reduce emissions from the consumption of goods and services focus on diverting waste from the landfill and encouraging sustainable, climate-friendly consumption.

GREENHOUSE GAS EMISSIONS (2018)

127 MTCO$_2$e
<1% of total emissions

CO-BENEFIT: ECOSYSTEM HEALTH

A city-wide composting program can improve soil health and sequester carbon.

SEDONA HIGHLIGHT

In 2019, the City's first Fix-it Clinic repaired over 200 lbs of household items—fixing more than 80% of items brought in.

STRATEGIES

Enhance sustainable consumption to minimize greenhouse gas emissions

Increase waste diversion

WATER AND NATURAL SYSTEMS

GOAL: Conserve community water resources by maximizing water efficiency technologies while ensuring a secure and sustainable water supply in the face of climate change impacts. Manage, restore, and foster resilient ecosystems, landscapes, and resources

SUMMARY

Climate change paired with increased tourism threaten the ability of Sedona's natural ecosystems to provide continued water, flooding protection, wildfire resistance, and carbon sequestration services. Although natural systems are not formally captured in our greenhouse gas inventory, proper management of these systems can capture carbon while also enriching recreational opportunities and improving habitat health. Sustainable land management practices like composting, climate-adaptive landscaping, and intentional forest management have been shown to increase the rate of carbon stored in plants and soil.

GREENHOUSE GAS EMISSIONS (2018)

3,435 MTCO$_2$e
2% of total emissions

CO-BENEFIT: RESILIENCE

Green infrastructure and restoration can provide protection from climate impacts such as flooding and wildfires.

SEDONA HIGHLIGHT

The City of Sedona participates on the Sustaining Flows Council to partner with the Yavapai-Apache Nation and other Verde Valley stakeholders to ensure long-term water sustainability.

Along with preserving natural systems, actions in this section include tactics for expanding water reuse and conservation. Although water management only contributes a small portion of our carbon footprint, actions taken to minimize water use, optimize treatment, and improve overall water quality will ensure continued provision of this important resource for future generations.

STRATEGIES

Expand and improve green spaces, including increased ecosystem quality, connectivity, and accessibility

Reduce water use
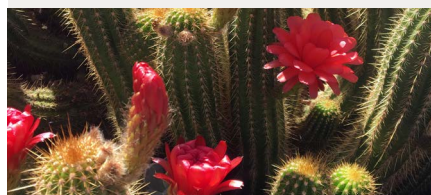
Expand water reuse and improve water infrastructure

CLIMATE RESILIENCE

GOAL: Ensure Sedona and its residents, businesses, visitors, facilities, and services are prepared for climate impacts, especially those at the highest risk

SUMMARY

Making progress on climate change will require leadership and commitment from city government and the community. In addition to the sector-specific strategies presented in this plan, broader efforts to incorporate climate change considerations across City and community activities will be needed.

To ensure that climate action strategies meet the needs of the community, this section includes actions that integrate climate action throughout Sedona. This includes considering climate change in City processes and ensuring climate-related investments target those in need. These actions support education, capacity building, emissions monitoring, and the reporting of climate actions.

CO-BENEFIT: ECONOMIC RECOVERY

Climate action supports local economic prosperity through strategic investments, new incentives, and expanded employment opportunities.

SEDONA HIGHLIGHT

In addition to the CAP, the City finalized its first Municipal Sustainability Plan, which outlines clear steps to addressing sustainability and resilience in City operations.
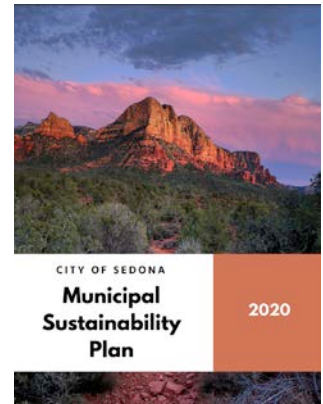
STRATEGIES

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

IMPLEMENTATION

A plan is only as good as its implementation. Achieving our climate goals will require dedication, time, and resources from city government and the broader Sedona community. Successful plan implementation will require ongoing creativity and adaptivity. It is essential that climate actions respond to changes in technologies, state and federal policies, community priorities, budgets, grants, and other funding opportunities. We must be strategic in how we sequence, execute, and fund climate action to meet our targets in a manner that brings the whole community along and maintains our vision for a sustainable, prosperous future.

PHASING

Near-term (0-1 year)

Near-term implementation will focus on establishing a foundation for meeting both near-term and long-term goals. This initial phase will involve key policy priorities, education and outreach campaigns, and voluntary incentive measures that address top emission sources and climate risks.

Mid-term (2-4 years)

Mid-term solutions address measures needed to shorten the distance to meeting our reduction target. This includes broader regulatory requirements, expanded infrastructure for long-term energy transitions, and actions focused on lower priority emission sources and climate risks.

Long-term (4+ years)

Long-term strategies are more comprehensive solutions that require long-term investment, careful planning, and broad coordination.

FUNDING

The City will utilize existing City resources, grants, and other external funding sources to the extent possible in implementing this plan. However, we acknowledge that full implementation of the plan will likely require new and creative funding sources. Over the long term, it will be important to identify funds that are guaranteed rather than dependent on uncertain potential funding sources. Potential funding sources include the following:

- City general fund
- Bonds
- Taxes, fees, and utility revenues
- Federal and state grants
- Private grants/investment and public-private partnerships
- Revolving loan funds
- Local carbon offset funds

Many climate expenditures will not only reduce greenhouse gas emissions, but will also bring valuable environmental, social, and economic benefits that can provide a positive net return on investment.

INDIVIDUAL AND MUNICIPAL ACTIONS

The majority of strategies and actions outlined in this plan are macro-level community actions. That is, they focus on collective measures and regulatory interventions that can help with mitigation and adaptation efforts. It is critical, however, that businesses, organizations, and individuals do what they can to reduce their climate footprint as well. This process will not be easy for everyone. As a starting point, the following section on City Leadership details how the City plans to incorporate the consideration of climate change across all activities and decision making. Additionally, we have provided a list of individual actions that can be taken by community members and their family.
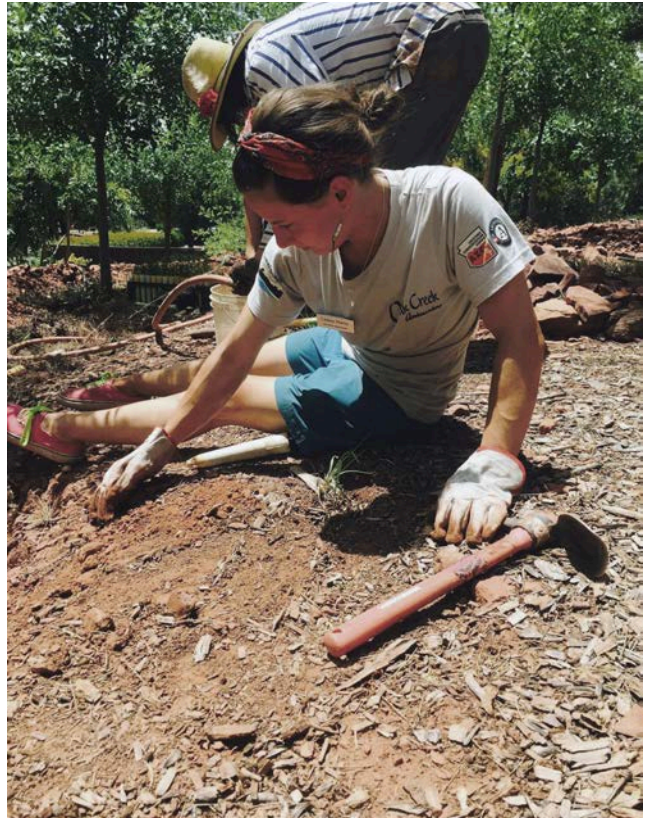
EQUITY

Considering equity during plan implementation goes beyond distributing resources equally. Ensuring that participation in climate action is accessible to the entire Sedona community will require considering equity in policy, outreach, and infrastructure development. City staff will work to involve diverse community voices in all stages of new initiatives and will track progress toward advancing equity.

Although climate change is a global problem, its effects are not felt equally. Communities with less access to weatherization, transportation, heating, cooling, and resilient infrastructure will feel the impacts of climate change earlier and more intensely than others. It is critical that Sedona ensures these communities are included in the design, outreach, and implementation of each action in this plan.

CITY LEADERSHIP

Successful implementation will mean that all parties—both within and outside City government—have a clear role in addressing climate change through their work. It will also require careful and ongoing progress tracking, reporting, and adaptive management. Key accountability and collaboration approaches for implementation of the Sedona CAP are summarized below.

PROGRESS REPORTING

Plan progress reports will be developed and reviewed annually. GHG inventories will be updated every year. Investing in data collection and consistent reporting is a key aspect of implementation and increases transparency.

LEAD BY EXAMPLE

The success of this plan is contingent on the Sedona City Council continuing to demonstrate leadership on climate change. The Sedona City Council will have the responsibility of oversight for the plan. They will receive annual updates on CAP progress and make policy decisions, budgetary appropriations, and workplan approvals that will facilitate implementation.

PLAN UPDATES

The City will work with community partners to update the CAP every three years. This three-year update schedule will ensure that the plan can respond to changing circumstances, market factors, implementation challenges, and successes. This process will include updating CAP goals, adjusting indicators, and reprioritizing actions based on local circumstances and new technology.

The actions laid out in this plan directly tie into many of the goals laid out in the City's Municipal Sustainability Plan. The City is taking many actions internally to lead by example.

Carbon Neutrality

By 2030, the City aims for municipal operations to be carbon neutral. While much of this reduction will require changing how and what type of energy the City consumes, some reliance on carbon offsets may be required.

Fleet Electrification

By 2030, the City strives to transition all passenger vehicles in the City fleet to 100% zero emissions vehicles.

Renewable Energy

By 2025, the City will transition to consuming 100% renewable energy for municipal operations.

WHAT YOU CAN DO

While many of the most pressing climate actions will happen at the community level, it is important to be cognizant of our individual emissions and behaviors as well. While there are many steps you can take to reduce your own footprint, here are some idea of how to get started.

Materials and Consumption

Reduce your meat and dairy consumption. Eating more plant-based foods, such as fruits, grains, and vegetables is one of the most impactful actions you can take.

Buildings and Energy

Commit to solar. Visit **www.Sedonaaz.gov/solar** to learn about the process for installing solar on your home or business. Incentives and resources are available to assist with this transition.

Water and Natural Systems

Create a native and drought-tolerant backyard. Attend a Native Plant Workshops to help learn about how to add native plants into your landscape. Careful landscape planning can also reduce your home's wildfire risk.

Transportation and Land Use

If you drive to work, consider carpooling, biking or taking the bus one or more days per week, or telecommuting if possible. If that's not possible, consider an electric vehicle next time you are purchasing a car.

Climate Resilience

Talk with family, friends, and neighbors about climate concerns, priorities, and needs. According to the Yale Program on Climate Change Communications, although 63% of Americans are worried about global warming, only 35% of Americans discuss it. By having open conversations, you can help prepare your community for the effects of climate change.

For more information on how to reduce your carbon footprint, visit
sedonaaz.gov/sustainability

IMPLEMENTATION MATRIX

Legend:

Timeframe:	▶ = near-term (0-1 years)	▶▶ = mid-term (2-4 years)	▶▶▶ = long-term (4+ years)
Net Present Value Cost (Through 2030):	🏷 = $0 to $100,000	🏷🏷 = $100,001 to $1,000,000	🏷🏷🏷 = > $1,000,000
GHG Impact (Cumulative MTCO₂e reductions to 2030):	🍃 = 0 to 500	🍃🍃 = 501 to 5,000	🍃🍃🍃 = > 5,000
Action Types:	**Vol** (Voluntary)	**Reg** (Regulatory)	**SPP** (Studies, Plans, Partnerships) **CIP** (Capital Improvement Project)

Action	Action Type	Action Type	Timeframe	Lead	Potential Partners	GHG Impact	City Cost
Buildings & Energy: Reduce building energy demand							
Community building incentives	Educate and incentivize businesses and residents to reduce energy and water use. Provide resources to help households and businesses conduct energy retrofits and upgrades.	Vol	▶	City of Sedona Sustainability	Sustainability Alliance, Chamber, Northern Arizona Interfaith Council, Northern Arizona Climate Change Alliance	🍃🍃🍃	🏷🏷
Energy triggers for large buildings	Incentivize large commercial and multifamily buildings to perform energy upgrades achieving deep energy savings by a certain date or at certain trigger events (e.g. time of sale, change of occupancy).	Vol	▶▶	City of Sedona Sustainability, Community Development	Arizona Public Service	🍃🍃	🏷🏷
Buildings & Energy: Shift to electric heating and power in buildings							
Electric panel updates	Incentivize electrical panel updates (e.g. funding for subsidizing hardware or local electricians to provide reduced cost installations).	Vol	▶▶	City of Sedona Sustainability, Community Development	Yavapai College	🍃	🏷🏷

Action	Action Type	Action Type	Timeframe	Lead	Potential Partners	GHG Impact	City Cost
Home electrification	Work with Arizona Public Service (APS) to expand programs that incentivize residents to electrify water and space heating.	SPP	▶▶	City of Sedona Sustainability, Community Development	Arizona Public Service	🍃🍃	🏷️
Contractor training	Develop a contractor training and rebate program for solar water heaters, electric heat-pumps, and converting gas appliances to electric.	Vol	▶	City of Sedona Sustainability, Community Development	Yavapai College	🍃🍃	🏷️🏷️🏷️
New development	Incentivize building electrification in new development and remodels.	Vol	▶▶	City of Sedona Sustainability, Community Development		🍃🍃	🏷️🏷️
Buildings & Energy: Maximize renewable energy generation and storage capacity							
Clean energy financing	Explore funding and capital opportunities – such as 0% interest loans – for frontline community organizations and individuals working to own clean energy assets.	SPP	▶	City of Sedona Sustainability		🍃🍃🍃	🏷️🏷️
Renewable energy storage	Utilize available state, federal, and private grant funds to promote the expansion of renewable energy storage technologies.	Vol	▶▶	City of Sedona Sustainability	Arizona Public Service	🍃	🏷️🏷️
Solar incentives	Ensure rebates or other funding support opportunities – such as solar grants for neighborhoods and cooperative buying – are available for installation of solar on existing buildings.	Vol	▶▶	City of Sedona Sustainability, Community Development	Arizona Public Service	🍃🍃🍃	🏷️🏷️

Action	Action Type	Action Type	Timeframe	Lead	Potential Partners	GHG Impact	City Cost
Community choice solar	Advocate for state-level legislation that enables community choice aggregation for community solar.	SPP	▶	City of Sedona Sustainability		🍃	💲💲
Solar permitting	Waive solar project permitting fees.	Vol	▶	City of Sedona Community Development		🍃🍃🍃	💲
Transportation & Land Use: Develop and maintain a safe, convenient, and effective system for walking, bicyclists, and other active forms of transportation							
Bike/pedestrian Infrastructure	Accelerate the development of the Sedona Trails and Pathways system so that residents and visitors have a safe and healthy alternative to driving. Implement the GO! Sedona Pathways Plan.	CIP	▶	City of Sedona Public Works	Verde Valley Cyclists Coalition, Sedona XYZ, Red Rock Trail Fund, Arizona Department of Transportation	🍃🍃	💲💲💲
Mixed-use development	Prioritize and incentivize affordable, transit-oriented and mixed-use development to encourage a walkable community.	Vol	▶▶	City of Sedona Community Development	Sedona XYZ	🍃🍃	💲💲
Transportation & Land Use: Improve and increase transit ridership							
Public transit investments	Develop a comprehensive, city-wide transit and shuttle system that serves residents, visitors, and employees.	CIP	▶▶▶	City of Sedona Transit	Sedona Chamber, Arizona State Parks, Coconino National Forest, Arizona Department of Transportation	🍃🍃🍃	💲💲💲

Action	Action Type	Action Type	Timeframe	Lead	Potential Partners	GHG Impact	City Cost
Transportation & Land Use: Increase fuel efficiency and clean fuel use							
EV infrastructure plan	Develop and implement an EV infrastructure plan to promote and expand the construction of charging infrastructure and electric-powered mobility.	SPP	▶▶	City of Sedona Sustainability	Arizona Public Service, Sedona Chamber	🍃	💲💲
Electric vehicle advocacy	Advocate for the expansion of existing incentives and introduce new local incentives to accelerate the adoption of electric vehicles.	Vol	▶▶	City of Sedona Sustainability	Arizona Public Service, Sedona Chamber	🍃🍃	💲💲
City fleet electrification	Develop a municipal green fleet policy to right size the City fleet, maximize efficiency, and accelerate the transition to electric vehicles.	Reg	▶	City of Sedona Sustainability		🍃	💲💲
EV-ready code	Require EV-ready parking spaces in new commercial and multifamily developments.	Reg	▶	City of Sedona Sustainability, Community Development		🍃	💲
Materials & Consumption: Enhance sustainable production and consumption to minimize greenhouse gas emissions							
Municipal Sustainable Procurement Policy	Ensure implementation of a sustainable procurement policy. Prioritize the purchasing decisions that yield the highest emissions reduction impact within each department. Explore climate-friendly food catering, alternative vehicle and fuel purchases, and low-carbon concrete.	Reg	▶	City of Sedona Sustainability, Finance		🍃	💲

Action	Action Type	Action Type	Timeframe	Lead	Potential Partners	GHG Impact	City Cost
Food waste education	Launch an outreach campaign that educates the community about preventing wasted food and sustainable consumption.	Vol	▶▶	City of Sedona Sustainability	Healthy World Sedona, Sustainability Alliance, Northern Arizona Climate Change Alliance	🍃	🏷️
Materials & Consumption: Increase waste diversion							
Food recovery program	Establish a robust food recovery program to support community members and protect against disruptions, including working with food rescue organizations, schools, and commercial kitchens.	Vol	▶▶	City of Sedona Sustainability	Sedona Oak Creek Unified School District, Chamber, Sedona Food Bank, Cornucopia Community Advocates	🍃	🏷️🏷️
Community organics diversion	Implement a city-wide community organic waste program to compost food waste and yard waste.	Reg	▶▶	City of Sedona Public Works		🍃	🏷️🏷️🏷️
Refrigerant disposal	Identify strategies to improve recovery and reuse of refrigerant chemicals.	SPP	▶▶	City of Sedona Sustainability	Yavapai County, Arizona Department of Environmental Quality	🍃	🏷️
Water & Natural Systems: Expand and improve green spaces, including increased ecosystem quality, connectivity, and accessibility							
Native planting in municipal projects	Prioritize native plantings with deep roots on public properties to maximize carbon sequestration and resilience. This includes the grounds of municipal buildings, parks, and schools.	Vol	▶	City of Sedona Sustainability, Public Works	Friends of the Verde River, Sedona Oak Creek Unified School District, Keep Sedona Beautiful	🍃🍃🍃	🏷️

Action	Action Type	Action Type	Timeframe	Lead	Potential Partners	GHG Impact	City Cost
Prepare recreation services for climate change	Maintain cooperation with Arizona State Parks and U.S. Forest Service recreation programs to plan for and respond to increased visitation and use of recreational services and open spaces.	SPP	(Ongoing)	City of Sedona Sustainability	Coconino National Forest, Arizona Department of Environmental Quality, Arizona State Parks, Oak Creek Watershed Council, Verde Front, Red Rock Trail Fund, Sedona Chamber	🍃	💲💲
Green infrastructure codes for commercial buildings	Adopt a green infrastructure code that applies to new construction projects and the remodeling of commercial buildings.	Reg	▶▶	City of Sedona Community Development	Friends of the Verde River	🍃	💲
Climate adaptive landscaping	Require native and climate appropriate plants in the landscaping of public and private projects.	Reg	▶▶	City of Sedona Community Development	Friends of the Verde River, Sedona Chamber, Yavapai County Cooperative Extension, Keep Sedona Beautiful	🍃	💲
Creek restoration	Expand protection and restoration efforts throughout the Oak Creek watershed. Reduce flood risk by supporting the natural capacity of creeks to retain water.	CIP	▶▶	City of Sedona Sustainability	Northern Arizona University Friends of the Verde River, Coconino National Forest, Oak Creek Watershed Council	🍃	💲💲
Forest health	Identify opportunities for the City to support forest health improvements. Reduce wildfire risk and protect other ecosystem services such as water quality, wildlife habitat, and soil health.	SPP	▶▶	City of Sedona Sustainability	Coconino National Forest, Northern Arizona University, Sedona Fire District	🍃	💲💲

Action	Action Type	Action Type	Timeframe	Lead	Potential Partners	GHG Impact	City Cost
Low-impact business development	Focus business development efforts on businesses that have lower impacts on natural resources and improve resident quality of life.	Vol	▶▶	City of Sedona Economic Development	Sedona Chamber, Small Business Development Center, Local First Arizona	🌿	🏷️
Carbon sequestration	Research and develop regional opportunities to improve the natural sequestration of carbon in plants and soils.	SPP	▶▶	City of Sedona Sustainability	Northern Arizona University, Coconino National Forest, Northern Arizona Climate Change Alliance, Friends of the Verde River, Yavapai County Cooperative Extension	🌿	🏷️
Water & Natural Systems: Expand and improve green spaces, including increased ecosystem quality, connectivity and accessibility							
Water retrofits	Update and advertise incentives and direct install programs that retrofit inefficient water fixtures and support low water landscaping.	Vol	▶▶	City of Sedona Sustainability	Arizona Water Company, Oak Creek Water Company, Friends of the Verde River, Keep Sedona Beautiful	🌿🌿	🏷️🏷️
Water harvesting ordinance	Adopt a rainwater harvesting ordinance for new development.	Reg	▶▶	City of Sedona Community Development	Friends of the Verde River	🌿	🏷️
Water Resource Management Plan	Create an integrated water resource management plan that ensures a long-term sustainable supply of water when faced with climate-related hazards.	SPP	▶▶	City of Sedona Sustainability, Wastewater	Friends of the Verde River, The Nature Conservancy, Sustaining Flows Council, Yavapai-Apache Nation, Salt River Project, Coconino Plateau Water Advisory Council	🌿	🏷️🏷️

Action	Action Type	Action Type	Timeframe	Lead	Potential Partners	GHG Impact	City Cost
Climate Resilience & Cross-Cutting Solutions: Institutionalize the consideration of climate change across City activities and decision-making							
Emergency management capacity	Grow capacity to address risks exacerbated by climate change through new training and equipment. Coordinate with local public health agencies to ensure that information about preparing for extreme weather events is available to the community prior to and during such events.	Vol	▶▶	City of Sedona Sustainability	Yavapai County, Coconino County, Sedona Fire District, Department of Emergency and Military Affairs	🍃	💲💲
Sustainable tourism outreach	Engage visitors on climate change initiatives and ensure visitors are aware of climate-related policies or actions. This includes Sedona recycling policies and Sustainable Tourism Plan objectives.	Vol	▶	City of Sedona Sustainability	Sedona Chamber, Sedona Recycles, Sustainability Alliance, Verde Front, Coconino National Forest	🍃	💲
City budget alignment	Evaluate mitigation, resilience, and equity implications of City budget proposals.	Reg	▶	City of Sedona Sustainability, Finance		🍃	💲💲
Business certification	Expand partnership with the Sustainability Alliance on business sustainability certification efforts.	SPP	▶▶	Sustainability Alliance	City of Sedona Sustainability	🍃	💲
Development review	Evaluate and prioritize mitigation, resilience, and equity in development review.	Reg	▶	City of Sedona Community Development		🍃	💲
City staff training	Invest in training and education for City staff on topics such as green infrastructure and decarbonization of the building and transportation sectors.	Vol	▶	City of Sedona Sustainability		🍃	💲

Action	Action Type	Action Type	Timeframe	Lead	Potential Partners	GHG Impact	City Cost
Climate Resilience & Cross-Cutting Solutions: Increase community capacity and awareness of climate change risks and impacts							
Community resources	Hire community-based organizations and businesses whenever possible. Potential resources include stipends for participating in community groups and altering meeting times to increase accessibility. Additionally, offering food, translation, and childcare can allow more community members to engage in climate action and municipal processes.	SPP	▶	City of Sedona Sustainability	Northern Arizona Interfaith Council, Sedona XYZ	🍃	💲💲
Collaborative governance	Build the capacity for collaboration and break down existing barriers to equitable participation and engagement in Climate Action Plan implementation.	SPP	▶	City of Sedona Sustainability	Northern Arizona Interfaith Council	🍃	💲
Climate Resilience & Cross-Cutting Solutions: Adequately fund services for disaster preparedness							
Wildland Urban Interface code	Adopt the 2018 Wildland Urban Interface (WUI) building code to mitigate the risks from wildfire to life and property.	Reg	▶	Sedona Fire District	City of Sedona Community Development	🍃	💲

Action	Action Type	Action Type	Timeframe	Lead	Potential Partners	GHG Impact	City Cost
Wildfire/flood emergency preparedness	Adopt, practice, and regularly evaluate formal recovery plans for wildfire and flood emergency preparedness, response, and evacuation.	Reg	▶	City of Sedona Sustainability, Sedona Fire District, Yavapai County, Coconino County, Coconino National Forest		🍃	💲💲
Resilience hubs	Design and invest in community Resilience Hubs. Resilience Hubs are community-serving facilities that have been enhanced to support residents, coordinate communication, distribute resources, and reduce carbon pollution while enhancing quality of life.	Cap	▶▶	City of Sedona Sustainability	Sedona Library, Sedona Community Center, Northern Arizona Interfaith Council, Sedona Oak Creek Unified School District, Sedona Area Homeless Alliance	🍃	💲💲
Firewise volunteer program	Develop volunteer program to assist homeowners with Firewise implementation on their properties.	SPP	▶▶	Sedona Fire District, City of Sedona Sustainability	Coconino National Forest, Yavapai County, Federal Emergency Management Agency, National Fire Protection Association	🍃	💲
Wildfire prevention partnerships	Partner with federal, state, regional, and local agencies to expand existing wildfire prevention outreach efforts.	Cap	▶▶	Sedona Fire District, City of Sedona Sustainability	National Forest, Yavapai County, Federal Emergency Management Agency, Arizona Public Service, Coconino County	🍃	💲💲

Action	Action Type	Action Type	Timeframe	Lead	Potential Partners	GHG Impact	City Cost
Community cooling centers	Expand community facilities for cooling. Increase park hours and access, ensure consistency in operations and communication to the public.	SPP	▶▶	City of Sedona Parks and Recreation	Verde Valley Homeless Coalition, Sedona Oak Creek Unified School District, Arizona Public Service, Northern Arizona Interfaith Council , Sedona Library, Sedona Area Homeless Alliance, Sedona Community Center	🌿	💲💲
Climate Resilience & Cross-Cutting Solutions: Identify and target support for at-risk populations							
Climate risk outreach	Utilize city-wide marketing campaigns to communicate climate impacts and risk, especially towards frontline communities.	Vol	▶▶	City of Sedona Sustainability	Northern Arizona Climate Change Alliance, Sedona Chamber, Northern Arizona Interfaith Council	🌿	💲💲
Reduce heat-island effects	Explore opportunities to reduce heat island effects in the city by requiring light-colored paving material, parking lot shade trees, and outdoor shading infrastructure.	SPP	▶▶	City of Sedona Sustainability, Community Development	Arizona Department of Transportation, Arizona Public Service	🌿	💲