Washoe County Climate Action Plan

FEBRUARY 2025

01

The Climate Action Plan Introduction

This Climate Action Plan Introduction is one segment of a four-part Climate Action Plan:

01

YOU ARE HERE

The Climate Action Plan Introduction

provides foundational information about the characteristics of Washoe County, the local impacts of climate change and the community benefits expected from this plan. It also explains Washoe County's climate commitments, its authority, its implementation plans, and the vision for this plan.

02

The Washoe County Operations Climate Action Plan (COCAP)

provides data about GHG emissions data that result from County Operations, including fleet, buildings, and waste. It also includes a list of actions the County can implement to reduce its emissions.

03

The Community GHG Inventory

provides GHG emissions data for Community activities in the County across sectors such as Transportation, Building Energy, and Waste. It also provides details about the methodology for calculating the community-wide GHG emissions.

04

The Community Climate Action Plan (CAP)

defines actions that can help us protect our local climate, improve public health, and reduce risks associated with increased greenhouse gas (GHG) emissions, which trap heat in Earth's atmosphere.

Sustainability Division

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CIRCUS
Keystone Ave
Virginia St
Wells Ave

Acknowledgments

The Washoe County Climate Action Plan was developed by the Office of the County Manager, Sustainability Program, with support from a Fuse Corps Executive Fellow. Development of the plan would not have been possible without leadership from the County Manager's Office, collaboration across county and regional agencies, and feedback from members of the Washoe County community. ICLEI USA – Local Governments for Sustainability – provided the template for this Climate Action Plan, as well as guidance and technical support during its production. NZero conducted the County Operations Emissions Inventory on behalf of Washoe County.

Plan Approval and Adoption

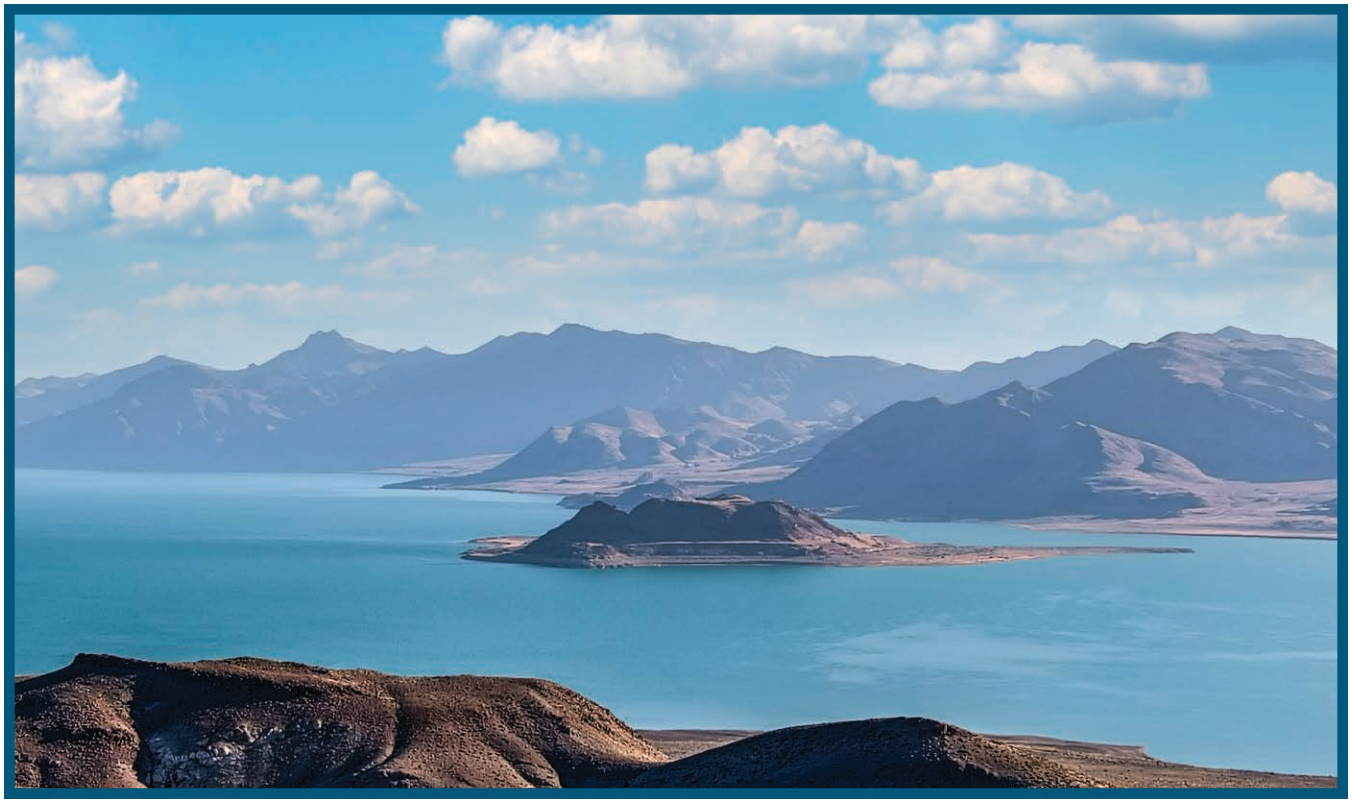
The Washoe County Climate Action Plan (CAP) must be formally adopted by the Board of County Commissioners (BCC). This draft CAP will go to the BCC for consideration and approval in early 2025 (date TBD). This plan has not yet been adopted.

Washoe County Commissioners at the time of consideration are:

- District 1: Alexis Hill, Chair
- District 2: Mike Clark
- District 3: Mariluz Garcia
- District 4: Clara Andriola
- District 5: Jeanne Herman

A. Land Acknowledgment

We acknowledge that Washoe County is located on the ancestral homelands of the Waší·šiw (Washoe), Numu (Northern Paiute), Newe (Western Shoshone), Nuwu (Southern Paiute), and Pipa Aha (Mojave), the original caretakers of the land that we now call Nevada. Washoe County, formally named after the Washoe people in 1861, continues to be a gathering place and home for Indigenous Peoples, and we recognize their rich history and deep connections to these lands. May we honor their past, present, and future stewardship by remembering that the health of the land and its people are inextricably linked.



B. Introduction from the Washoe County Commission Chair

Dear Washoe County Neighbors,

Major changes in Washoe County's climate require a responsible and rapid response. Our region is particularly vulnerable to a changing climate, The Reno area is the fastest-warming metro in the country, with direct impacts to public health and the environment. We all experience this in our everyday lives when we cannot work or play outside on certain high-temperature or smoke days, when insurance is hard to obtain or extremely expensive due to fire or flood risk, when our electric and food bills increase. We can all do something to fight climate change on a local level, and I am so proud that Washoe County is responding to this critical risk with the County's Climate Action Plan for both County Operations and Community-Wide.

Washoe County is committed to addressing inequalities in climate change impacts, particularly among Low Income and Disadvantaged Communities (LIDACs), ensuring that greenhouse gas emission-reduction solutions prioritize equity and racial justice. These temperature changes and related weather events like wildfire, flooding, and drought will have a significant impact on our residents, visitors, infrastructure, and economy. This Plan is the continuation of our commitment to reduce our region's contribution to climate change (i.e., greenhouse gas emissions, or GHGs) and prepare for its impacts. Evaluating County operations was a necessary first step for the County to lead in sustainability, resilience and climate action.

Community members contributed 500+ survey responses and provided input at dozens of events across the county and online. Many shared their stories, their concerns, their questions, and their expectations with us as we developed the Plan, input that will guide implementation.

Washoe County, the Board of Commissioners, and our strategic partners are committed to executing this plan quickly and equitably. With our shared future in mind, we hope each of you will join us in supporting the Plan and by taking action for a better planet in your own lives. I am so excited to implement this plan for a better more resilient future for my daughter and all the children in our community.

Sincerely,

Alexis Hill

Chair, Washoe Board of County Commissioners

C. Washoe County's mission, vision, and guiding principles

MISSION (why we exist as an organization)

Working together regionally to provide and sustain

a safe, secure, and healthy community.

VISION (a concrete picture of the future)

Washoe County will be the social, economic and policy leadership force

in Nevada and the western United States.

GUIDING PRINCIPLES

We approach our work by putting first our community responsibility to:

- **Support and represent the people we serve.** Elevate the quality of life so our community is a great place for everyone to live, regardless of means. We support and believe in diversity, inclusivity, and accessibility to all.
- **Be forward thinking.** We will make decisions that are future looking, support economic diversification and are financially sustainable.
- **Protect our natural resources.** Be caretakers of the environment so we preserve our region for future generations.
- **Collaborate within and across the County.** Nurture and strengthen collaboration regionally with citizens, community organizations, nonprofits, business, and government agencies.
- **Commit to digital delivery.** Drive a fundamental change through the value chain of County services by continuing digital delivery of services and processes where the outcomes for citizens and staff are improved.
- **Reduce redundancies and non-value adds.** Reduce non-value add steps in the process. Stop non-essential services by deconstructing and reconstructing where we can.
- **Show up as "One County" externally and internally.** Promote the idea that we are "One County" instead of independent entities, while also celebrating the uniqueness of each department.

STRATEGIC OBJECTIVES

Washoe County focuses our work in the following categories:

Fiscal Sustainability

- Restore fiscal stability from impacts of COVID-19 pandemic
- Long-term sustainability
- Efficient delivery of regional services

Economic Impacts

- Meet the needs of our growing community
- Support a thriving community
- Plan for expanded wastewater & storm water

Vulnerable Populations

- Address homelessness with a regional approach
- Expand appropriate housing options across community
- Coordination between agencies & communication of programs

Innovative Services

- Leverage technology to streamline and automate
- Strengthen our culture of service
- Promote experimentation and innovation

Washoe County's goal to reduce greenhouse gas emissions to net-zero by 2050 supports the County's Strategic Objective: Economic Impacts; Support a thriving community. Our Net-Zero goal – and the County's Sustainability program overall – supports all the above Strategic Objectives and Goals.

Learn more here about **Washoe County's Strategic Objectives with Performance Reports on our progress.**

D. Home Means Nevada – Washoe County Quality of Life, Climate Impacts and Need for Action

Home means Nevada,
Home means the hills,
Home means the sage and the pine.
Out by the Truckee's silvery rills,
Out where the sun always shines,
There is the land that I love the best,
Fairer than all I can see.
Right in the heart of the golden west
Home means Nevada to me.

As Nevada's **state song** declares, Washoe County is a great place to live. Nestled between the Sierra Nevada mountain range and Great Basin Desert, the Reno-Sparks metropolitan region attracts **families** and **innovative companies** alike with its **diverse**, **resilient** economy and abundant cultural and outdoor recreation opportunities. In 2023, **Outside Magazine ranked Reno, Nevada, as the Happiest Place to Live in the U.S.**

Unfortunately, we can no longer take any of these benefits for granted. The impacts from our changing climate threaten the environment, public health, and economy that support our region. **Reno is the fastest-warming city in the United States**. Warming winter temperatures have resulted in **more precipitation falling as rain instead of snow**, which has caused **declining snowpack in the Sierra Nevada**. Predominant drought conditions **are projected** to be punctuated by more intense storms. In Nevada and elsewhere in the American West, **wildfires are becoming more frequent and hotter**, destroying homes, forests, and choking our region with **dangerous smoke**, sometimes **intensely**. The smoke, combined with rising heat and with the emissions from our building and transportation sectors, **makes air pollution worse**, and is associated with health impacts such as **respiratory disease, cardiovascular disease, asthma, cancer, increased emergency room visits, and higher mortality rates**. **Find more information here**.

These challenges cost our region estimated billions of dollars in emergency management, health care, and higher energy costs. And many of these impacts fall to those who can least afford to adapt — low-income and communities of color who have been overburdened and/or underserved in the areas of climate change, high energy burden, health, housing, legacy pollution, transportation, water and wastewater, and workforce development.

Although we don't know what the future will bring, **climate scientists project widespread, rapid and intensifying changes**. The best ways to prevent the worst impacts on our communities is to work aggressively to minimize and prepare for those impacts by every means possible.

The intent of Washoe County's Climate Action Plan (CAP) is to identify actions we can all take today to provide and sustain a safe, secure, and healthy community that exists within a flourishing web of life., while addressing the worst impacts affecting our most vulnerable populations, who are most impacted by the burdens of a changing climate. We can prepare for an uncertain future by practicing sustainability — meeting the needs of the present without compromising the ability of future generations to meet their own needs.

E. The purpose of this Climate Action Plan (CAP)

What is a Climate Action Plan? A Climate Action Plan (CAP) is a strategic document that outlines a collection of measures and policies to reduce greenhouse gas (GHG) emissions and actively address climate challenges. It defines reduction goals based on local priorities and develops a framework with tactical activities to help achieve those goals. A climate action plan also aims to address inequalities in the way the effects of climate change are being distributed. For a full glossary of climate terms, see **Appendix 1**.

Caption: Wildfires are an essential part of forest and rangeland health. However, as climate conditions become hotter and drier, wildfires **have grown more common, intense and destructive across much of the U.S.**, damaging communities and taxing the capacity of Washoe County and other jurisdictions and agencies to respond. Shown here, the Davie Fire on Sept. 8, 2024. Credit:

What are greenhouse gas emissions? Greenhouse gas emissions are gases that trap heat in the atmosphere. There are several different GHGs, and they can be created through a variety of sources. Carbon dioxide (CO_2) is the primary GHG emitted from human activities, and it mostly caused by burning fossil fuels like coal, natural gas, and oil. For more information about greenhouse gases and climate goals, see **Appendix 2.** For in-depth explorations of GHGs and the science of climate change, explore data from **the International Panel on Climate Change**.

Wildfires are an essential part of forest and rangeland health. However, as climate conditions become hotter and drier, wildfires **have grown more common, intense and destructive across much of the U.S.**, damaging communities and taxing the capacity of Washoe County and other jurisdictions and agencies to respond. Shown here, the Davis Fire on Sept. 8, 2024. Credit:

To slow the steadily rising heat, to improve daily air quality, and to reduce ongoing fire risk, we must reduce GHGs. The purpose of this CAP is to identify actions that can be taken across all sectors (Buildings, Transportation, Waste, etc.) in the short- and long-terms to help the County reach its long-term target of net zero emissions by 2050.

"Net zero" is **a state of balance between emissions and emissions reductions**. In 2019, the Nevada Legislature **committed Nevada to pursuing zero or near-zero greenhouse gas emissions by 2050**. Washoe County is leading regional efforts to support that commitment.

This Climate Action Plan provides three types of information to support that goal:

1. Explains the context, urgency, and opportunities of reducing GHGs
2. Shares calculations of recent GHG emissions for the year 2021as well as projections of future GHGs
3. Defines actions for 2025 - 2030 that can reduce GHG emissions

This information lives in four segments of the CAP: 1) this Introduction 2) **County Operations CAP** 3) **Community GHG Inventory**, and 4) **Community CAP**.

Climate Change is a wide-ranging phenomenon that impacts our community in many complex ways. This CAP is only a start to the work necessary to respond, focusing primarily on actions that mitigate (reduce) GHGs to minimize the climate damage in our region and globally, as well as actions that help our community adapt to climate- and other weather-related challenges in our community.

What's Not Covered in this CAP

There are numerous topics this CAP does not address:

- **Water Conservation.** This is an important topic in the driest state in the Union. Historically, Washoe County has worked with **Truckee Meadows Water Authority**, the **Nevada Department of Environmental Protection**, **One Truckee River**, the **Pyramid Lake Paiute Tribe** and other regional stakeholders and partners to protect both water availability and quality.
- **Wildfire and other disasters.** The Washoe County Emergency Management Division is updating the County's **Hazard Mitigation Plan** to address the threat of wildfires and other disasters. The County partners with **Truckee Meadows Fire Protection District**, **Nevada Division of Forestry** and other local, state and national partners to address fire prevention and response in our communities.
- Additionally, there are many topics related to the environment and sustainability — protecting native pollinators and other local species and ecosystems, microplastics, PFAS and other toxic chemicals, etc. There are also topics this CAP addresses but not comprehensively — public health, food deserts, transportation, protection of and access to parks and open space and other topics. Washoe County will, under direction from our Board of County Commissioners, work internally and with regional partners to address these needs.

F. Benefits of Climate Action

Putting these Strategies and Actions to work will bring numerous, tangible and measurable benefits to our communities:

Cleaner Air Air quality can improve immediately when people reduce toxic GHGs in their daily lives. Burning fossil fuels in your **internal-combustion vehicle**, for example, or on your **natural gas stove** has negative health impacts for you and people near you. In five of the last six years, Washoe County has violated one or more of the **National Ambient Air Quality Standards (NAAQS)**. In 2024, the **American Lung Association's State of the Air Report** gave Washoe County failing grades for both Ozone and Particle Pollution, both of which are made worse when we burn wood and fossil fuels. Switching to cleaner transportation and appliances will improve air quality immediately. The goal of this CAP is to reduce the pollutants that contribute to these failing scores and increase the number of days our region experiences either Green (Good) or Yellow (Moderate) air quality as measured by the **Air Quality Index (AQI)**. This CAP supports the work of **Northern Nevada Public Health Air Quality Management Division**.

Reduced Heat
Reno is now the fastest-warming metropolitan in the United States. The annual average temperature has risen 7.6° F since 1970, and projections show that the annual average temperature could increase another 2 - 4° F between now and 2050. Reducing emissions reduction and the use of heat-absorbing materials on our streets and buildings can help lower our urban heat. The goal for the future is for the average annual temperature to stabilize or even decline. And because many of these factors are compounding, air quality also improves with lower temperatures. See **Appendix 7** for more information.

Public Health
When air quality improves, so does people's health. Cleaner air means fewer lung problems, heart problems, birth defects and cancer. And when people's health improves, we spend less money on health care and more time living happy, productive lives. This CAP will support everyone's health by mitigating (reducing) dangerous emissions from our buildings, vehicles, appliances, industries and tools. Some CAP Actions encourage the use of active transportation, such as biking and walking, instead of driving. These active transportation approaches also contribute to healthier lifestyles.

Saving Money, Creating Jobs and Improving the Economy
In addition to mitigating climate change and reducing harmful emissions, many of the solutions offered here use less energy and require fewer operations and maintenance expenses over the long-term. In many cases, the immediate benefits will be **lower energy bills**. The key challenge to some of these solutions is the up-front investment required to place these solutions into service.

This transition to a more energy efficient economy is already **creating business and job growth** required for the design, manufacture, and installation of energy efficient technologies and other green sectors. One notable example of this job growth locally is **Lithium Loop**, which is bringing billions of dollars of investment to create a circular battery economy here in northern Nevada.

Although tackling our climate crisis requires significant investment, we risk even greater costs from not acting. The federal government estimates responding to climate change-related emergencies **could cost taxpayers between $25 billion and $128 billion annually**. The sooner we minimize climate impacts, the less we will spend responding to, and recovering from, floods, fires, droughts, extreme heat and other emergencies.

Fewer Wildfires
Wildfires have become so common, locals sometimes joke about the "five seasons" in Washoe County: fall, winter, spring, summer and smoke. Community feedback during the creation of this CAP highlighted wildfire as one of the community's top concerns. As climate conditions have become hotter and drier, wildfires have grown more intense and destructive across much of the United States. In Nevada and elsewhere in the American West, **wildfires are burning more often and hotter**. If climate change continues to play out as predicted, **these trends will only worsen**. By reducing GHG emissions and improving defensible space protections around our homes and neighborhoods, we will limit the global warming that contributes to wildfires that destroy our forests and homes and choke our communities with smoke.

Supporting Local Agriculture and Enhancing Food Security
Washoe County has a semi-arid climate with hot summers and cool winters. Local growers produce everything from peas and leafy greens in the cool season to tomatoes, peppers, and squash in the warm season. Cattle ranching is also common in Washoe County. Together, the food and agriculture sector account for more than **2,700 jobs and $1.7B to the County's economy**. in Washoe County. A stable climate supports these industries' continued operation. Additionally, the actions in this CAP that expand local agriculture reduce the emissions required to transport food from far away, improving food security for our region.

Protecting the Environment and our Natural Resources
A stable climate supports native habitats that are home to native species like mule deer, pronghorn antelope, sage grouse, Cui ui and Lahontan Cutthroat Trout. Native birds, reptiles and mammals depend on healthy sagebrush plant communities that are destroyed by wildfires. **Lahontan Cutthroat Trout** and **Cui ui**, for example, thrive in cool, clean water. The species is culturally important to the Pyramid Lake Paiute Tribe, **who has worked to restore the population of this threatened species**. However, warming temperatures and degrading water quality challenge these rehabilitation efforts.

Seasonal recreation in the Lake Tahoe region is a beloved resource to Washoe County residents, and Lake Tahoe tourism is a huge economic driver for our region, **bringing in $467 million in taxable revenue in calendar year 2022** alone. The Future Urban Climates mapping tool, **designed by an ecologist at the University of Maryland** shows that, with continued unchecked emissions, Lake Tahoe's climate will be like Walla Walla, Washington, in 60 years, changing from "temperate conifer forests" to "deserts and xeric shrublands." In a low emissions scenario, the Tahoe region's climate would remain a temperate conifer forest, like Northern California. See **Appendix 9** for details.

Climate Equity
Environmental justice is a major benefit for addressing climate change. Research shows that vulnerable populations such as the elderly or chronically ill, low-income families and people of color are more at risk to the impacts of climate change. Low Income and Disadvantaged Communities (LIDACs) have been historically overburdened by pollution, high energy bills

and the lack of access to healthy local food, open spaces and equitable transportation, while being underserved by investments and solutions to improve these outcomes. Climate change exacerbates these gaps. In addition to other Washoe County programs targeting vulnerable populations, this CAP identifies actions that improve outcomes for already vulnerable populations.

Improved Community Resilience
Many of the actions presented in this CAP will increase the ability of people, businesses, infrastructure, and our local environment to prevent, withstand and recover from stressful events. As examples, **weatherization retrofits for homes can extend building comfort from hours to days** in times of extreme heat and cold, highly reflective, or "cool" roofs and exterior walls can cool buildings in the heat, trees can reduce air pollution and urban heat, and renewable energy microgrids with backup battery storage can provide power when the electric grid fails. By implementing this CAP, Washoe County can better prepare for the many challenges of an uncertain future. Find a more detailed discussion of resilience in Appendix 1.

Impacts on Society: The Social Cost of Carbon. The impacts of carbon dioxide and other carbon-equivalent gases can be far-reaching and complex, affecting public health, energy costs, agricultural production, labor productivity, and destruction to infrastructure. **The Cost of Climate Pollution Calculator,** developed by the non-partisan Institute for Policy Integrity at New York University School of Law, estimates that 1 metric ton of emissions has an overall cost impact of $208 to the planet. This financial cost can be used to support analyses about the "return on investment" for taking climate action.

G. Vision for 2050

Washoe County is a wonderful place to live, with access to outdoor beauty, a resilient economy, and a world-class quality of life. With strategic, concerted efforts, we can protect and enhance the best parts of living here, while reducing the pollution and other challenges to this quality of life. We have a chance to enjoy clean air, clean water, opportunities for meaningful work in a vibrant economy in a setting that nourishes and soothes us. The sooner we act, and the more aggressively we reduce emissions, the better chance we have to preserve these qualities to ensure a safe, secure, and healthy community into an uncertain future. Some **principles** for this work:

- The time to act is now. As we have seen in recent years, climate impacts are already upon us, and evidence tells us they will continue to get worse. This CAP offers suggestions for action that can make a difference immediately. The longer we wait to implement these strategies, the more expensive and more difficult our response will be in the future.
- This CAP is not perfect, but it's a start. We recommend making progress where we can, while learning along the way to refine our efforts. Every metric ton of GHGs we prevent from entering the atmosphere now reduces the negative impacts we and others will feel in the future.
- Washoe County is leading by example to implement solutions we can now, based on best practices and intelligence that have been developed to date.
- It takes a village. To reduce emissions across all sectors of our community and economy, everyone will need to play their part. Don't wait for someone else to act. You have a role to play and a difference you can make. We are all the ones we've been waiting for.
- Maximize impact. Before investing time and money into a solution, make sure it offers the biggest bang for your buck as possible. What solutions will reduce greenhouse gases fastest? How can we reduce emissions while protecting our air, water, and wildlife habitats? While also investing in future generations and our local economy?

Prioritizing this work

Reducing Washoe County's GHG emissions to Net-Zero is going to take time, and we do not yet have all the technologies and answers we need to get there. Nor do we have the money to fund every solution that's been identified. This CAP charts the work to be done and processes to be followed to guide our actions toward success. We will prioritize our work based on the following criteria:

- Biggest bang for the buck. Focus on solutions that maximize emissions reductions for each dollar spent.
- Intersectional benefits. Some recommended actions in this CAP mitigate/reduce GHGs (such as those that reduce the burning of fossil fuels); some recommended actions help our communities adapt to the realities of our changing climate (for example, weatherizing buildings keeps occupants more comfortable in extreme heat or cold, and during power outages); and some recommended actions help our communities become more resilient in the face of climate impacts.

- Reduced energy costs. In most cases, reducing GHG emissions saves money. For example, better-insulated, energy-efficient homes and buildings don't need as much energy for heat and light, thus reducing energy bills for taxpayers, consumer and business owners.
- Equity. Focus on solutions that impact our most vulnerable populations:
  - » Seniors
  - » Pregnant women and children
  - » Low Income, Disadvantaged Communities

By 2030, we want to be able to say…

- Washoe County has established plans and processes in place to guide the County's actions toward Net Zero, informed by regular, recurring, data-driven processes for calculating, evaluating and reporting emissions-reductions efforts. .
- Dashboards are in place for all stakeholders and members of the public to view progress of all projects.
- "Quick Win" projects have been identified and implemented.
- Assessments of longer-term emissions-reductions efforts have been completed and are reviewed annually; implemented as possible.
- County Operations and Community Wide emissions are reduced significantly from 2021 baselines.
- Numbers of businesses, agencies, and residents participating in climate action efforts are growing.
- Environmental measures (heat, AQI) and social measures (Environmental Justice) have improved.

Details of all plans and actions are available in our spreadsheets of **County Operations Actions here** and **Community-Wide Actions here**.

H. Washoe County: Place and People

Geography and climate Washoe County covers 6,540 square miles of urban and rural land. Anyone who has been lucky enough to explore all of Washoe County knows that it extends north to the Oregon border. On the west, it shares a border with California. The southeast part of the County hugs the northeast shores of Lake Tahoe and meets the Sierra Nevada Mountain range. The terrain varies from desert valleys to alpine forests with elevations ranging from 3,900 feet to 10,000 ft. Two tribal reservations exist within the County, the Pyramid Lake Paiute Reservation (475,000 acres around Pyramid Lake) and the Reno Spark Indian Colony (15,263 acres in Hungry Valley, and 28 acres in central west Reno). For more detailed County maps, see **Appendix 3.** Most people, infrastructure, and GHG emissions are found in the "Great Basin" region in the south part of the county, specifically, the Reno-Sparks metropolitan area along the Truckee River.

Figure 2: Washoe County, on the western border of Nevada, is shaded yellow.

People Nearly half a million people live in Washoe County, with 260,000 people in Reno, and 108,000 people in Sparks, Washoe County's two largest urban areas. Almost 132,000 people live in Unincorporated areas of Washoe County. The racial and ethnic demographics of the County are diverse, with **residents who self-report as** white alone (60%), Hispanic or Latino (26%), Asian alone (6%), Black or African American alone (3%), American Indian and Alaska Native alone (2.3%), Native Hawaiian or Other Pacific Islander alone (1%), two or more races (4%).

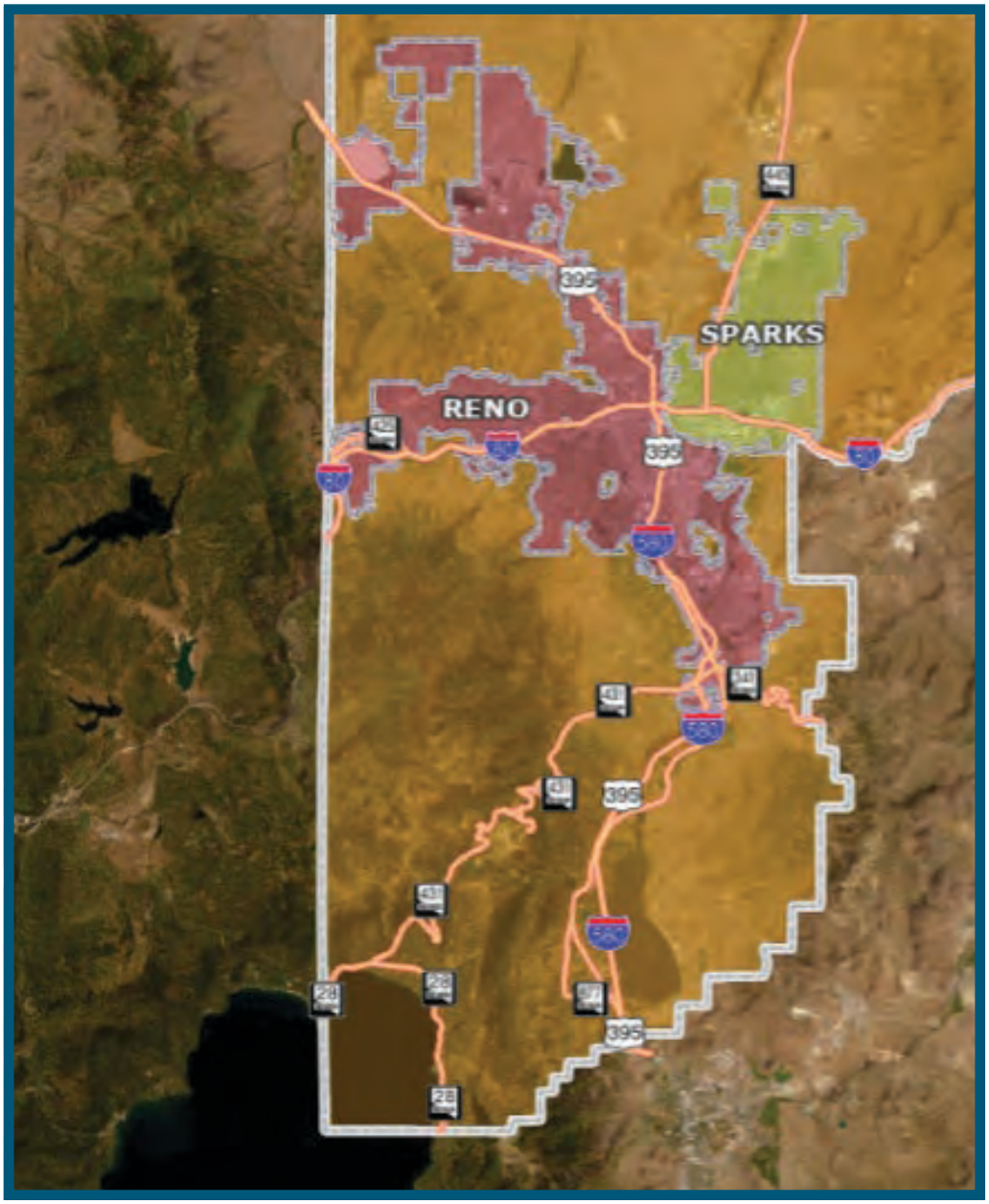


Figure 3. Map of the southern part of Washoe County. Reno is shaded pink, Sparks is shaded green, and Unincorporated Washoe County is shaded yellow.

What we hear from the community We know the Washoe County community cares about climate change. According to the **2023 Yale Climate Opinion survey**, the percent of people who in Washoe County who believe global warming is happening (76%) is greater than the national average (72%) and is higher than any other county in Nevada. At least 56% of people think local officials should do more to address global warming. See **Appendix 11** for full Yale Climate Opinion survey results for Washoe County. The results of our Sustainability team's Clean Air survey, which was circulated broadly in the Washoe County community, showed that 76% of respondents said that Washoe County's action to reduce GHG emissions was either "Very important" or "Somewhat important" to them.

In conversation with community members, we hear that top climate-related concerns in our region include cost of living, heat, air quality, and fire risk. **Appendix 5** shows impact data and quotes from our Survey, including the following:

> *"We are retired and are so thankful that we no longer have to go out when the AQI is high or when it's very hot on a daily basis in order to make a living. We have added MRV13 air filters and a heat pump to our HVAC system so that we can better filter out smoke and keep our house cool enough when it gets very hot. I grew up in Reno and never remember having the high AQI days we had in 2022 when California's fires were so bad."*
>
> *"I find myself restricted to being indoors on days where there is poor air quality. I commonly check the AQI to see how healthy the air is before going out. High AQI reports have led me to cancel plans to attend events to stay indoors instead."*
>
> *"Air quality is super important to my family and a determinate on whether we will continue to live in Washoe."*

Climate action can address these concerns, and it can be restorative. Examples of approaching climate action from an Environmental Justice perspective are:

- Inclusive public outreach and community-guided project planning;
- Prioritizing vulnerable communities when delivering County services, like expanded tree cover; and/or
- Avoiding actions that can cause harm, like adding more vehicle traffic to neighborhoods that already suffer from poor air quality.

Implementing the CAP to achieve climate equity We also recognize that vulnerable communities often experience the biggest negative impacts of climate change, but these communities are usually not responsible for the large amounts of GHG emissions that cause climate change. For this reason, actions in our CAP are focused on encouraging large organizations and industries in our region to reduce their emissions as quickly as possible. We also prioritize initiatives that can provide relief and direct benefits to vulnerable populations such as increased tree cover, cost savings on energy, or cleaner transportation options that make our roads safer and that pollute less.

Focus communities in our region Washoe County expects the benefits of the measures in this CAP to positively impact all residents in this County. Some populations may particularly benefit from improved air quality, stable average temperatures, and the cost savings that come with more efficient transportation and energy use.

Children Nearly 25% of the population, or about 125,000 people, in Washoe County are children younger than 18 years old. Children are **more susceptible to heat and poor air quality**. Further, children are not responsible for the decisions, made over decades, that have caused climate change, urban heat, and air pollution, but they will inherit the consequences of climate change for the rest of their lifetimes.**Low-income families** According to the Nevada Tomorrow Foundation, **10.9% of people live below the poverty level** in Washoe County, or about 55,000 people. **17.3% of households have severe housing problems** (eg overcrowding, high housing costs, lack of kitchen, or lack of plumbing facilities). **Income inequality is rising** in Washoe County.

Figure 3: Truckee Meadows Tomorrow data shows income inequality raising in Washoe County since 2014. The Gini Index is used here, where 0 indicates perfect income equality (everyone receives the same income) and 1 shows complete inequality (one person has all the wealth in the region).

Seniors Senior citizens make up 16% of the population of Washoe County, about 80,000 people. Seniors are **more vulnerable to heat and air quality problems**

And the cost of housing is high. **52% of pre-tax income is needed to make a mortgage payment on a median-priced home**. The percentage is **105% for low-income families. Nearly half (49.7%) of Washoe County renters spend 30% or more of their household income on rent**.

Of five cost of living inputs (grocery, housing, utilities, healthcare, and transportation), the **costs of groceries, housing and transportation are particularly high compared with a typical middle class family's income** (see **Appendix 6**). Low-income families can benefit from energy savings and reduced transportation costs. However, up-front financial investments, such as installing heat pumps or purchasing electric cars, may be out of reach.

Native residents Indigenous people have developed knowledge through centuries of interaction with the environment in Washoe County. Today, Washoe County's Native Peoples are climate leaders as they maintain practices and policies designed to honor and protect the land, water, and wildlife of this region for future generations. **According to the US Census Bureau's 2023 population estimates**, approximately 11,000 people in Washoe County self-identify as American Indian or Alaska Native alone. Members of several Tribes live in Washoe County, some on Pyramid Lake Paiute Tribe and Reno-Sparks Indian Colony (RSIC) tribal lands (see **Appendix 3** for map). Washoe County recognizes our region's rich Indigenous history, deep connections to these lands, and wisdom that can guide the future stewardship of this region.

Rural communities Rural areas in Washoe County are defined as the land stretching from the boundaries of the Truckee Meadows Regional Planning Authority's Truckee Meadows Service Area across the remainder of Washoe County. See map in **Appendix 3**. Rural areas **typically include** ranches, agriculture, forestry, scattered residences and business or commercial services, and certain types of industrial and recreational uses not compatible with urban or suburban development. Approximately 30,000 people (6% of residents) live in rural Washoe County in towns like Gerlach and Empire. Rural residents have less access to services and often longer wait times when infrastructure like water or power connections fail. This CAP offers solutions that can help rural residents increase their resilience when impacted by natural disasters, power outages, or other service disruptions. As one example, learn more about **the work Washoe County is doing with Gerlach to help it become climate-resilient**.

Hispanic / Latino residents The Hispanic / Latino population makes up nearly 25% of the population of Washoe County, or about 100,000 people. This population is largely concentrated in a few zip codes: Lemmon Valley / Stead (86506), Sun Valley (89433), Sparks (89436, 89434), Hidden Valley (89502), and Pleasant Valley (89521). See Appendix 3 for map. According to the Latino Research Center at the University of Nevada, Reno, **these zip codes experienced**

Residents with health concerns. The impacts of climate change can make existing health outcomes even worse for people with existing respiratory conditions. For example, in Reno, researchers reported a 17.7% increase in COVID-19 from August 16 – October 10, 2020 that **was attributable to air pollution caused by wildfire smoke**. Climate change increases the frequency and intensity of wildfires. Warming temperatures have **contributed to a nearly doubling of the land area burned** in the western U.S. over the past three decades. Washoe County is preparing for these trends to continue.

According to **Nevada Tomorrow data**, 6.9% of adults in Washoe County have COPD and 9.8% have asthma. In the County's summer 2024 Clean Air survey, respondents who reported having a family member in their home with a respiratory disease (184 people, 44% of respondents), rated climate action "very important" or "somewhat important" at a higher rate (89%) than the 235 people (56% of respondents) who did not report having a household member impacted by respiratory disease. Only 66% of people in this group said climate action was "very important" or "somewhat important."

Pregnant women and their fetuses are very vulnerable to **air pollution** and heat. For example, pre-natal exposure to find particles – found in huge quantities in wildfire smoke – have been tied to the rise in autism and other neuro-developmental problems. And pregnant women are more likely to develop life-threatening complications and cardio-vascular events during **heat waves**, and to deliver premature and low-birth-weight babies.

Of course, many people identify as belonging to two or more of the groups above, compounding their experience with the impacts of climate change. We acknowledge these intersecting identities and offer climate actions that support those who are severally impacted by climate change.

Evaluating Environmental Justice in our region

Using census and other public-health data, the Environmental Protection Agency has created an online Environmental Justice mapping tool, EJScreen. Washoe County uses this tool regularly to identify census tracts whose population are experiencing higher levels of

challenges with various **environmental justice factors** related to air quality, water pollution, risk of wildfire, extreme heat; health disparities such as asthma; or critical service gaps such as broadband gaps, lack of health insurance, housing burden, transportation access burden, and food deserts.

The mapping tool can be accessed via the EPAs website, and **Appendix 7** has a summary of factors for Washoe County.

As one example of the mapping capabilities available, Figure 4 below shows the EJScreen map for Diesel Particulate Matter in urban Washoe County. The Diesel Particulate Matter (PM) Supplemental Index combines the environmental burden indicator for diesel PM with the supplemental demographic index (an average of five factors: % low-income, % persons with disabilities, % limited English speaking, % less than high school education, and low life expectancy) for each census block group.

The environmental burden indicator for diesel PM measures how much diesel PM (a mixture of particles from diesel exhaust) people might be exposed to in terms of micrograms per cubic meter (µg/m3). EJScreen presents diesel PM concentrations using percentile rank, ranging from 0 (lowest) to 100 (highest).

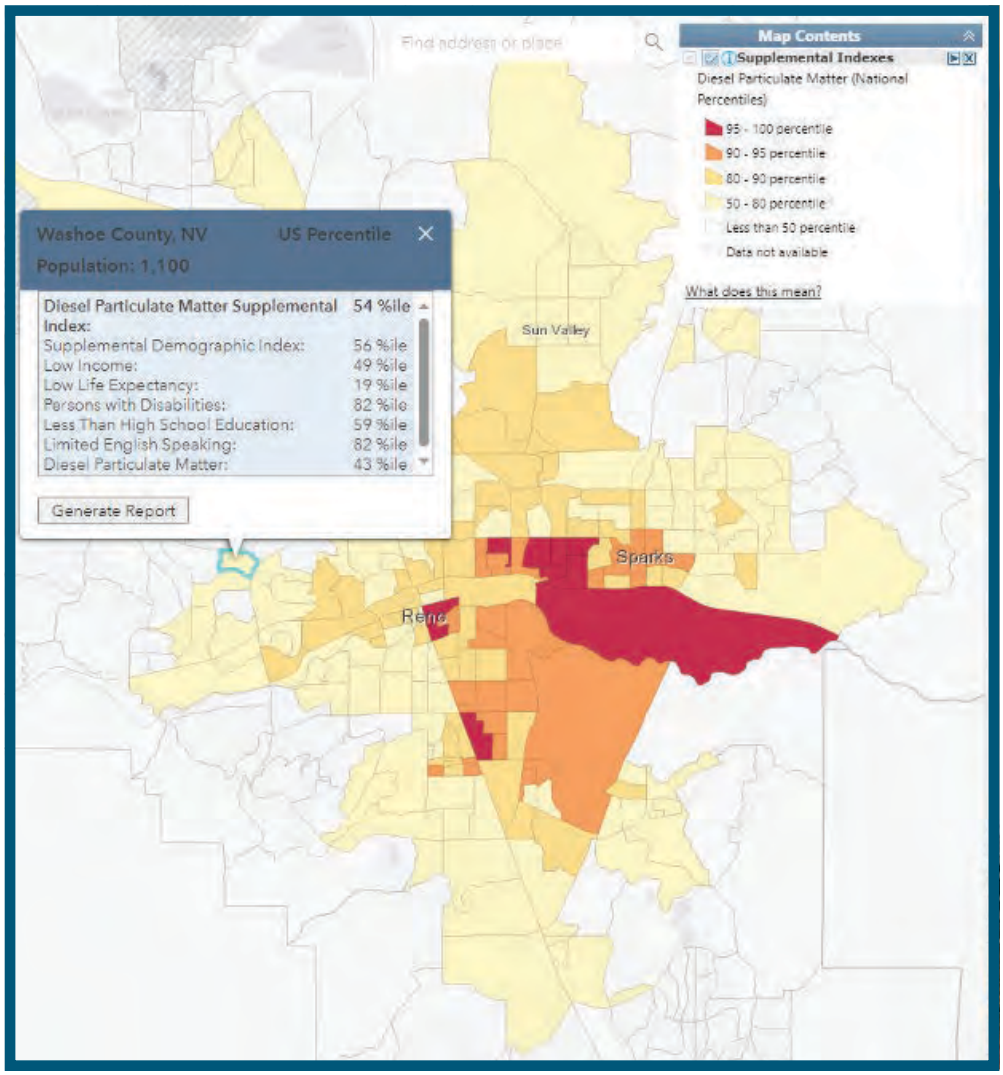


Figure 4: EJScreen map for Diesel Particulate Matter in urban Washoe County

I. The County's role in building and implementing the CAP

Washoe County's Sustainability Department was established in 2022 and began operations in 2023, demonstrating the County's commitment to sustainability best practices in support of the County's mission, "Working together regionally to provide and sustain a safe, secure, and healthy community."

The first priority for Washoe County's new Sustainability Program was to create this plan, the County's first-ever Climate Action Plan. The CAP includes calculations of GHG emissions, four strategies and 126 actions to reduce those GHG emissions , and processes for implementing those actions. There are several ways Washoe County will lead implementation of the proposed actions:

For the County Operations CAP COCAP:

- **Direct** The County is directly responsible for implementing actions because the COCAP addresses County-owned assets (like buildings and fleets) and County-directed processes (like managing waste from its operations).

For the Community CAP ("S"=strategy, "A"=action):

- **Direct** The County is directly responsible for some actions (e.g. **S1, A2:** track the implementation of this CAP; **S1, A13:** participate in community events to share information about climate action in the County).
- **Indirect** For other actions, the County will indirectly guide implementation because the best expertise and authority exists elsewhere within the community. For example, the County could issue a Request for Proposals (RFP) to design an equitable network of EV chargers (**S3a, A25)**, or it can provide administrative support to community working groups with specific goals (e.g., **S3d, A37** community waste reduction working group).
- **Support** And finally, some actions in the CAP are already happening within the community, where Washoe County can accelerate or help remove barriers to their implementation (e.g. **S1, A7:** Support the identification of long-term funding for transportation infrastructure in Washoe County that is not the gas tax; **S3a, A24:** accelerate RTC Washoe's Walk and Roll plan). In its GHG Community-wide reporting, Washoe County is accountable for transportation and energy emissions, so we want local agencies to succeed because the success of the County's Net Zero 2050 target depends on the agencies' success.

The County has specific resources and capabilities that it can apply to CAP implementation:

1. **Leading by example** Washoe County will implement the actions listed in its own **County Operations Climate Action Plan (COCAP),** and report on emission reduction progress at least every 5 years.
2. **Convening** County leaders develop deep, trusted relationships with their constituents and with local organizations. Thus, the County can identify stakeholders and bring them together to solve the region's biggest climate challenges.
3. **Funding** The County has the authority to apply for and administer federal, state, local, or private organization grants. These funds can then be applied to the County Departments

and / or community leaders best suited to implement actions in the CAP. The County can also work in partnership with community organizations, agencies and stakeholders to pursue funding strategies for shared priorities.

4. **Communications** The County has a multi-channel communications platform that it can use to educate and inform its population of half a million people about climate impacts, climate action, and climate progress.
5. **Organizational support.** Where County operations overlap with community priorities, the County will explore how to leverage County resources toward best outcomes for the land, people and economy of Washoe County.

Finally, several other County Departments directly impact climate action and sustainability in their daily work:

- The **Emergency Management** department prepares the County and region to respond to emergencies and disasters. Learn more about EM's **Hazard Mitigation Planning** here. In combination with the County's Sustainability work, these efforts can greatly increase our community's resilience (see **Appendix 1** for full definition of "resilience").

- The **Community Services Department (CSD)** writes the County's Master Plan, **Envision Washoe 2040**, which provides guidance for land use — the development of buildings, infrastructure and protections of open space in Washoe County. CSD also issues permits for work on new and existing buildings, as well as permits for installations like solar panels. The Facilities and Operations divisions in the County are on the front lines of reducing emissions from the County's buildings and fleets.
- The **Washoe County Utilities** processes approximately 11% of Washoe County's wastewater. The emissions from its operations are calculated in the **Community-wide GHG Inventory**. Helping the County's wastewater management operations reach Net Zero will help us achieve our Community-wide goal of Net Zero.
- The **Washoe County Parks** staff cares for **10,000 acres of open space** owned by the County. Managed well, these lands can be important carbon sinks that absorb excess CO_2, lowering overall emissions, while providing residents and visitors alike to beautiful open spaces.
- The **Washoe County Library** system provides educational materials and services to the public about sustainability.
- **The Air Quality Management Division (AQMD)** within **Northern Nevada Public Health (NNPH)** implements clean air solutions that protect the quality of life for the citizens of Reno, Sparks, and Washoe County through community partnerships along with programs and services such as public education, air monitoring, planning, and permitting and enforcement.

J. The community's role in building and implementing the CAP

Climate action will be most effective when community members take ownership and leadership in the quest to reach Net Zero 2050. "The community" includes everyone – residents, business-owners, building developers, government agencies, non-profit organizations, tribes, researchers, artists, and more. Members of our community often know the pain points in our region as well as the biggest opportunities for progress. This CAP is based on extensive outreach, and continued outreach, coordination, feedback, engagement and leadership will be necessary during the CAP's implementation.

We will support and strengthen existing efforts in the community whenever possible. For example, Washoe County's Sustainability program already coordinates closely with **Reno Resilience** and seeks opportunities to collaborate on their existing Sustainability and Climate Action Plan. We look forward to coordinating with all regional jurisdictions and agencies to implement best practices.

K. Navigating the four sections of the CAP

This CAP is designed for you to find easily the sections that most interest you.

01

This **Introduction** explains the purpose of the Climate Action Plan. It describes Washoe County's geography and population. It affirms Washoe County's commitment to Environmental Justice and Climate Equity. It lists the expected benefits of implementing the CAP, and it outlines the roles of the County and the community in implementation. Finally, the introduction illustrates the vision of Washoe County in 2030 on its path to Net Zero 2050.

02

The **County Operations Climate Action Plan (COCAP)** shows how Washoe County is leading by example. It provides the calculations of emissions for Washoe County's government operations, which were 23,424 mt of CO2e in 2021 (mt CO2e = metric tons of **carbon dioxide equivalents**). The COCAP lists 47 Actions Washoe County will take to reduce emissions from its buildings, fleets, operations and waste.

03

The **Community GHG Inventory** provides calculations of GHG emissions in million metric tons (MMT) from six sectors: 1) transportation, 2) commercial buildings, 3) residential buildings, 4) solid waste, 5) potable (drinkable) water and wastewater, and 6) agriculture, forestry, and other land use (AFOLU). It describes the methodology for these calculations and includes data from local operators who serve the people of Washoe County such as Washoe's Regional Transportation Commission (RTC), NV Energy, Southwest Gas, Waste Management (WM), and Truckee Meadows Water Authority (TMWA). Emissions calculations include activities in Unincorporated Washoe County as well as Reno and Sparks (see map in **Appendix 3**).

04

The **Community CAP** lists 4 Strategies and 47 "Tier 1" priority Actions to guide everyone in the region to reduce our emissions. It describes the community outreach process and feedback that informed the CAP, and it describes how we will measure the impact of our Actions.

L. Implementation

This Climate Action Plan is not intended to be the definitive statement or guide to preventing or responding to climate change impacts in Washoe County. This CAP is imperfect, but it is a start. It is obvious we do not currently possess the innovative technology, enough money or sufficient political will to achieve the County's goal of net-zero GHG emissions. But we know where to start – with conservation, energy efficiency, cleaner technologies and healthier habits. Every metric ton of carbon-equivalent gases we prevent from entering the atmosphere lessens the severity of the impacts we and others will experience in the future.

Everyone – the County, all other jurisdictions and agencies at the local, state, national and international levels, businesses, community organizations and citizens – have responsibilities and roles to play in reducing emissions and adapting to our climate challenges to create a livable future for ourselves and generations to come. No one else will do it for us. We are the ones we have been waiting for.

The following perspectives and priorities will help guide our work:

Maximum Effect.
Pursue interventions that deliver maximum emissions reductions as measurable by tangible metrics, as cost-effectively as possible. Additionally, strategies that help the County mitigate carbon emissions, adapt to our changing climate and become more resilient in the face of uncertain future conditions will – all else being equal – be preferred over those strategies that provide only one benefit.

Be Data Driven
Gather and track data wherever possible. Use that data to inform our actions to achieve maximum effect and best return on investment.

Deliver Equity
Many of the impacts of pollution and climate change are borne first and worst by people who contributed the fewest GHG emissions, and who can least afford to adapt to heat, storms, and air pollution. In Washoe County, we have numerous census tracts where low-income people and communities of color, defined by the Environmental Protection Agency as Low-Income Disadvantaged Communities (LIDACs), and by the Biden Administration as Justice40 Communities, are feeling these impacts. Solutions should bring relief to these communities.

APPENDICES

Appendix 1: Glossary / Definitions

Adaptation Strategies and actions that help our communities prepare for and adjust to the current and projected impacts of climate change. As examples, weatherization programs for buildings makes those buildings more comfortable during extreme temperatures without the need to use heaters or air conditioners; artificial wetlands and constructed retention ponds can help communities adapt to more frequent floods. (source: **EPA**)

Air Pollution Air pollution consists of chemicals or particles in the air that can harm the health of humans, animals, and plants. It also damages buildings. Pollutants in the air take many forms. They can be gases, solid particles, or liquid droplets. (source: **National Geographic**)

Air Quality The condition of the air we breathe and how it affects our health. (source: **EPA**)

Atmosphere Layers upon layers of gas surrounding the Earth, working to protect the planet. There are five main layers that make up the atmosphere, differentiated by factors such as temperature, chemical composition, and air density: troposphere, stratosphere, mesosphere, thermosphere, and exosphere. Although we cannot directly see the atmosphere, it provides the air we breathe and protects us from harmful ultraviolet (UV) rays. The atmosphere also works to trap heat and maintain moderate, habitable temperature ranges. Without it, the Earth's temperature would be similar to that of the moon, which experiences extreme temperature fluctuations between day and night (-208°F to 250°F) due to the lack of an atmosphere. (source: **NASA**)

Carbon Carbon is an element that is essential to all life on Earth. Carbon makes up the fats and carbohydrates of our food and is part of the molecules, like DNA and protein, that make up our bodies. Carbon, in the form of carbon dioxide, is even a part of the air we breathe. It is also stored in places like the ocean, rocks, fossil fuels, and plants. (source: **National Geographic**)

Carbon Capture & Storage A process that captures emissions at the source — like from a power plant or a cement producer — and prevents those emissions from entering the atmosphere in the first place. Carbon capture is a form of emissions reduction rather than carbon removal. (source: **World Resources Institute**)

Carbon Cycle The flow of carbon between all places it exists (see "Carbon" definition above). (source: **National Geographic**)

Carbon Dioxide (CO2) Carbon dioxide (CO2) is the primary greenhouse gas emitted through human activities. In 2022, CO2 accounted for 80% of all U.S. greenhouse gas emissions from human activities. Carbon dioxide is naturally present in the atmosphere as part of the Earth's carbon cycle (the natural circulation of carbon among the atmosphere, oceans, soil, plants, and animals). The main human activity that emits CO2 is the combustion of fossil fuels (coal, natural gas, and oil) for energy and transportation. Certain industrial processes and land-use changes also emit CO2. (source: **EPA**)

Carbon Dioxide Equivalent (CO2e) Carbon dioxide equivalent or CO2e means the number of metric tons of CO2 emissions with the same global warming potential as one metric ton of another greenhouse gas/ (source: **EPA**)

Carbon Footprint The total amount of CO2 and other greenhouse gas 9GHG) emissions for

which an individual or organisation is responsible. Footprints can also be calculated for events or products. (source: **Carbon Trust**)

Carbon Negative The next step after "carbon neutral" – becoming carbon negative – requires an organization to remove more carbon dioxide from the atmosphere than it emits. (source: **World Economic Forum**)

Carbon Neutral A commitment to evaluate CO2 emissions produced. This is coupled with finding ways to reduce those emissions and with compensating for these by reducing emissions elsewhere, or by removing an equal amount of CO2 from the atmosphere. (source: **World Economic Forum**)

Carbon Offset A balancing practice to compensate for emissions caused elsewhere in operations by removing an equal amount of CO2 from the atmosphere. (source: **World Economic Forum**)

Carbon Parts Per Mission (PPM) "Parts per million" refers to the number of carbon dioxide molecules per million molecules of dry air. These measurements are from the mid-troposphere, the layer of Earth's atmosphere that is 8 to 12 kilometers (about 5 to 7 miles) above the ground. (source: **NASA**)

Carbon Removal A method that aims to help mitigate climate change by removing carbon dioxide pollution directly from the atmosphere. Carbon removal strategies include familiar approaches like growing trees as well as more novel technologies like direct air capture, which scrubs CO2 from the air and sequesters it underground. (source: **World Resources Institute**)

Carbon Sink A place that absorbs more carbon than it releases. For example, forests continually take carbon out of the atmosphere through the process of photosynthesis. The ocean is another example of a carbon sink, absorbing a large amount of carbon dioxide from the atmosphere. (source: **National Geographic**)

Carbon Source Processes that release carbon into the atmosphere. For example, any process that uses fossil fuels—such as burning coal to make electricity—releases a lot of carbon into the atmosphere. Raising cattle for food also releases a lot of carbon into the atmosphere. (source: **National Geographic**)

Climate Long-term (usually at least 30 years) regional or even global average of temperature, humidity, and rainfall patterns over seasons, years, or decades. (source: **NASA**)

Climate Action Plan A strategic document that outlines a collection of measures and policies to reduce greenhouse gas (GHG) emissions and actively address climate challenges. It defines reduction goals based on local priorities and develops a framework with tactical activities to help achieve those goals. A climate action plan also aim[s] to address inequalities in the way the effects of climate change are being distributed. (source: **Go Vocal**)

Climate Change A long-term change in the average weather patterns that have come to define Earth's local, regional and global climates. (source: **NASA**)

Climate Change Mitigation Reducing emissions of and stabilizing the levels of heat-trapping greenhouse gases in the atmosphere. (source: **NASA**)

Climate Change Adaptation Adjusting to actual or expected future climate. (source: **NASA**)

Climate Equity Climate Equity is a part of the overarching aim of Environmental Justice. Climate equity is the goal of recognizing and addressing the unequal burdens made worse by climate change, while ensuring that all people share the benefits of climate protection efforts. Achieving equity means that all people—regardless of their race, color, gender, age, sexuality, national origin, ability, or income—live in safe, healthy, fair communities. (source: **EPA**)

Climate Justice Global effort that prioritizes the needs and rights of the most vulnerable, ensuring that as we tackle climate change, we do so in a way that's fair and just for everyone. Climate justice recognizes that certain groups suffer the most from the impacts of climate change, even though they've contributed the least to the problem. (source: **World Economic Forum**)

Climate Positive A similar term to "carbon negative." An organization is "climate positive" when it achieves net zero, then contributes additional reductions to society.

Climate Resilience The capacity of a community, business, or natural environment to prevent, withstand, respond to, and recover from a disruption. (source: **US Climate Resilience Toolkit**)

Conservation Earth's natural resources include air, water, soil, minerals, plants, and animals. Conservation is the practice of caring for these resources so all living things can benefit from them now and in the future. (source: **National Geographic**)

Embodied Carbon Embodied carbon represents the millions of tons of carbon emissions released during the lifecycle of building materials, including extraction, manufacturing, transport, construction, and disposal. Concrete, steel, and insulation are all examples of materials that contribute to embodied carbon emissions. (source: **Rocky Mountain Institute**)

Emergency Management: The managerial function responsible for creating the framework within which communities reduce vulnerability to hazards and cope with disasters. This involves coordinating and integrating all activities necessary to build, sustain, and improve the capability to mitigate against, prepare for, respond to, and recover from disasters, whether they are natural, man-made, or acts of terrorism. (source: **Federal Emergency Management Agency**)

Environment All the physical aspects of Earth, including everything living and nonliving: soil, air, water and the water cycle, all plants, animals and other living things. (source: **Britannica Kids**)

Environmental Justice The just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, Tribal affiliation, or disability, in agency decision-making and other Federal activities that affect human health and the environment so that people: are fully protected from disproportionate and adverse human health and environmental effects (including risks) and hazards, including those related to climate change, the cumulative impacts of environmental and other burdens, and the legacy of racism or other structural or systemic barriers; and have equitable access to a healthy, sustainable, and resilient environment in which to live, play, work, learn, grow, worship, and engage in cultural and subsistence practices (source: **EPA**)

Gentrification Gentrification is a demographic and economic shift that displaces established working-class communities and communities of color in favor of wealthier newcomers and real estate development companies. (source: **National Geographic**)

GHG Protocol Reporting guidance that establishes comprehensive global standardized

frameworks to measure and manage greenhouse gas (GHG) emissions from private and public sector operations, value chains and mitigation actions.

Global Warming Global warming is the long-term heating of Earth's surface observed since the pre-industrial period (between 1850 and 1900) due to human activities, primarily fossil fuel burning, which increases heat-trapping greenhouse gas levels in Earth's atmosphere. This term is not interchangeable with the term "climate change." (source: **NASA**)

Global Warming Potential A measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO2). The larger the GWP, the more that a given gas warms the Earth compared to CO2 over that time period. The time period usually used for GWPs is 100 years. GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases (e.g., to compile a national GHG inventory), and allows policymakers to compare emissions reduction opportunities across sectors and gases. (source: **EPA**)

Greenhouse Effect The greenhouse effect is the process through which heat is trapped near Earth's surface by substances known as "greenhouse gases." (source: **NASA**)

Greenhouse Gases (GHGs) Gases that trap heat in the atmosphere, such as Carbon Dioxide (CO2), Methane (CH4), Nitrous Oxide (N2O), Fluorinated gases. Additional compounds in the atmosphere including solid and liquid aerosol and other greenhouse gases, such as water vapor and ground-level ozone can also impact the climate. (source: **EPA**)

Greenhouse Gas (GHG) Emissions Greenhouse gases caused by human activities. Human activities are responsible for almost all of the increase in greenhouse gases in the atmosphere over the last 150 years. The largest source of greenhouse gas emissions from human activities in the United States is from burning fossil fuels for electricity, heat, and transportation. (source: **EPA**)

Intersectionality The combined effects of one's multiple identities, which includes identities such as race, gender, sexual orientation, religion, and employee status. (source: NIH). Intersectionality can also explain how historic and systemic patterns of under-investment, development and political priorities have created neighborhoods where lower-income and communities of color experience the most harmful air pollution, urban heat, food deserts and poorer access to transportation, open space and economic opportunities.

Mitigation

In the context of this Climate Action Plan, mitigation refers to **actions limiting the magnitude and rate of future climate change by reducing greenhouse gas emissions (GHGs) and/or advancing nature-based solutions (source: EPA)**. Mitigating the use of fossil fuels can be accomplished directly by switching natural-gas furnaces to heat pumps and internal-combustion engines (ICE) to electric or hydrogen, or simply by driving ICE vehicles less. Mitigating GHGs can also be done indirectly by reducing the energy demand in use of buildings through more energy-efficient design (see **passive solar** and **passive design**) and through **weatherization** and **energy efficiency retrofits** to reduce the energy needed to power and heat them.

The term "mitigation" can also apply to efforts to prepare for and respond to disasters such as floods, fires, diseases, earthquakes, terrorist attacks, and other sudden, dangerous, and

extreme events. For more information on how Washoe County and other agencies and jurisdictions are preparing for these possibilities, refer to the **County's Hazard Mitigation Planning process** led by the County's Emergency Management Division. Although the County's Climate Action Plan and Hazard Mitigation Plan can overlap (for example, expanding our community's tree canopy can reduce the impacts of heat, smoke and floods), this Climate Action Plan focuses primarily on GHG reductions and related strategies and impacts related to the County's goal of Net-Zero GHGs by 2050.

Intergovernmental Panel on Climate Change (IPCC) The United Nations body for assessing the science related to climate change. (source: **IPCC**)

Nature-Based Solutions (NBS) Also called "green infrastructure" or "natural infrastructure," NBS are strategies using living systems to help communities mitigate and adapt to climate impacts. As examples; wetlands and **bioswales** can be used to absorb flood waters; **house plants** can improve indoor air quality.

Net Zero A situation where global greenhouse gas emissions from human activity are in balance with emissions reductions. At net zero, carbon dioxide emissions are still generated, but an equal amount of carbon dioxide is removed from the atmosphere as is released into it, resulting in zero increase in net emissions. (source: **World Economic Forum**)

Regeneration Approach to the climate crisis that weaves justice, climate, biodiversity, and human dignity into a seamless tapestry of action, policy, and transformation that can end the climate crisis in one generation. (source: **Regeneration dot org**)

Resiliency The ability to prepare for threats and hazards, adapt to changing conditions, and withstand and recover rapidly from crises and other disruptions. (source: **FEMA**). Examples include the ability of stormwater infrastructure to function during extreme rain and floods, the ability of our buildings to keep people comfortable during extreme heat or cold, and the capacity of our local food systems to feed people during the breakdown of supply chains. Different parts of our communities show resilience in different ways. Each requires attention to remain resilient:

- **Ecosystem**: the ability of our forests to provide clean air and clean water; and diverse plant communities to provide habitats for a wide range of native species.
- **Infrastructure**: the ability of our physical aspects of our community – roads, power supplies, stormwater systems – to remain serviceable to keep roads open, the power on, and continue providing essential services.
- **Economic & Financial**: the ability of our economy and financial system to function. We experienced challenges to this resiliency during the COVID-19 pandemic and the economic collapse of 2008.
- **Political**: the ability of our authority and decision-making systems to continue functioning to deliver services to constituents. The attack on our nation's Capitol on January 6, 2021, showed us all how fragile our political system can be.
- **Social & cultural**: These forms of resilience show up when neighbors help each other sandbag properties during floods, when volunteers provide meals for those who are hungry, and when we show up in other ways for our neighbors in need. How can we invest in our social and cultural organizations that make us all stronger when we need it most?

- **Personal, emotional & psychological** Our personal ability to cope with stress or anxiety that comes from events in our lives. **The Nevada Resilience Project** (NRP) is designed to help individuals experiencing stress or anxiety build coping strategies and locate resources related to managing job loss, housing insecurity, isolation, or challenges of accessing care. **Nevada 211**, a program of the Nevada Department of Health and Human Services, is committed to helping Nevadans connect with the services they need.

Scopes The types of GHG emissions based on their sources. There are 3 main scopes:

- **Scope 1:** Direct GHG emissions occur from sources that are owned or controlled by an organization, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.; emissions from chemical production in owned or controlled process equipment. (source: **GHG Protocol**)
- **Scope 2:** GHG emissions from the generation of purchased electricity consumed by an organization. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organization boundary of the organization. Scope 2 emissions physically occur at the facility where electricity is generated, not where the electricity is used. (source: **GHG Protocol**)
- **Scope 3:** Operational reporting category that allows for the treatment of all other indirect emissions from an organization's activities. Scope 3 emissions are a consequence of the activities of an organization, but occur from sources not owned or controlled by the organization. Examples of Scope 3 emissions:
  - » Upstream emissions related to everything we buy and the materials we use in construction,
  - » Employee commuting and employee travel for work,
  - » Downstream emissions from everything we throw away (source: **GHG Protocol**)

Scopes can help every individual, organization or business identify and manage their various sources of emissions. In this Climate Action Plan, Washoe County addresses scopes in its County Operations Climate Action Plan but not in the Community-Wide CAP. However, we encourage everyone in the County to address the various scopes in their analyses of energy use and emissions-reductions strategies.

Sectors: This word describes the different areas of action for sustainability, such as Buildings, Transportation, Energy Production, Land Use, Carbon Sequestration and Waste Management. This pie chart illustrates Washoe County's community-wide GHG emissions by sector.

Social Cost of Greenhouse Gases A suite of **monetary estimates that quantify the damage done** per metric ton of greenhouse gases emitted. Specifically, it contains per-ton damage estimates for carbon dioxide, methane, and nitrous oxide—three of the most common greenhouse gases.

Sustainability To create and maintain the conditions under which humans and nature can exist in productive harmony to support present and future generations. (source: **EPA**)

Weather Atmospheric conditions that occur locally over short periods of time—from minutes to hours or days. Familiar examples include rain, snow, clouds, winds, floods, or thunderstorms. (source: **NASA**)

Appendix 2: Climate science, climate goals

Overwhelming evidence has led to the scientific consensus that climate change is the greatest environmental challenge of the 21st century. Climate change is the result of global warming, which is the long-term heating of Earth's surface due to human activities, primarily fossil fuel burning, which increases heat-trapping gases in Earth's atmosphere.

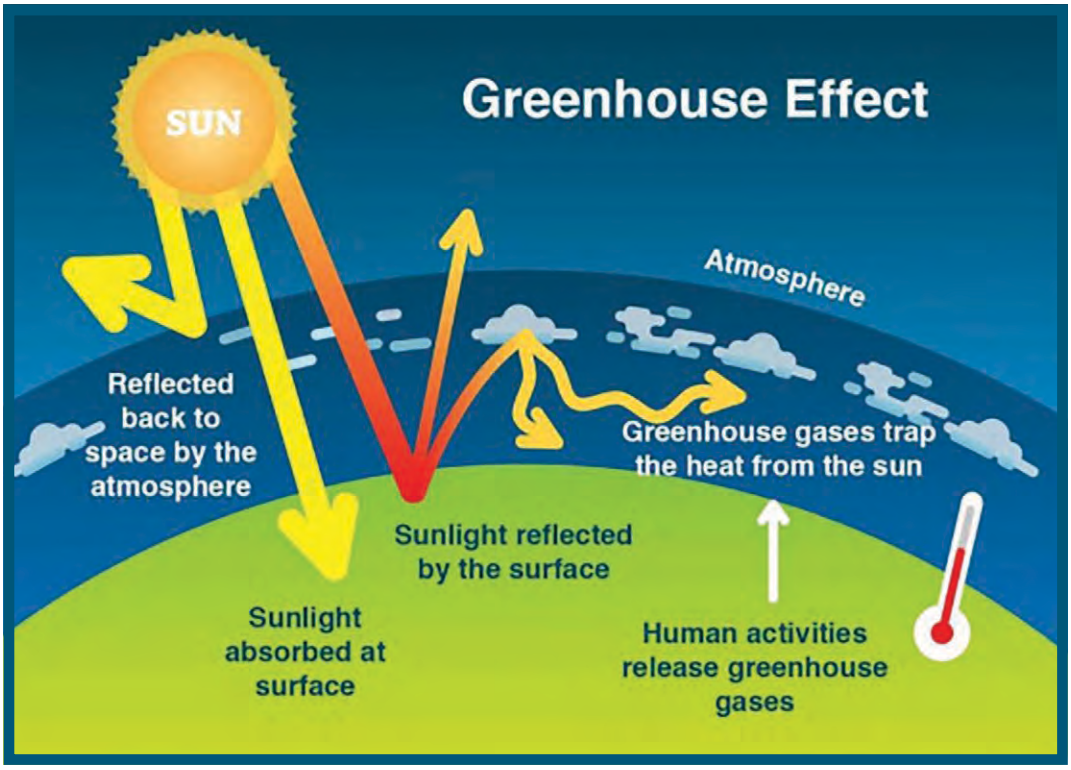


Figure 5: The Greenhouse Effect. Some of the sun's rays are absorbed by Earth's surface, some are reflected back into space, and greenhouse gases trap some in the atmosphere, warming the climate.

Although the natural greenhouse effect is needed to keep the earth warm, human activities like the burning of fossil fuels have increased the accumulation of GHGs in the atmosphere to levels that are unhealthy for humans. Unprecedented concentrations of these gases in the atmosphere has led to too much heat and radiation being trapped on Earth.

What are Greenhouse Gas emissions? Carbon dioxide (CO_2) is the most common greenhouse gas. But there are numerous other greenhouse gases, including methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. Each of these greenhouse gases has a different "global warming potential (GWP)," or amount that a certain gas warms Earth compared to CO_2 over the same period of time. For example, Methane (CH_4) is estimated to have a GWP of 27-30 over 100 years, while CO_2 has a GWP of 1. A "carbon dioxide equivalent" or CO2e, is a measure that allows us to calculate and compare GHG emissions in a standardized way.

Current status of climate change Carbon emissions from human activities have soared in recent decades and are currently at the highest rates in human history. **According to the Institute for European Environmental Policy (IEEP)**, about half of all carbon dioxide emitted between 1751 was emitted in the last 30 years.

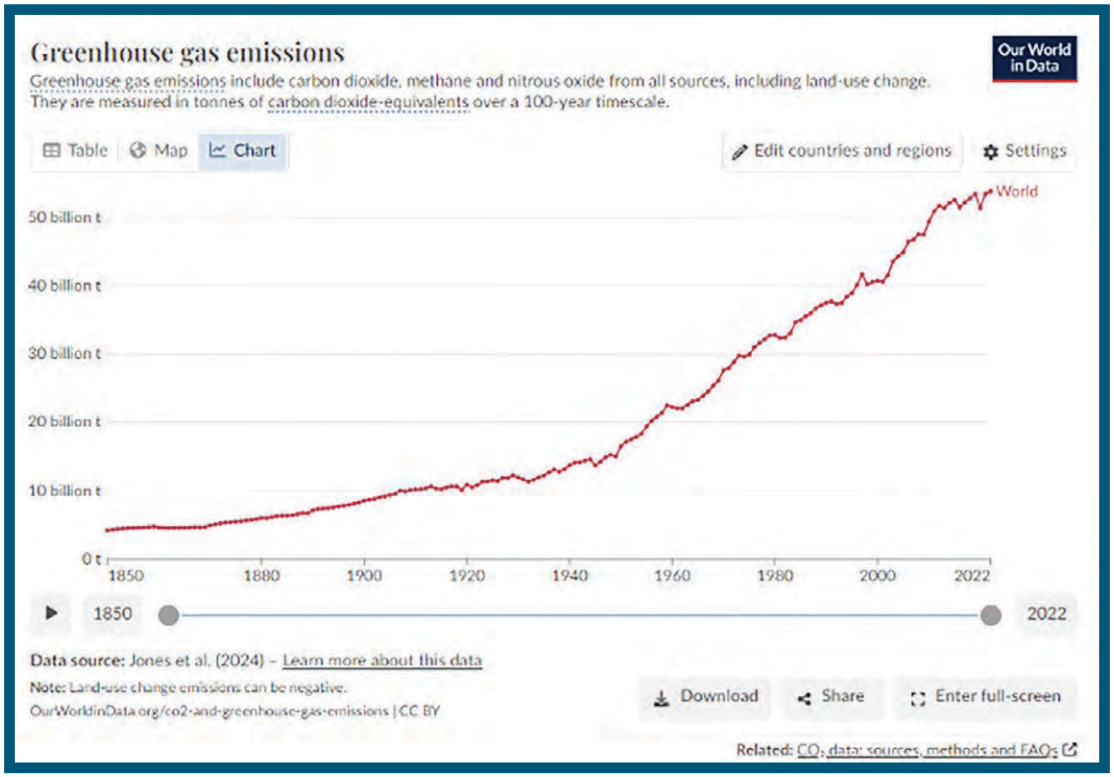


Figure 6: Tons of GHGs emitted between 1850 and 2022 (Source: **World Resources Institute**)

[Data from the World Resources Institute (WRI)] shows that 10 countries contribute over two-thirds of global emissions, with the United States being the second-largest emitter behind China. The United States is [the single largest emitter of GHGs per-capita].

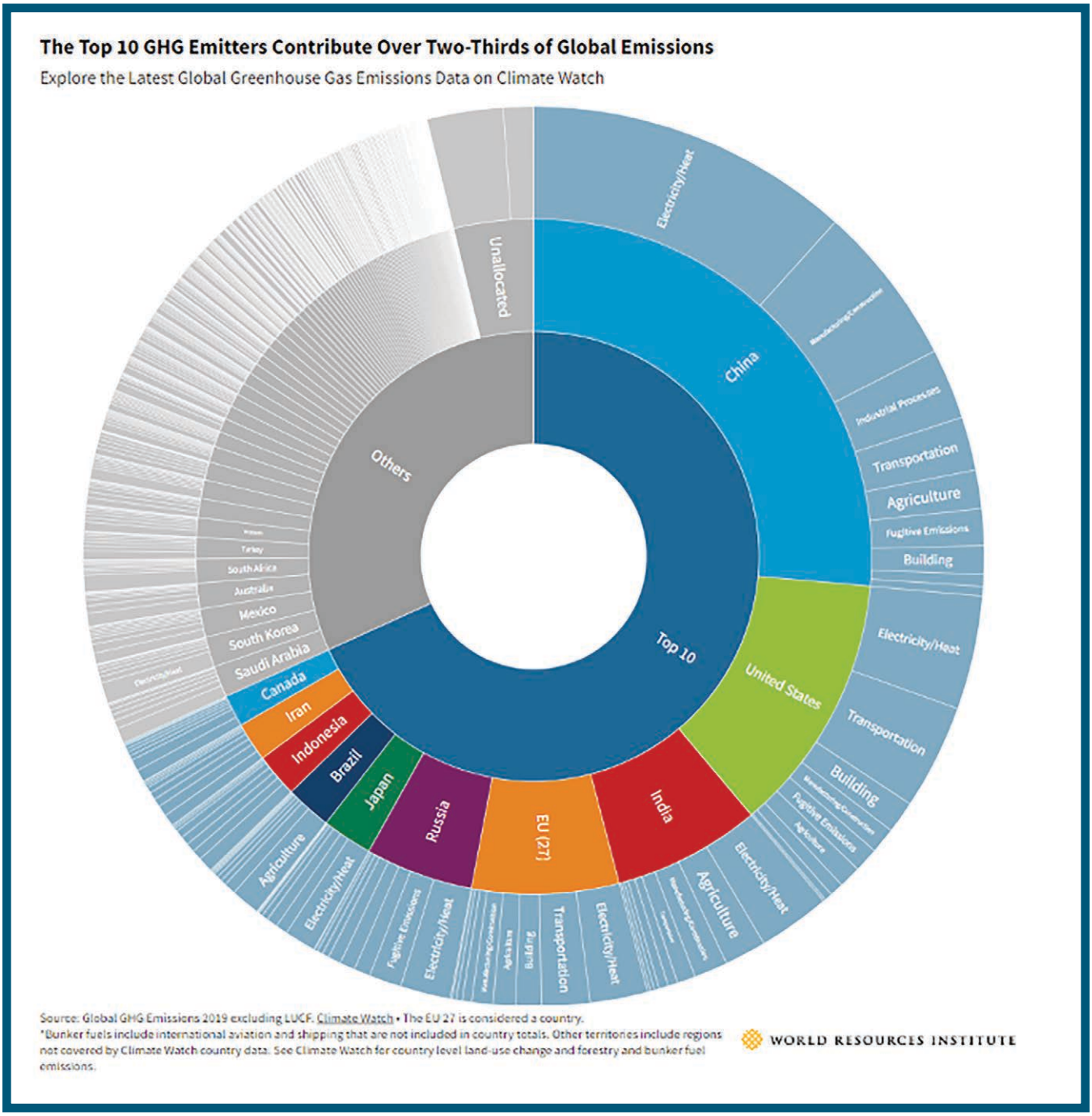


Figure 7: Top GHG emitters by country and sector. Source: [World Resources Institute]

Global Climate Goals To avoid the worst impacts of Earth's warming, the United Nations' Intergovernmental Panel on Climate Change (IPCC) established a goal to limit the global average temperature increase to +1.5°C from pre-industrial levels. For reference, **pre-industrial temperatures were approximately 13.5°C (56.3°F)**.The global temperature on Earth has already increased by at least 1.1°C since 1880, **according to ongoing temperature analysis led by scientists at NASA's Goddard Institute for Space Studies (GISS)**. Recent research indicates that the +1.5°C limit **will be difficult to achieve**.

National Climate Goals The United States' commitment to this agreement has fluctuated over the years. Regardless, atmospheric concentrations of dangerous gases continue to accumulate, and the impacts of wildfires, air pollution, floods, storms, urban heat and uncertain energy availability continue to ravage our region and strain our County's and region's capacity to respond. Washoe County remains committed to working together regionally to provide and sustain a safe, secure, and healthy community. Pursuing our goal of Net Zero greenhouse gas emissions by 2050 offers the best pathway forward to reduce pollution; improve our region's access to clean, reliable and affordable energy; and strengthen the capacity and resilience of our community to respond to natural and man-made disasters.

Nevada Climate Goals In 2019, the State of Nevada Legislature passed Senate Bill 254, establishing the following GHG reduction targets:

- 28 percent by 2025
- 45 percent by 2030
- Net-Zero by 2050

Washoe County is contributing to the State's emissions reduction goals by committing to Net-Zero by 2050. Washoe County's "baseline year," against which reductions will be measured, is 2021.

Appendix 3: Washoe County Maps

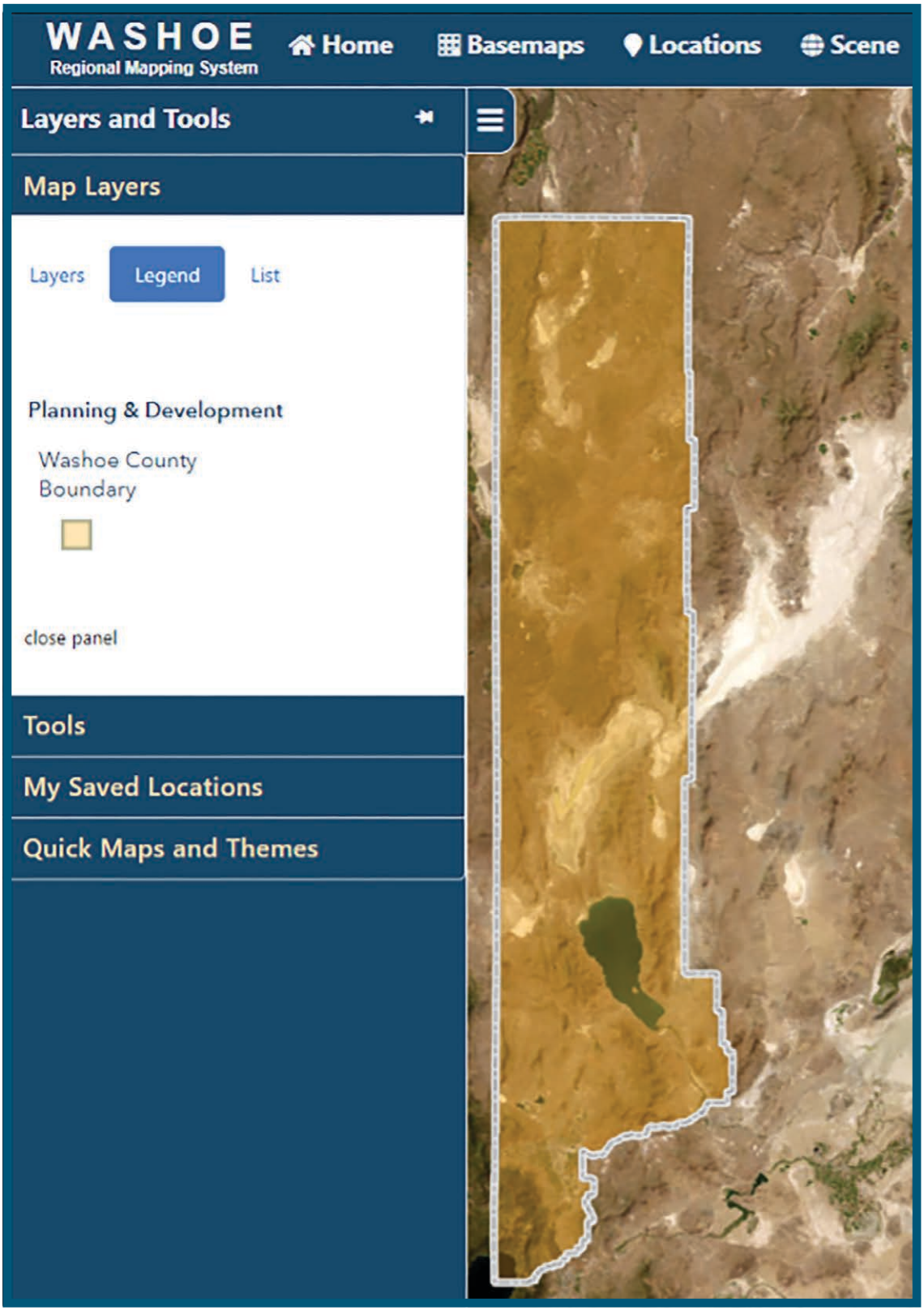


Figure 8: Washoe County Boundary. Source: [Washoe Regional Mapping System (washoecounty.us)]

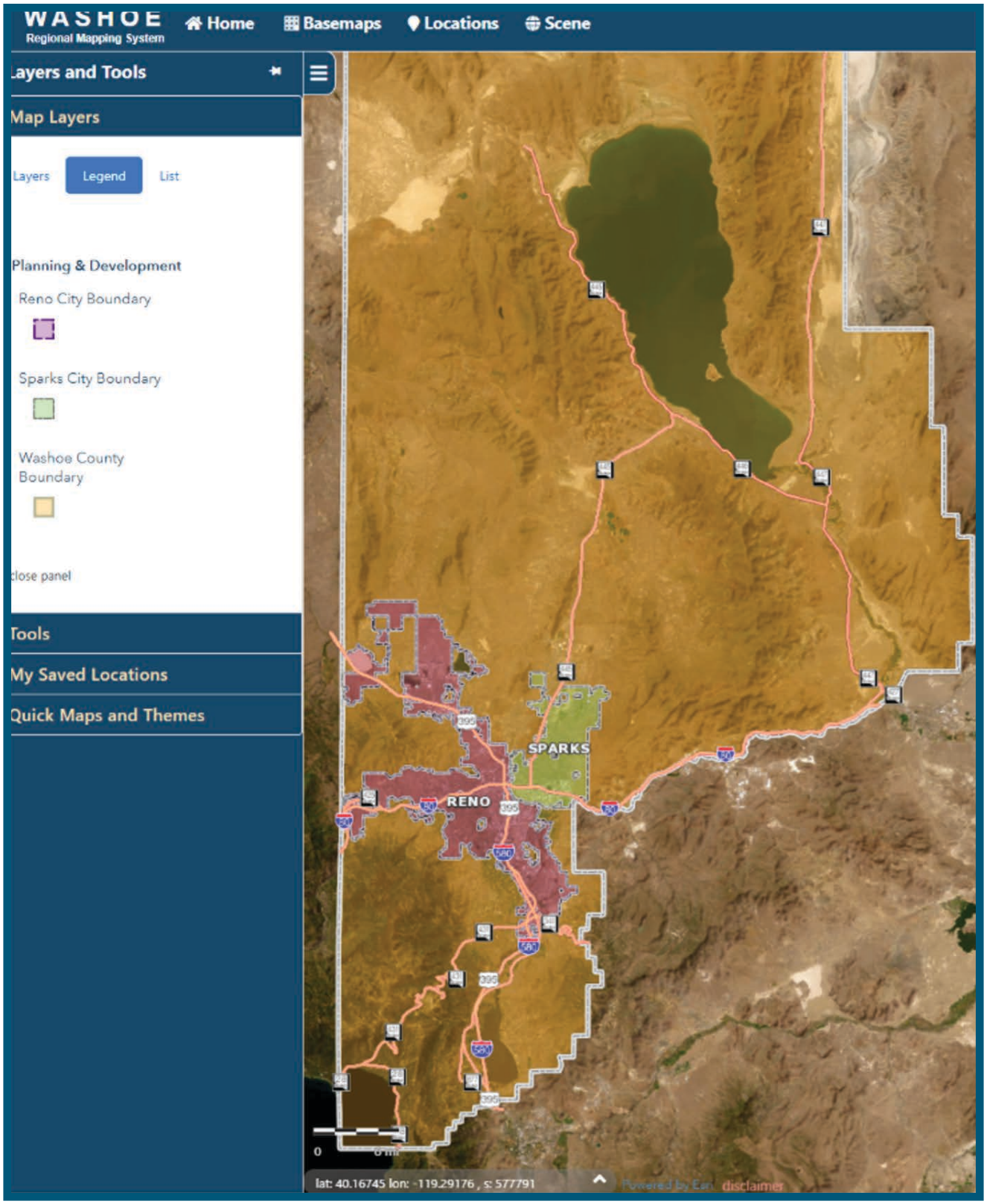


Figure 9: Unincorporated Washoe County (shaded brown), Reno (shaded pink), Sparks (shaded green). [Washoe Regional Mapping System (washoecounty.us)]

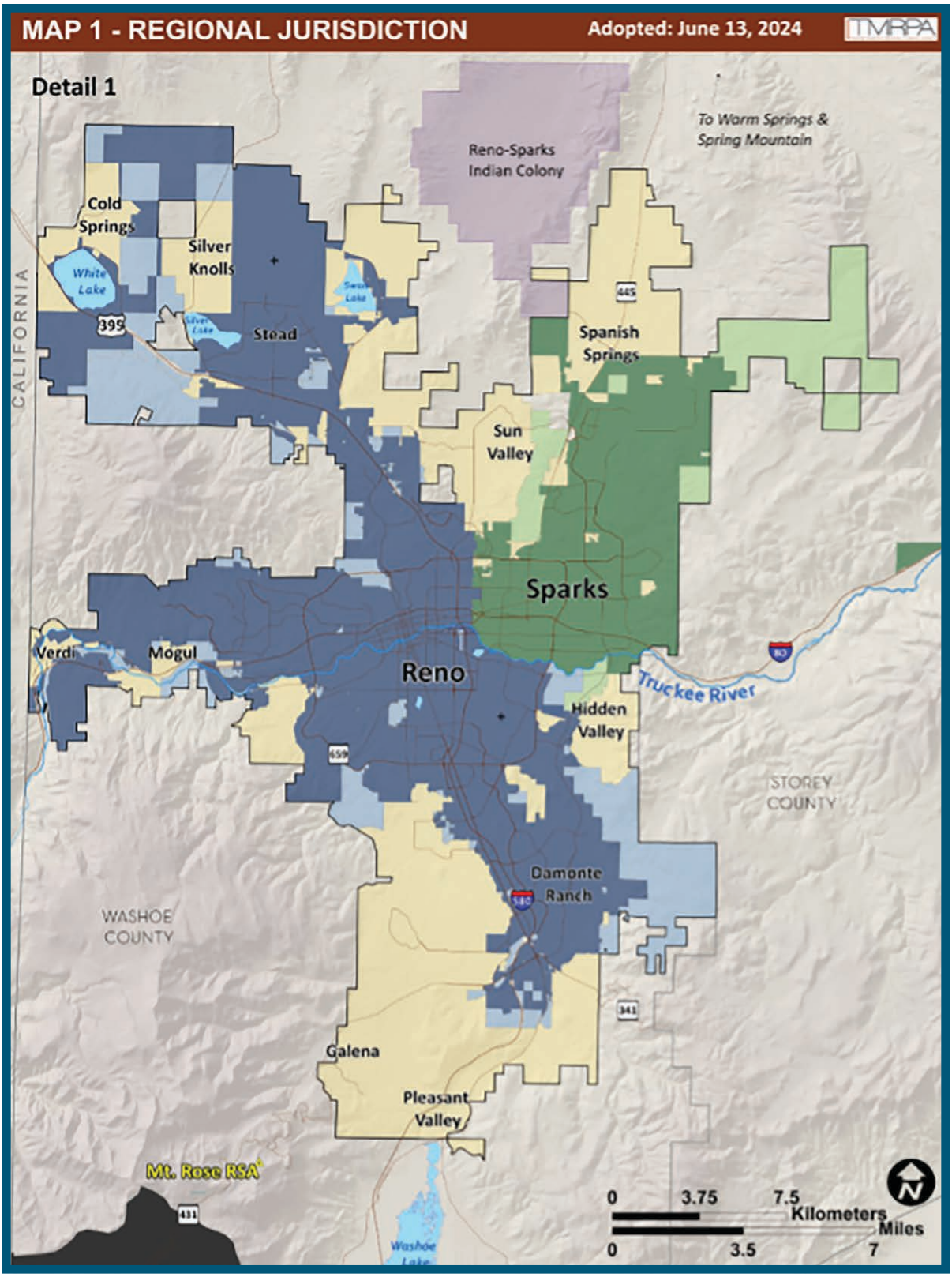


Figure 10: Regional Jurisdiction map, Reno-Sparks metro area. See full legend in Figure 7 Source: [Truckee Meadows Regional Planning Authority (TMRPA)]

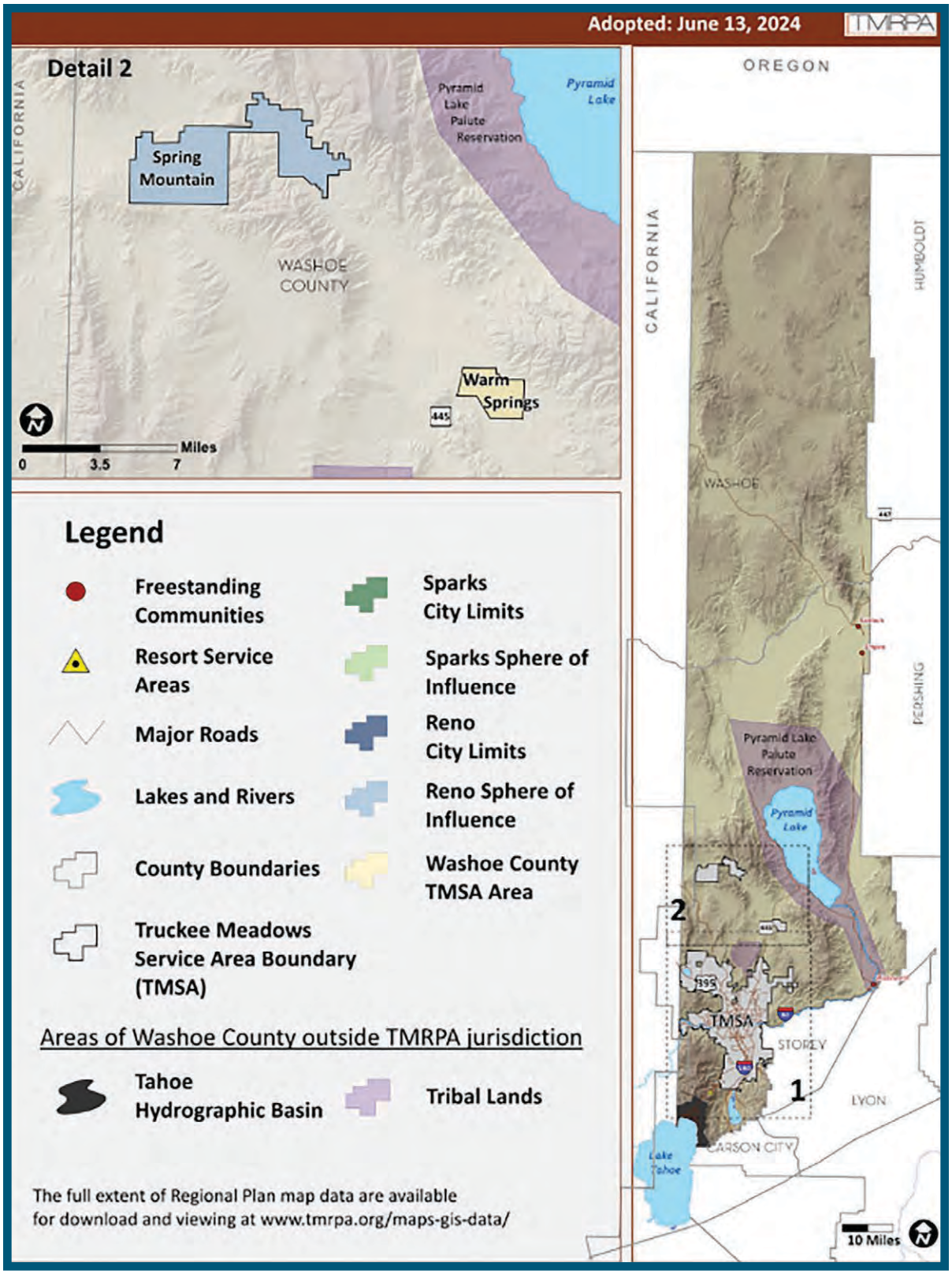


Figure 11: Regional Jurisdiction map, full County and legend. Source: [Truckee Meadows Regional Planning Agency (TMRPA)](), page 65

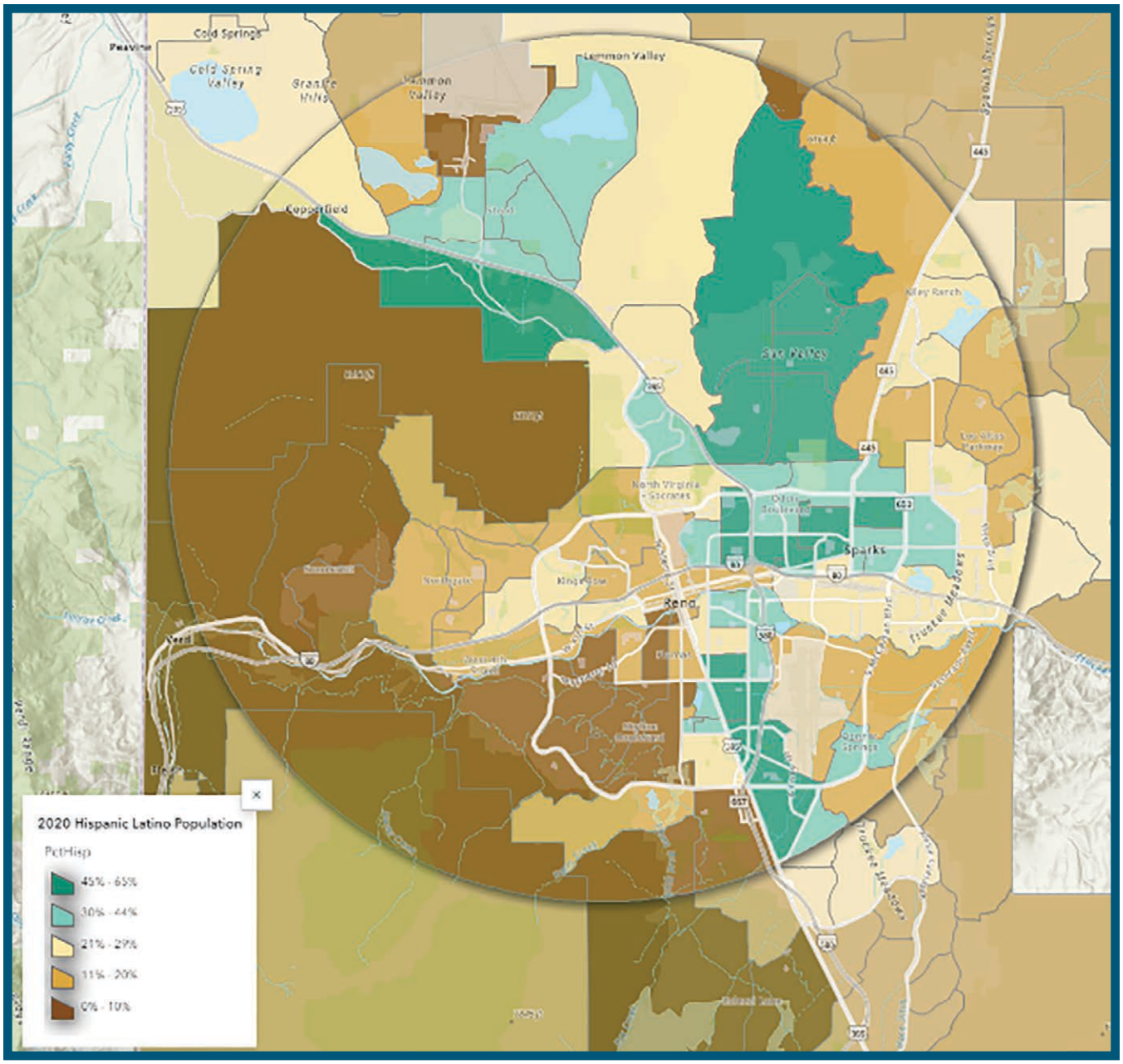


Figure 12: Map showing concentration of Hispanic Latino population in Washoe County. Lemmon Valley, Sun Valley, Sparks, Hidden Valley, and Pleasant Valley-- shaded in aqua--have the highest percentages of Hispanic Latino populations in our region. (Source: **ArcGIS map from the Latino Research Center at the University of Nevada, Reno**)

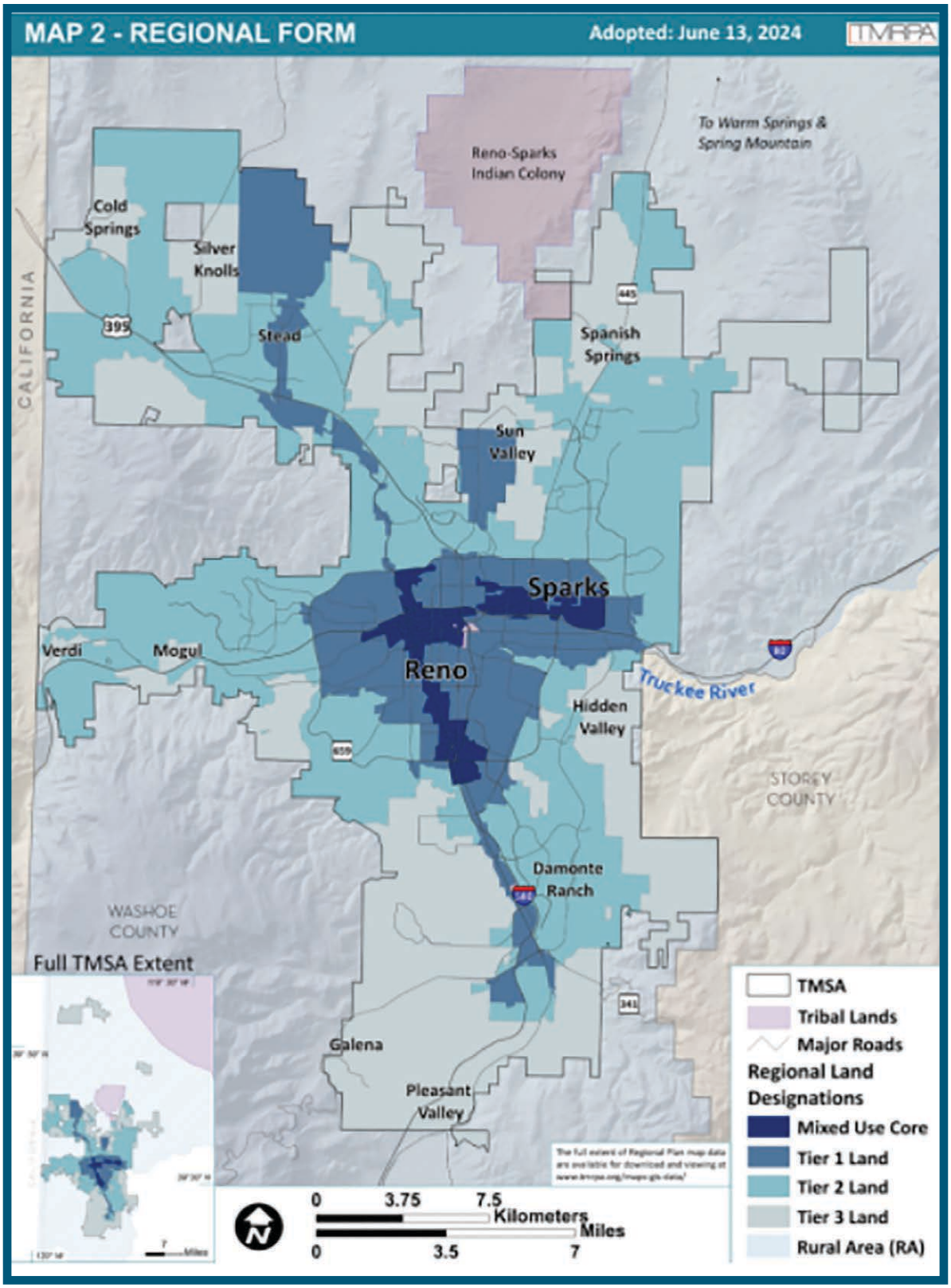


Figure 13: Map of land use types in Washoe County. Mixed Use Core is the highest density land in the County. Source: Truckee Meadows Regional Planning Agency.

Appendix 4: The County's work to date on Sustainability topics

The following table is a list of documents that list previous efforts to advance sustainability in the County and region.

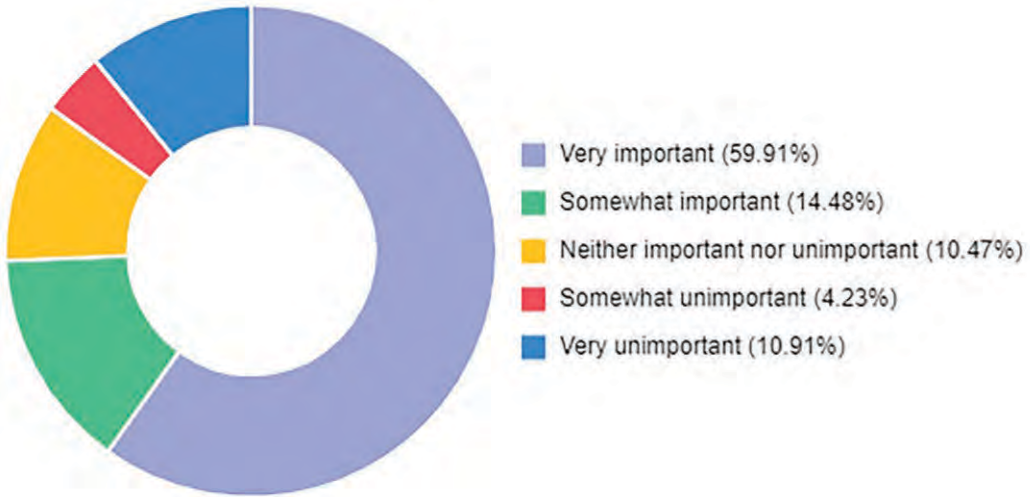
Document	Year	Author	Purpose
Greenhouse Gas Inventory Report	2010	Washoe County Health District, Air Quality Management Division	Baseline community emissions inventory (2008) and forecast for Washoe County.
Greenhouse Gas Emissions Inventory	2014	University of NV, Reno for City of Reno, Washoe County	Overview of GHGs in the atmosphere and resulting effects on climate. Details approach and methodology to develop community scale inventory; presents results.
Ozone Advance Plan	2016	Northern Nevada Public Health, Air Quality Management Division	Includes voluntary initiatives for the County to reduce air pollution and maintain ozone National Ambient Air Quality Standards (NAAQS).
Waste Management Plan	2016	Northern Nevada Public Health, Waste Management Program	A written description of the current solid waste trends of Washoe County and objectives developed to address shortcomings.
Waste Characterization Study	2018	Sloan Vazquez McAfee for Northern Nevada Public Health	Two-season solid waste composition and characterization analysis for residential, commercial, and self-haul volume delivered to Incline, Safe, and Stead transfer stations.
Hazard Mitigation Plan	2020	Washoe County Emergency Management and Homeland Security	Describes efforts of Washoe County and its regional partners to reduce risks that hazards pose to our region.
Green Recovery Plan	2022	Office of the County Manager, Emergency Management Division	Focuses on specific recovery strategies identified in the COVID19 – 2021 Recovery Action Plan that help to build on Washoe County's environmental and sustainability initiatives, and address the identified impacts associated with infectious disease in the Regional Hazard Mitigation Plan.

Appendix 5: Washoe County's Clean Air Survey results

Between May and July of 2024, Washoe County's Sustainability program conducted online surveys and in-person listening sessions with community members. In these conversations, we heard that top climate-related concerns in our region included cost of living, heat, air quality, and fire risk. This appendix shows survey responses and quotes from the Clean Air survey (~500 responses).

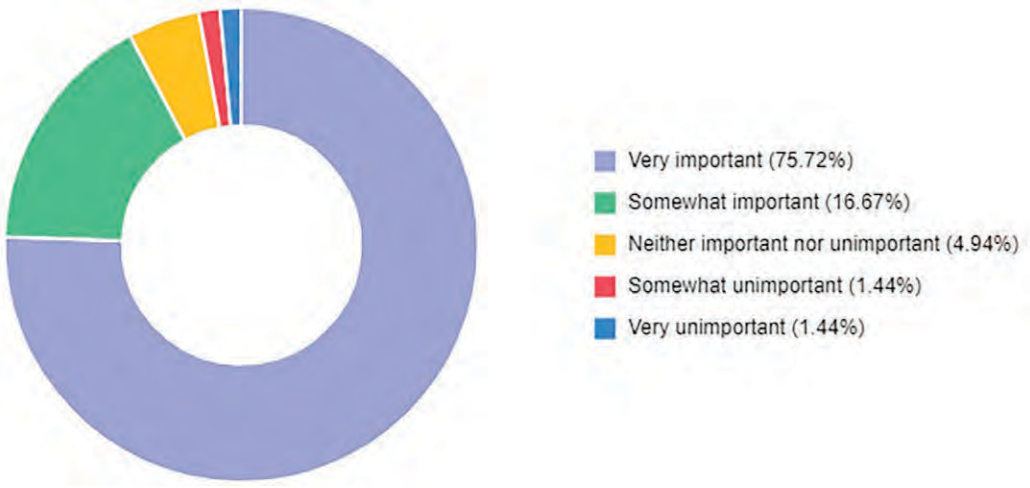
How important is it to you that Washoe County reduces greenhouse gas (GHG) emissions?

Answer	% respondents
Very important	60%
Somewhat important	14.5%
Neither important nor unimportant	10.5%
Somewhat important	4%
Very unimportant	11%



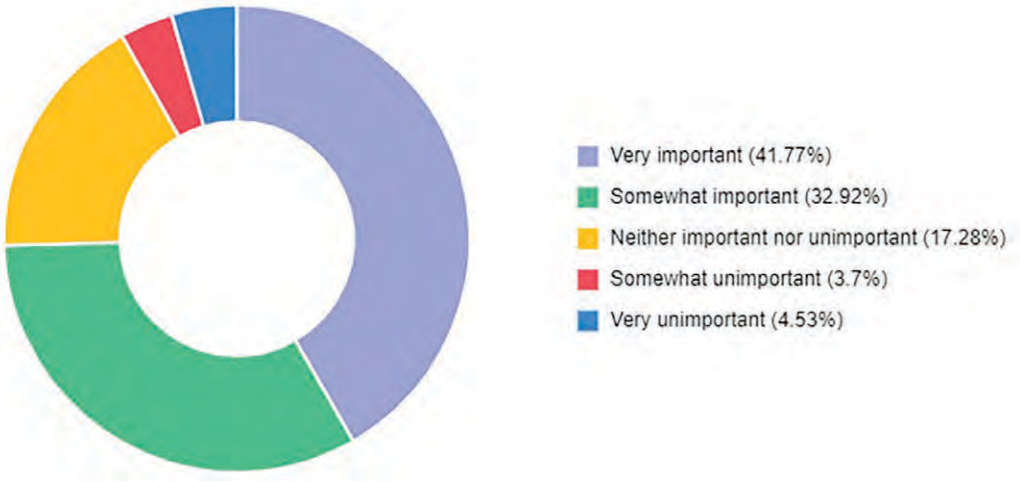
How important is “Green / Good” air quality to you, as measured by the Air Quality Index (AQI)?

Answer	% respondents
Very important	76%
Somewhat important	16%
Neither important nor unimportant	5%
Somewhat unimportant	1.5%
Very unimportant	1.5%



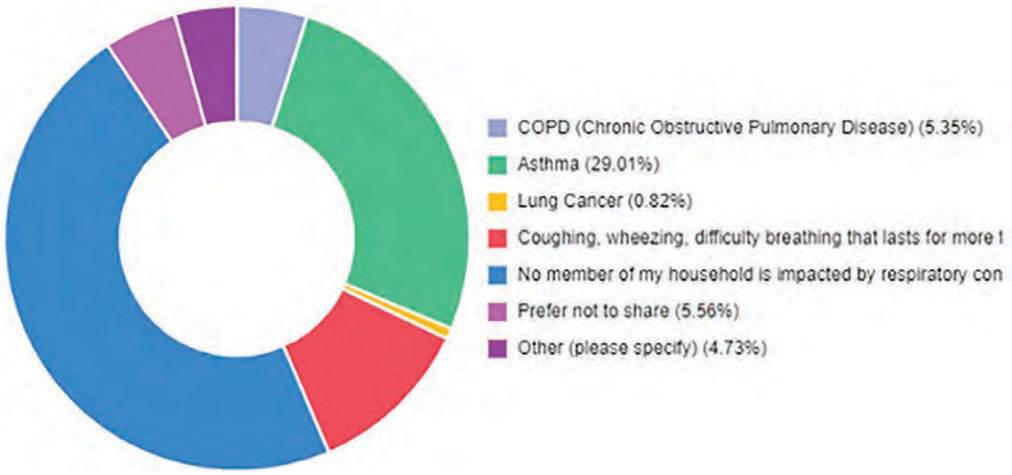
How important is it to you that the heat index ("feels like" temperature) is less than 90° F / 32° C on any given day?

Answer	% respondents
Very important	42%
Somewhat important	33%
Neither important nor unimportant	17%
Somewhat unimportant	4%
Very unimportant	4%



Does any member of your household experience any of these respiratory conditions? (check all that apply)

Answer	% respondents
COPD (Chronic Obstructive Pulmonary Disease)	5%
Asthma	29%
Lung Cancer	1%
Coughing, wheezing, difficulty breathing that lasts for more than 2 weeks	12.5%
No member of my household is impacted by respiratory conditions	52%
Prefer not to share	5.5%
Other (please specify)	5%



Selection of Clean Air Survey comments regarding air quality and heat

“So many outdoor jobs are essential and continue despite poor air quality especially through fire season.“

“It’s very difficult for people that do not have any shelter.”

“I especially worry about people who have to work outdoors and those who are unhoused or live without air conditioning.”

“Air quality and heat impact whether or not I can bike commute as I typically do, which then impacts my carbon footprint.“

“Air quality needs to be addressed as it has long term impacts especially on children “

“Air quality is super important to my family and a determinate on whether we will continue to live in Washoe.“

“I cannot tolerate 90 degree heat. I get stomach cramps, my skin turns very red, I do not perspire, I get light headed and fell faint. I have lived in Reno 45 years and wonder if I will have to move if the heat continues to rise.“

“Senior citizens have no “wiggle room”. Also, I drive an EV which is difficult in this county with embarrassingly few charging stations.“

“Clear, air, light pollution (dark skies), and responsible land management are all key factors in a blue zone for living.“

“I find myself restricted to being indoors on days where there is poor air quality. I commonly check the AQI to see how healthy the air is before going out. High AQI reports have led me to cancel plans to attend events to stay indoors instead.“

“Poor AQI and high temps creates a hostile environment for our pollinators, animals, plants, trees. This impacts our entire ecosystem. This is of even greater concern to me than my own health. It is easy to ignore as the impacts occur so insidiously and are not immediately noticed.“

“Urban heating is one of the biggest threats facing the Truckee Meadows, in my mind.“

“But how important is it to me that we are becoming hotter as a trend? Pretty important, considering it impacts everything about daily life. I’m an athlete and I have a dog, so it shortens the window that I can get both of us exercise. It impacts water resources too.“

“It’s really important to me that nighttime summer temperatures remain cool. Hotter nights lead to more energy use, which in turn accelerates climate change. I want Washoe County’s climate efforts to interrupt this feedback loop.”

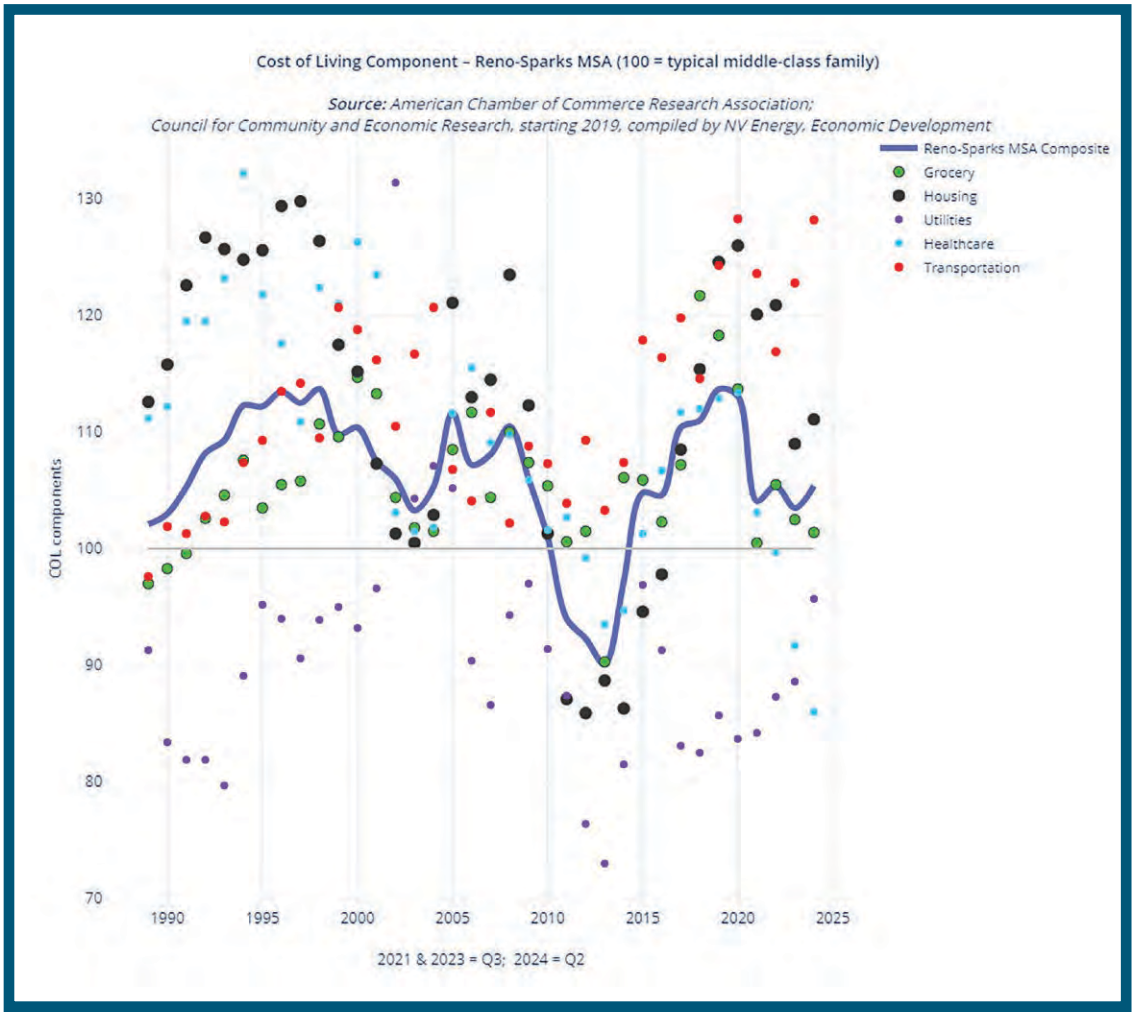
“We are retired and are so thankful that we no longer have to go out when the AQI is high or when it’s very hot on a daily basis in order to make a living. We have added MRV13 air filters and a heat pump to our HVAC system so that we can better filter out smoke and keep our house cool enough when it gets very hot. I grew up in Reno and never remember having the high AQI days we had in 2022 when California’s fires were so bad.“

“The fire control burns in the area and the smog from cars is worse than years ago. I don’t like this.“

Appendix 6: Cost of Living data from Truckee Meadows Tomorrow

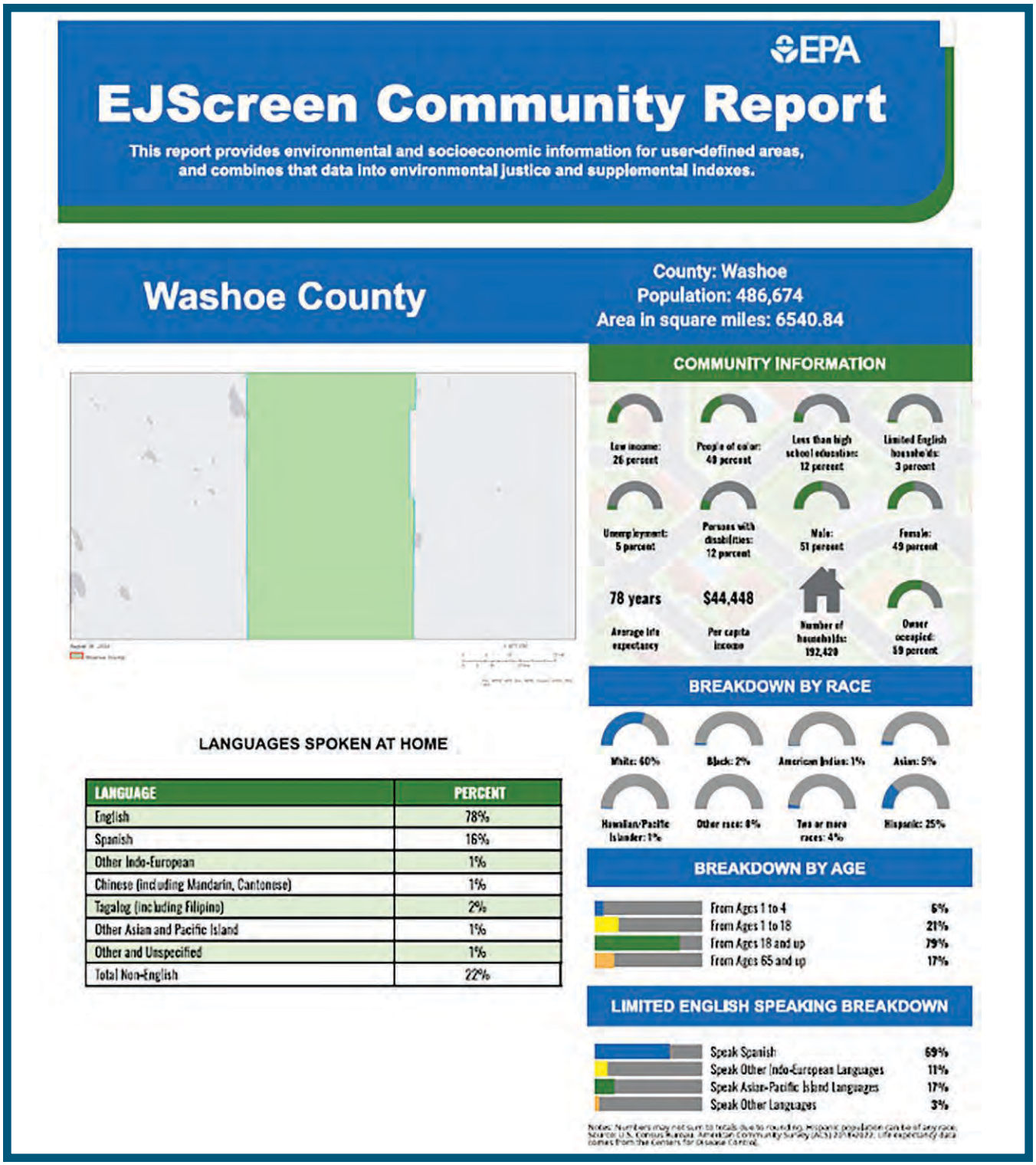
This graphic shows the average cost of living (blue line) for families in the Reno-Sparks metropolitan area. The actions proposed in this CAP can improve local cost of living in the following ways:

- Building and home weatherization and energy efficiency can reduce utility costs.
- Improving access to mass transit and alternative transportation (bikes, e-bikes, scooters, etc.), and by building our community in ways that don't require cars can reduce transportation costs for people.



Appendix 7: Environmental Justice Community Report

The EPA's Environmental Justice Community Report provides environmental and socioeconomic information for user-defined areas and combines that data into environmental justice and supplemental indexes. The EJScreen tool produced the report below on August 30, 2024.



EPA

EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Washoe County

County: Washoe
Population: 486,674
Area in square miles: 6540.84

COMMUNITY INFORMATION

Low income: 26 percent
People of color: 40 percent
Less than high school education: 12 percent
Limited English households: 3 percent
Unemployment: 5 percent
Persons with disabilities: 12 percent
Male: 51 percent
Female: 49 percent
78 years — Average life expectancy
$44,448 — Per capita income
Number of households: 192,420
Owner occupied: 59 percent

BREAKDOWN BY RACE

White: 60%
Black: 2%
American Indian: 1%
Asian: 5%
Hawaiian/Pacific Islander: 1%
Other race: 6%
Two or more races: 4%
Hispanic: 25%

BREAKDOWN BY AGE

From Ages 1 to 4	6%
From Ages 1 to 18	21%
From Ages 18 and up	79%
From Ages 65 and up	17%

LIMITED ENGLISH SPEAKING BREAKDOWN

Speak Spanish	69%
Speak Other Indo-European Languages	11%
Speak Asian-Pacific Island Languages	17%
Speak Other Languages	3%

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	78%
Spanish	16%
Other Indo-European	1%
Chinese (including Mandarin, Cantonese)	1%
Tagalog (including Filipino)	2%
Other Asian and Pacific Island	1%
Other and Unspecified	1%
Total Non-English	22%

The graphics below show various indicators and indexes the Environmental Protection Agency uses to quantify environmental justice burdens in the United States.

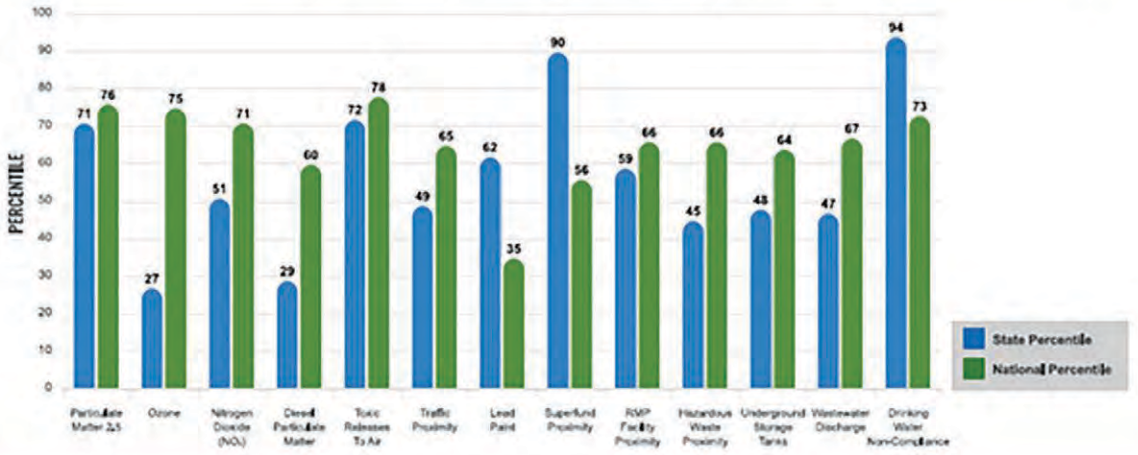
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

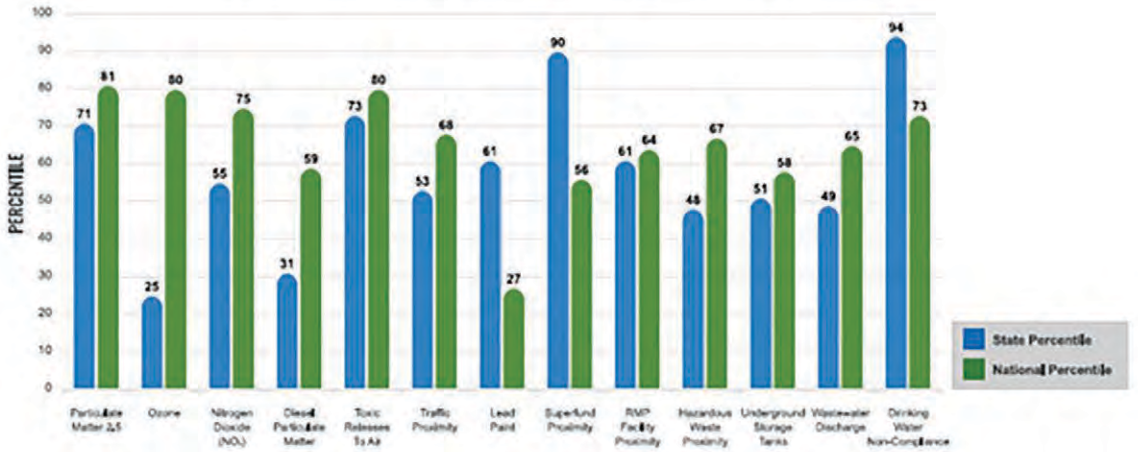
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



Report for County: Washoe

Report produced August 30, 2024 using EJScreen Version 2.3

The graphics below show various indicators and indexes the Environmental Protection Agency uses to quantify environmental justice burdens in the United States.

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 ($\mu g/m^3$)	9.95	8.15	90	8.45	87
Ozone (ppb)	68.1	69.2	25	61.8	81
Nitrogen Dioxide (NO_2) (ppbv)	11	10	41	7.8	78
Diesel Particulate Matter ($\mu g/m^3$)	0.156	0.388	23	0.191	49
Toxic Releases to Air (toxicity-weighted concentration)	5,700	1,400	93	4,600	87
Traffic Proximity (daily traffic count/distance to road)	1,500,000	1,800,000	46	1,700,000	65
Lead Paint (% Pre-1960 Housing)	0.091	0.063	82	0.3	34
Superfund Proximity (site count/km distance)	0.057	0.11	90	0.39	56
RMP Facility Proximity (facility count/km distance)	0.49	0.4	67	0.57	63
Hazardous Waste Proximity (facility count/km distance)	2.7	3.3	36	3.5	65
Underground Storage Tanks (count/km^2)	2.5	3.2	59	3.6	66
Wastewater Discharge (toxicity-weighted concentration/m distance)	1000	30000	57	700000	73
Drinking Water Non-Compliance (points)	0.71	0.39	95	2.2	76
SOCIOECONOMIC INDICATORS					
Demographic Index USA	1.25	N/A	N/A	1.34	54
Supplemental Demographic Index USA	1.54	N/A	N/A	1.64	50
Demographic Index State	1.43	1.81	37	N/A	N/A
Supplemental Demographic Index State	1.18	1.44	41	N/A	N/A
People of Color	40%	51%	36	40%	57
Low Income	26%	32%	45	30%	49
Unemployment Rate	5%	7%	45	6%	59
Limited English Speaking Households	3%	6%	54	5%	68
Less Than High School Education	12%	14%	54	11%	63
Under Age 5	6%	5%	58	5%	58
Over Age 64	17%	18%	59	18%	53

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: [illegible]

Sites reporting to EPA within defined area:

Superfund	10
Hazardous Waste, Treatment, Storage, and Disposal Facilities	26
Water Dischargers	1016
Air Pollution	20
Brownfields	93
Toxic Release Inventory	65

Other community features within defined area:

Schools	128
Hospitals	42
Places of Worship	1

Other environmental data:

Air Non-attainment	Yes
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	Yes
Selected location contains a "Justice40 (CEJST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for County: Washoe

Report produced August 30, 2024 using EJScreen Version 2.3

The graphics below show various indicators and indexes the Environmental Protection Agency uses to quantify environmental justice burdens in the United States.

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	17%	20%	17	20%	28
Heart Disease	5.1	5.7	39	5.8	37
Asthma	10.2	10.1	58	10.3	49
Cancer	6.2	6	58	6.4	42
Persons with Disabilities	12%	13.7%	40	13.7%	44

CLIMATE INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	9%	6%	81	12%	61
Wildfire Risk	70%	33%	68	14%	87

CRITICAL SERVICE GAPS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	11%	12%	55	13%	53
Lack of Health Insurance	10%	12%	46	9%	68
Housing Burden	Yes	N/A	N/A	N/A	N/A
Transportation Access Burden	Yes	N/A	N/A	N/A	N/A
Food Desert	Yes	N/A	N/A	N/A	N/A

Report for County: Washoe
Report produced August 30, 2024 using EJScreen Version 2.3

County Statistics: Washoe County has a population of 486,674 people over 6,540.84 square miles.

Community Information	Percentage
Low income	26%
People of color	40%
Less than high school education	12%
Limited English households	3%
Unemployment	5%
Persons with disabilities	12%
Male / Female	51% / 49%
Average Life Expectancy	78 years
Per capita income	$44,448
Number of households	192,420
Owner occupied households	59%

Breakdown by Race: White (60%), Hispanic (25%), Asian (5%), Black (2%), American Indian (1%), Hawaiian / Pacific Islander (1%), Other race (0%), Two or more races (4%)

Breakdown by Age: From ages 1 to 4 (6%), from ages 1 to 18 (21%), from ages 18 and up (79%), from ages 65 and up (17%).

Limited English Speaking Breakdown: Speak Spanish (69%), Speak other Indo-European Languages (11%), Speak Asian-Pacific Island Languages (17%), Speak Other Languages (3%).

Languages Spoken at Home: English (78%), Spanish (16%), Other Indo-European (1%), Chinese (including Mandarin, Cantonese) (1%), Tagalog (including Filipino) (2%), Other Asian and Pacific Island (1%), Other and Unspecified (1%), Total Non-English (22%).

EJ Indexes
The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

Supplemental Indexes
The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator.

Environmental & Supplemental Indexes

Environmental Indicator	EJ State Percentile	EJ National Percentile	Sup. State Percentile	Sup. National Percentile
Particulate Matter 2.5	71	76	71	81
Ozone	27	75	25	80
Nitrogen Dioxide (NO2)	51	71	55	75
Diesel Particulate Matter	29	60	31	59
Toxic Releases to Air	72	78	73	80
Traffic Proximity	49	65	53	68
Lead Paint	62	35	61	27
Superfund Proximity	90	56	90	56
RMP Facility Proximity	59	66	61	64
Hazardous Waste Proximity	45	66	48	67
Underground Storage Tanks	48	64	51	58
Wastewater Discharge	47	67	49	65
Drinking Water Non-Compliance	94	73	94	73

EJ Screen Environmental Indicators Data

Selected Variables	Value	State Average	Percentile in State	USA Average	Percentile in USA
Particulate Matter 2.5 (μ/m^3)	9.95	8.15	90	8.45	87
Ozone (ppb)	68.1	69.2	25	61.8	81
Nitrogen Dioxide (NO2) (ppbv)	11	10	41	7.8	78
Diesel Particulate Matter (μ/m^3)	0.156	0.388	23	0.191	49
Toxic Releases to Air (toxicity-weighted concentration)	5,700	1,400	93	4,600	87
Traffic Proximity (daily traffic count / distance to road)	1,500,000	1,800,000	46	1,700,000	65
Lead Paint (% Pre-1960 Housing)	0.091	0.063	82	0.3	34
Superfund Proximity (site count / km distance	0.057	0.11	90	0.39	56
RMP Facility Proximity (facility count / km distance)	0.49	0.4	67	0.57	63
Hazardous Waste Proximity (Facility count / km distance)	2.7	3.3	36	3.5	65
Underground Storage Tanks (count / km^2)	2.5	3.2	59	3.6	66
Wastewater Discharge (toxicity-weighted concentration / m distance)	1000	30,000	57	700,000	73
Drinking Water Non-Compliance (points)	0.71	0.39	95	2.2	76

EJ Screen Socioeconomic Indicators Data

Selected Variables	Value	State Average	Percentile in State	USA Average	Percentile in USA
Demographic Index USA	1.25	N/A	N/A	1.34	54
Supplemental Demographic Index USA	1.54	N/A	N/A	1.64	50
Demographic Index State	1.43	1.81	37	N/A	N/A
Supplemental Demographic Index State	1.18	1.44	41	N/A	N/A
People of Color	40%	51%	36	40%	57
Low Income	26%	32%	45	30%	49
Unemployment Rate	5%	7%	45	6%	59
Limited English Speaking Households	3%	6%	54	5%	68
Less Than High School Education	12%	14%	54	11%	63
Under Age 5	6%	5%	58	5%	58
Over Age 64	17%	18%	59	18%	53
Wastewater Discharge (toxicity-weighted concentration / m distance)	1000	30,000	57	700,000	73
Drinking Water Non-Compliance (points)	0.71	0.39	95	2.2	76

Health Indicators

Indicator	Value	State Average	Percentile in State	USA Average	Percentile in USA
Low Life Expectancy	17%	20%	17	20%	28
Heart Disease	5.1	5.7	39	5.8	37
Asthma	10.2	10.1	58	10.3	49
Cancer	6.2	6	58	6.4	42
Persons with Disabilities	12%	13.7%	40	13.7%	44

Climate Indicators

Indicator	Value	State Average	Percentile in State	USA Average	Percentile in USA
Flood Risk	9%	6%	81	12%	61
Wildfire Risk	70%	33%	68	14%	87

Critical Service Gaps

Indicator	Value	State Average	Percentile in State	USA Average	Percentile in USA
Broadband Internet	11%	12%	55	13%	53
Lack of Health Insurance	10%	12%	46	9%	68
Housing Burden	Yes	N/A	N/A	N/A	N/A
Transportation Access Burden	Yes	N/A	N/A	N/A	N/A
Food Desert	Yes	N/A	N/A	N/A	N/A

Appendix 8: Washoe County Annual Average Temperature: Past and Projected

For several years running, Reno has been the fastest-warming city in the United States, according to data collected by Climate Central. The graphs in this appendix explore the data and trends behind that conclusion.

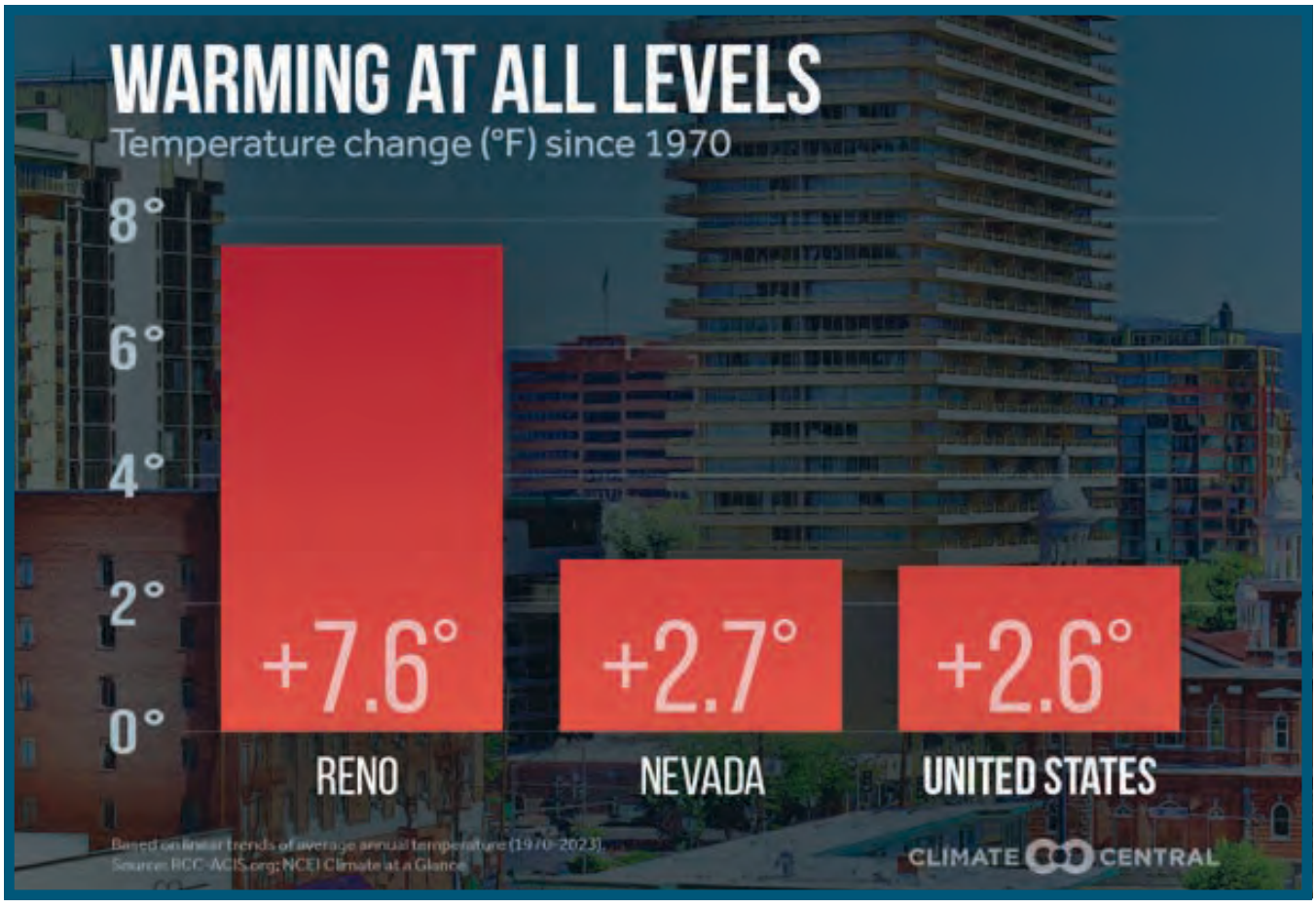


Figure 14: Average annual temperature increase for Reno between 1970 and 2021, compared with NV and US increases. Source: Climate Central

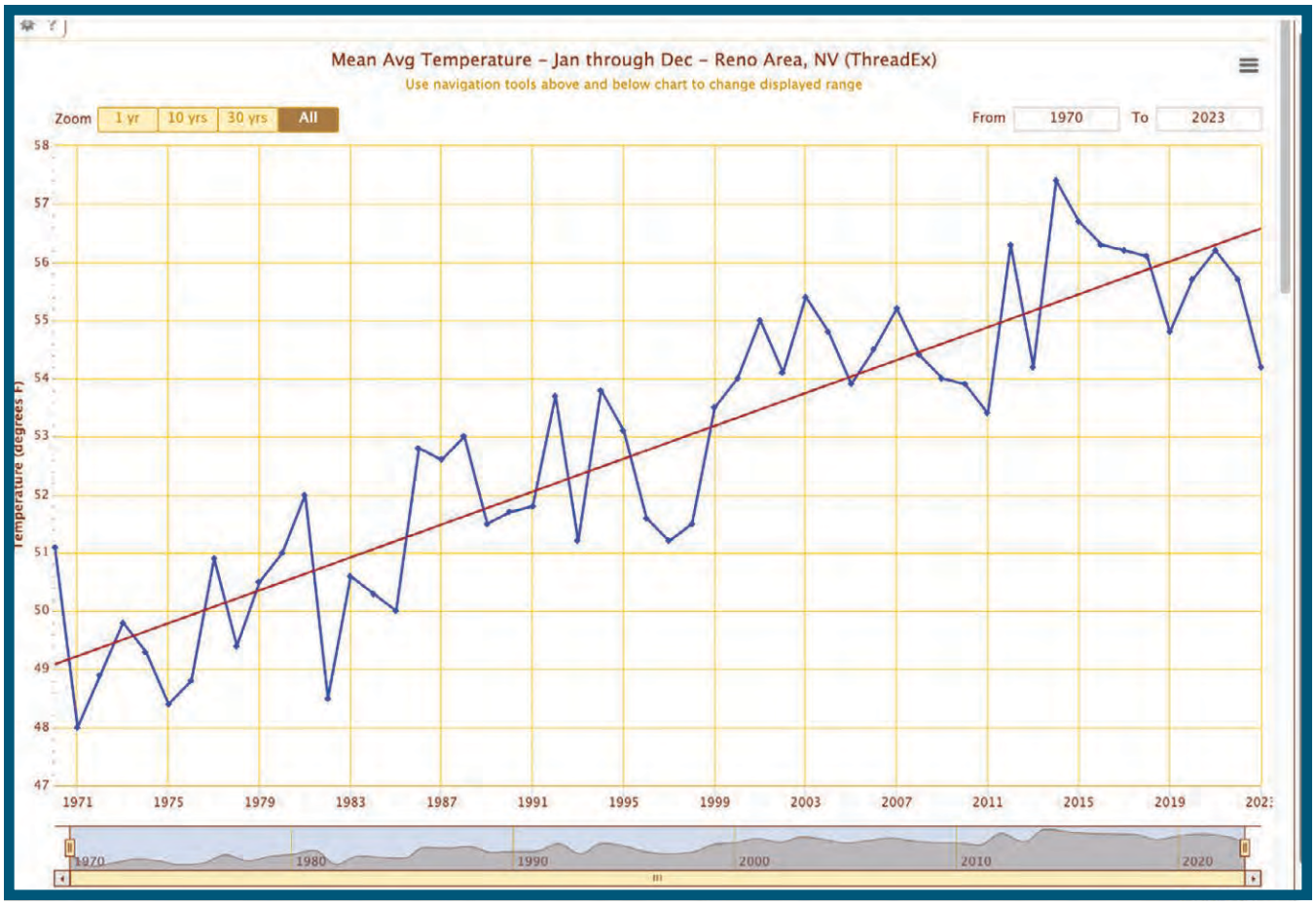


Figure 15: Average Annual temperatures for Reno, NV, 1971 - 2021. Source: Climate Central

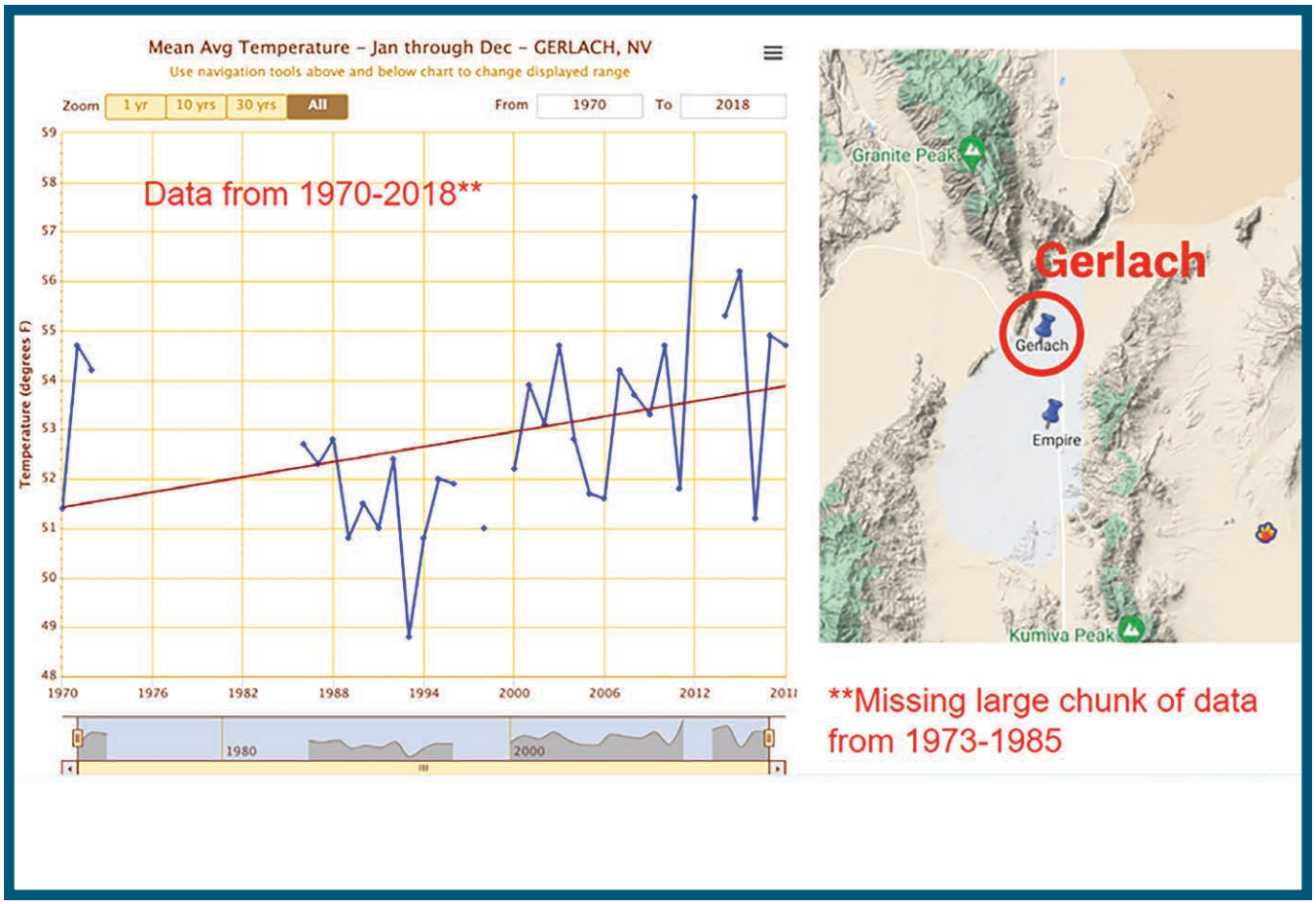


Figure 16: Average annual temperatures for Gerlach, NV, 1970-2018. Some data points were not recorded. Source: Climate Central.

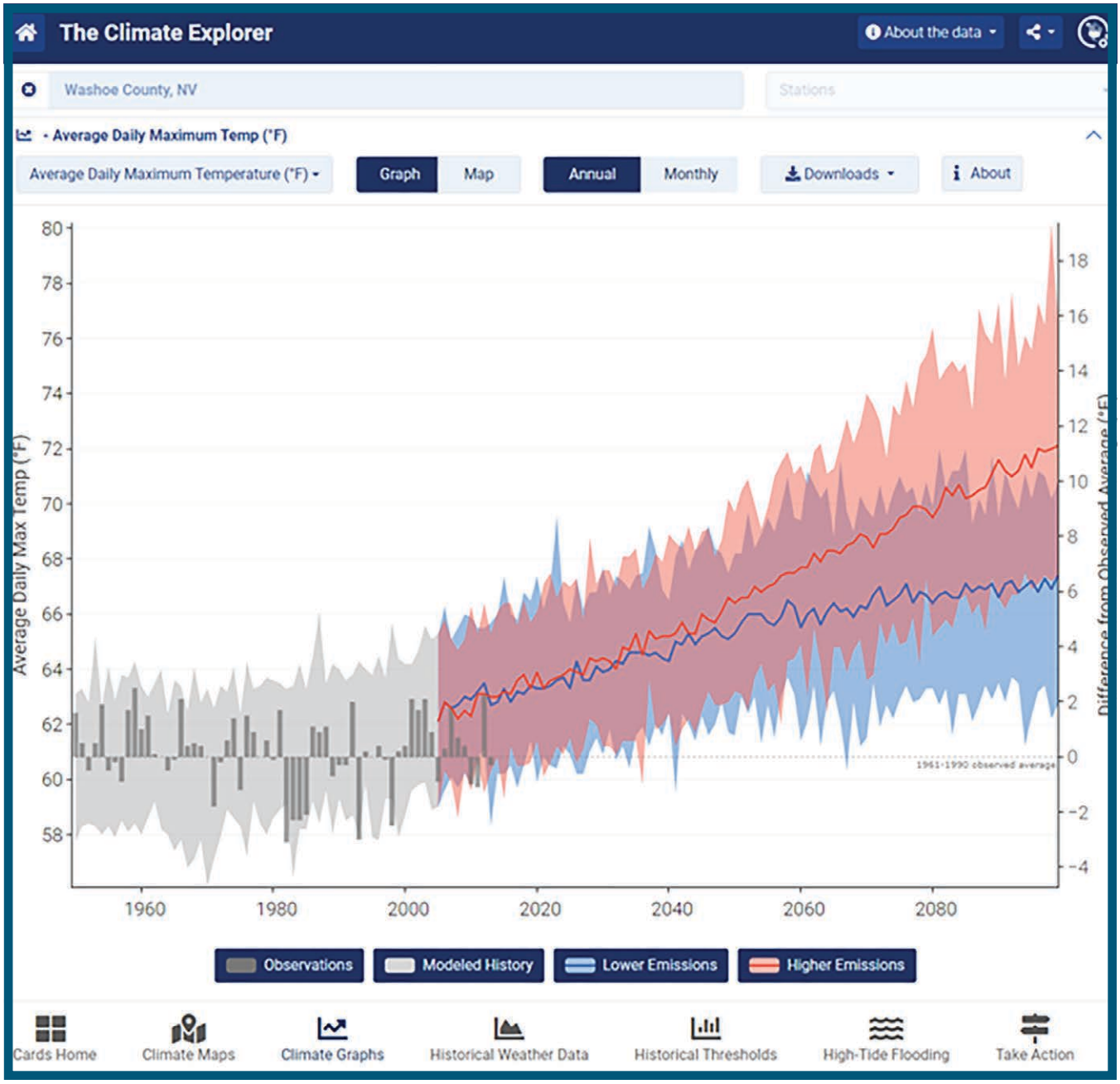


Figure 17: Projected Average daily maximum temperature for Washoe County, projections through 2090. Source: [Climate Explorer tool](#).

Appendix 9: Climate Projections for 2084

The Future Urban Climates mapping tool, **designed by an ecologist at the University of Maryland** shows that, with continued unchecked emissions, Lake Tahoe's climate will be like Walla Walla, Washington, in 60 years, changing from "temperate conifer forests" to "deserts and xeric shrublands."

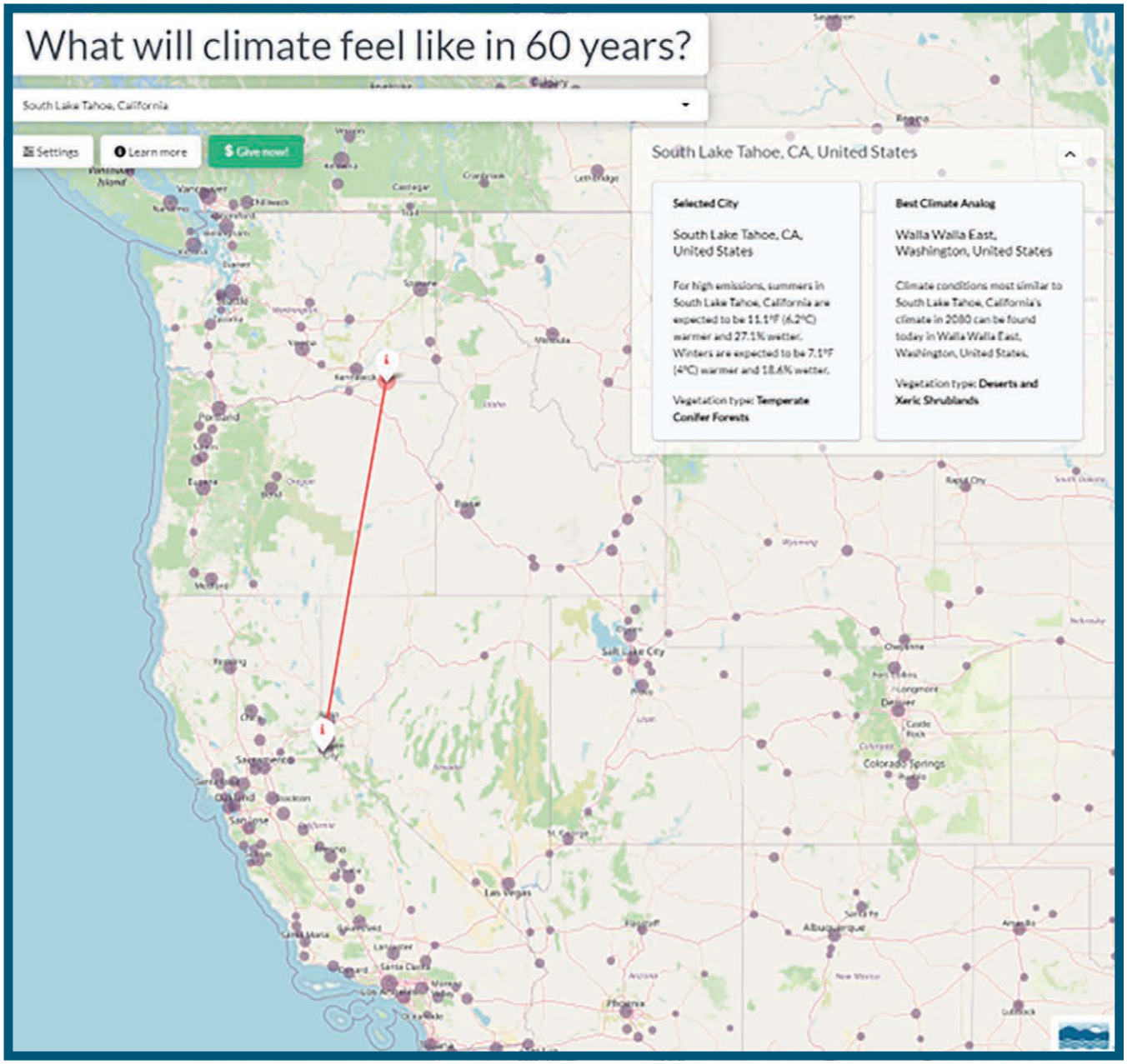


Figure 18: Projected future climate of South Lake Tahoe if emissions are not reduced. Source: **The Future Urban Climates map**.

In a low emissions scenario, the Tahoe region's climate would remain a temperate conifer forest, like Northern California.

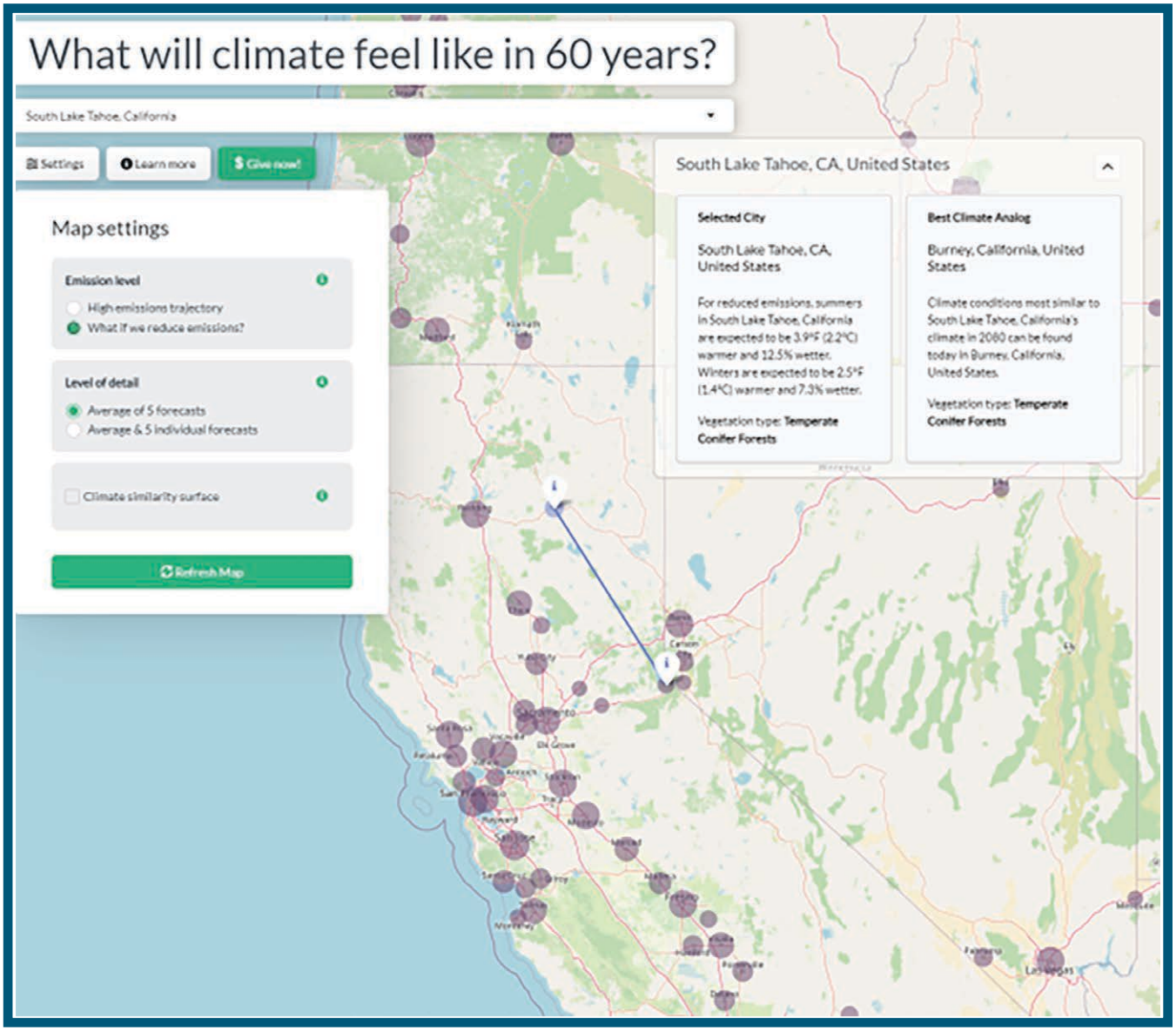


Figure 19: Projected future climate of South Lake Tahoe if emissions are reduced. Source: The Future Urban Climates map.

The Future Urban Climates map did not include Incline Village, NV, as an option for projection. South Lake Tahoe, in El Dorado County, California, is the only Lake Tahoe-adjacent city available in the tool, and we chose it as a comparable city since it has a similar altitude (6,225) to Incline Village (6,437 ft), which is located in Washoe County.

Appendix 10: Washoe County growth through 2040

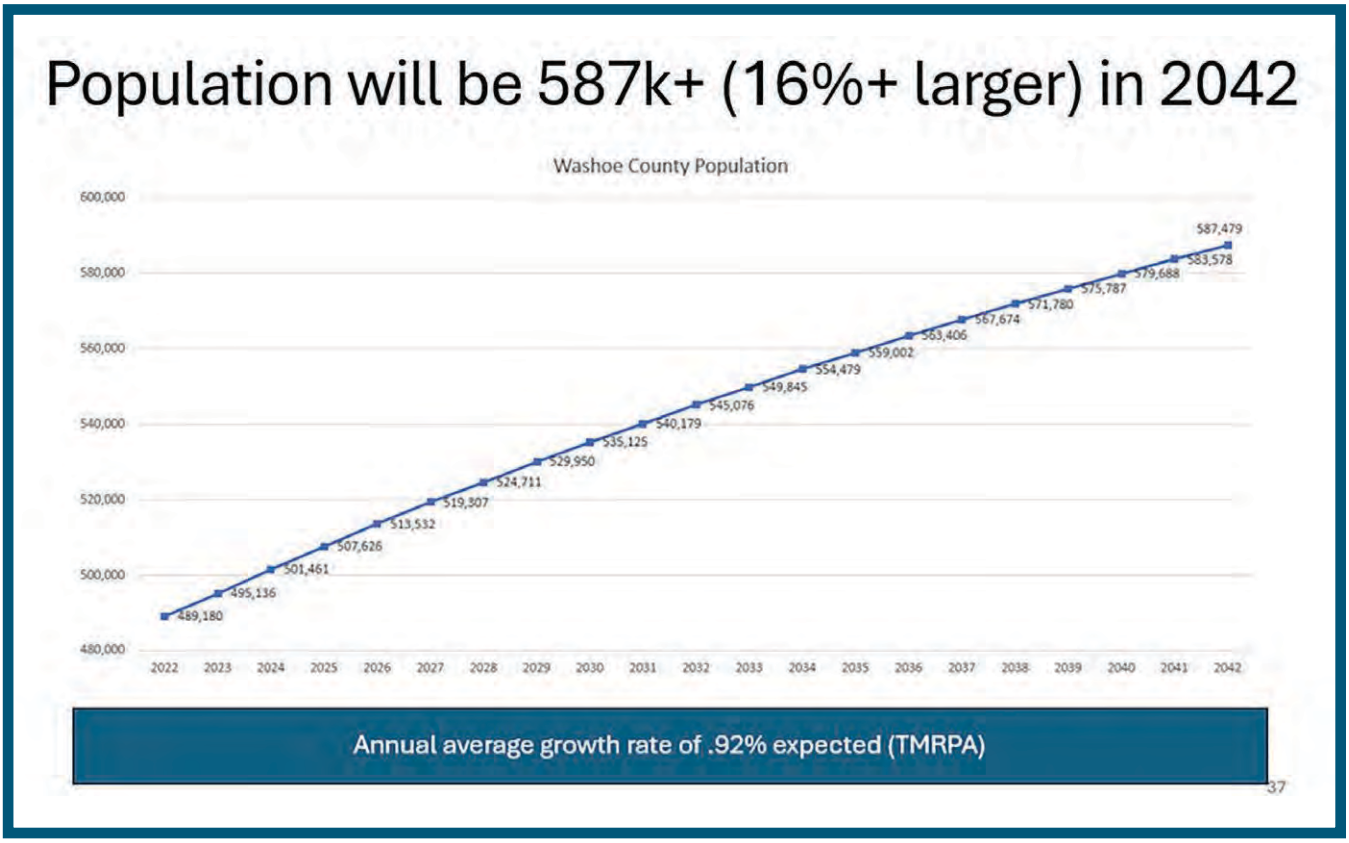


Figure 20: Population growth projection for Washoe County. Source: [TMRPA 2019 Regional Plan, page 82])

Appendix 11: Yale Climate Opinion Survey, results for Washoe County (2023)

Yale researchers annually estimate public climate change opinion and public policy support in all 50 states, 435 United State Congressional districts, more than 3,000 counties, and cities across the nation. The model allows users to explore public opinion in unprecedented geographic detail. The data below are results for Washoe County. **Explore Yale Climate Survey here.**

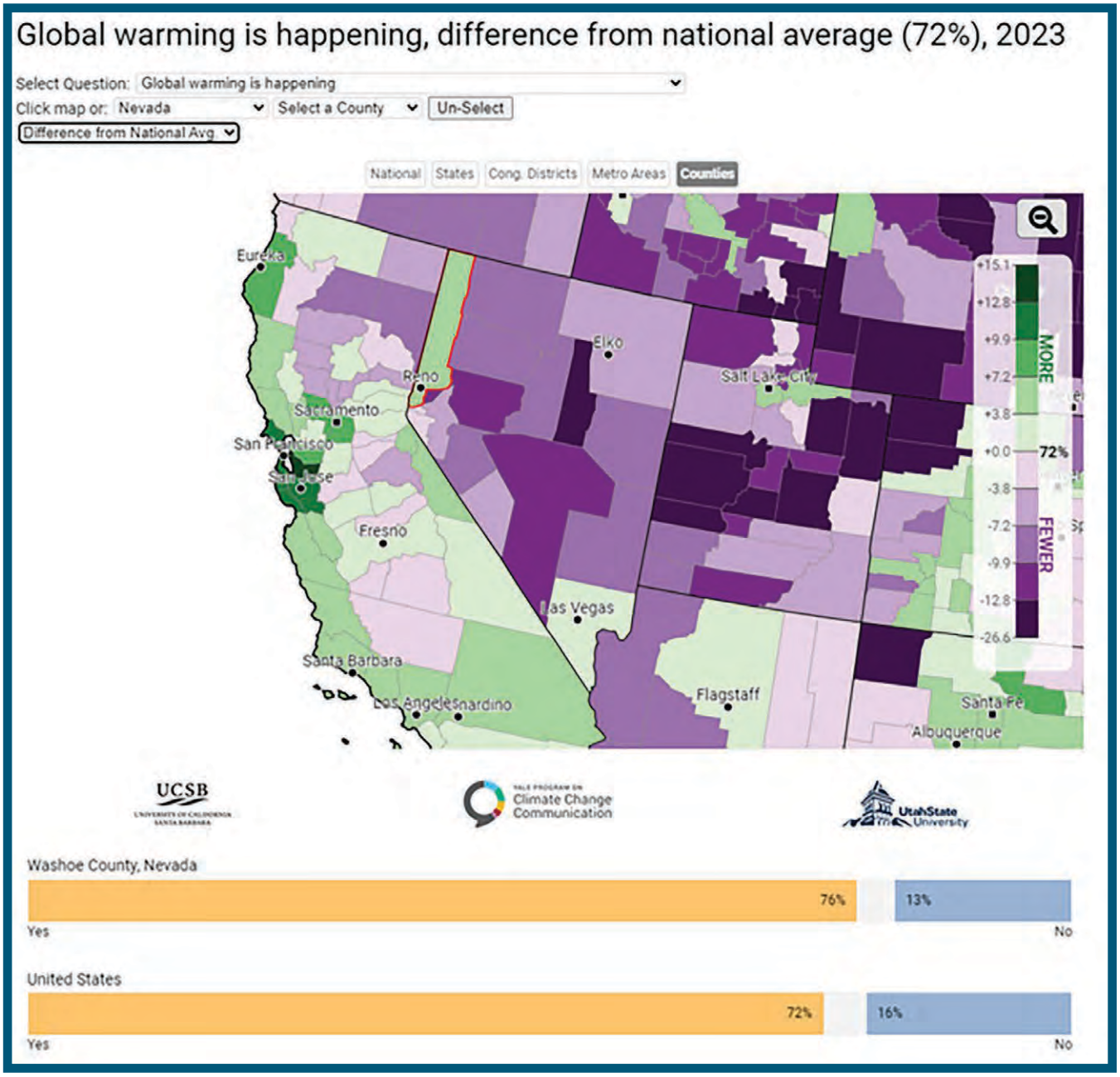


Figure 21: Residents in Washoe County, shaded green with a pin drop for Reno, lead all Nevada counties in their belief that global warming is happening. This is 4% higher than the national average.

Question about beliefs:

Question	Yes/Agree	No/Disagree
Global warming is happening	76%	13%
Global warming is caused mostly by human activities	60%	27%
Most scientists think global warming is happening	59%	25%
Global warming is affecting the weather	64%	8%
Has personally experienced the effects of global warming	47%	53%
A Presidential candidate's views on global warming are important to my vote	60%	31%

Question about risk perceptions:

Question	Yes/Agree	No/Disagree
Worried about global warming	67%	33%
Global warming will harm plants and animals	70%	20%
Global warming will harm future generations	70%	18%
Global warming will harm people in developing countries	68%	20%
Global warming will harm people in the US	62%	27%
Global warming will harm me personally	47%	45%
Global warming is already harming people in the US	60%	40%

Question about policy support:

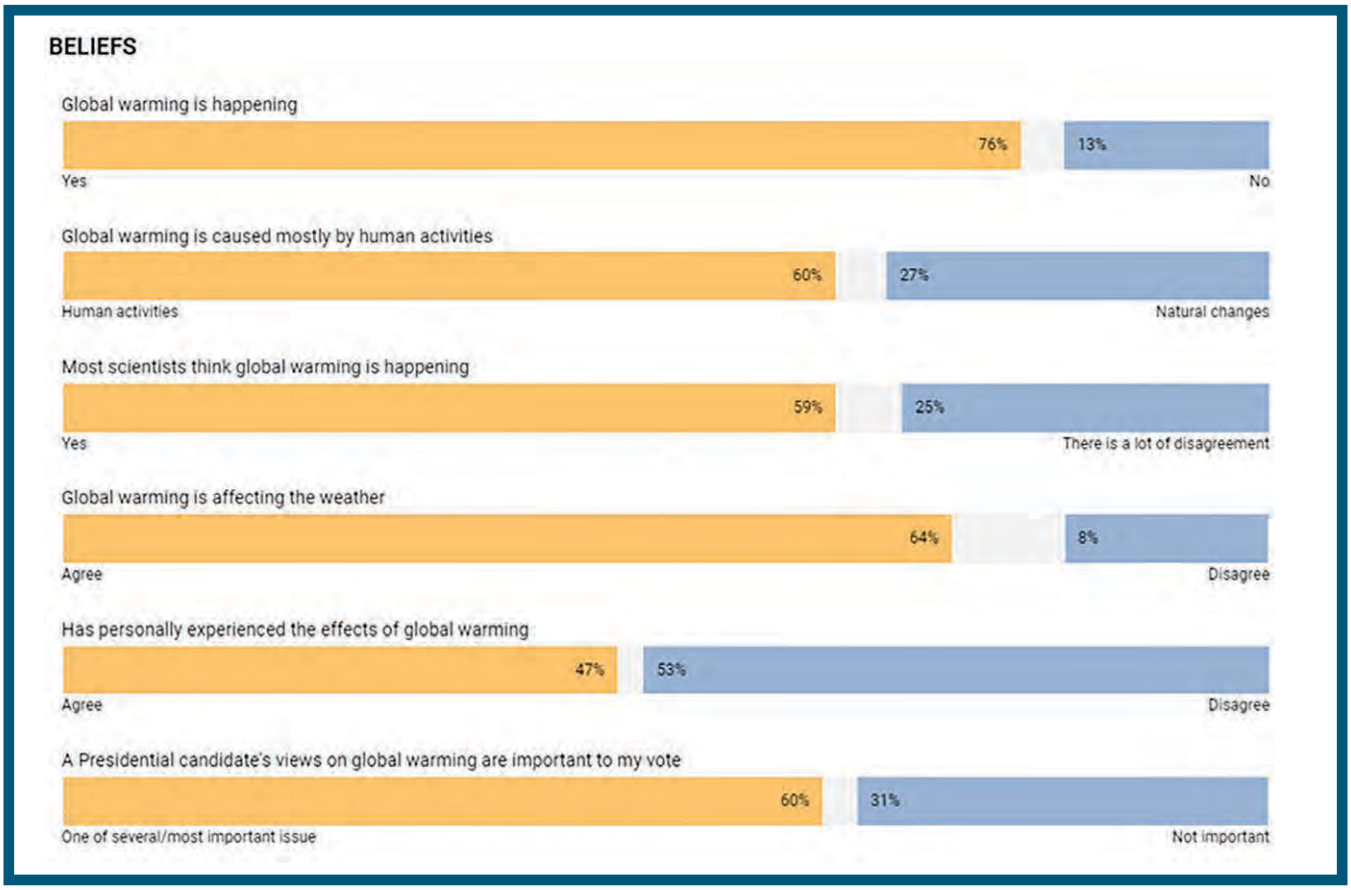
Question	Support/Agree	Oppose/ Disagree
Fund research into renewable energy sources	82%	18%
Generate renewable energy on public land in the US	81%	19%
Regulate CO2 as a pollutant	75%	25%
Require fossil fuel companies to pay a carbon tax	66%	34%
Drill for oil in the Arctic National Wildlife Refuge	28%	72%
Expand offshore drilling for oil and natural gas off US coast	50%	50%
Schools should teach about global warming	77%	23%

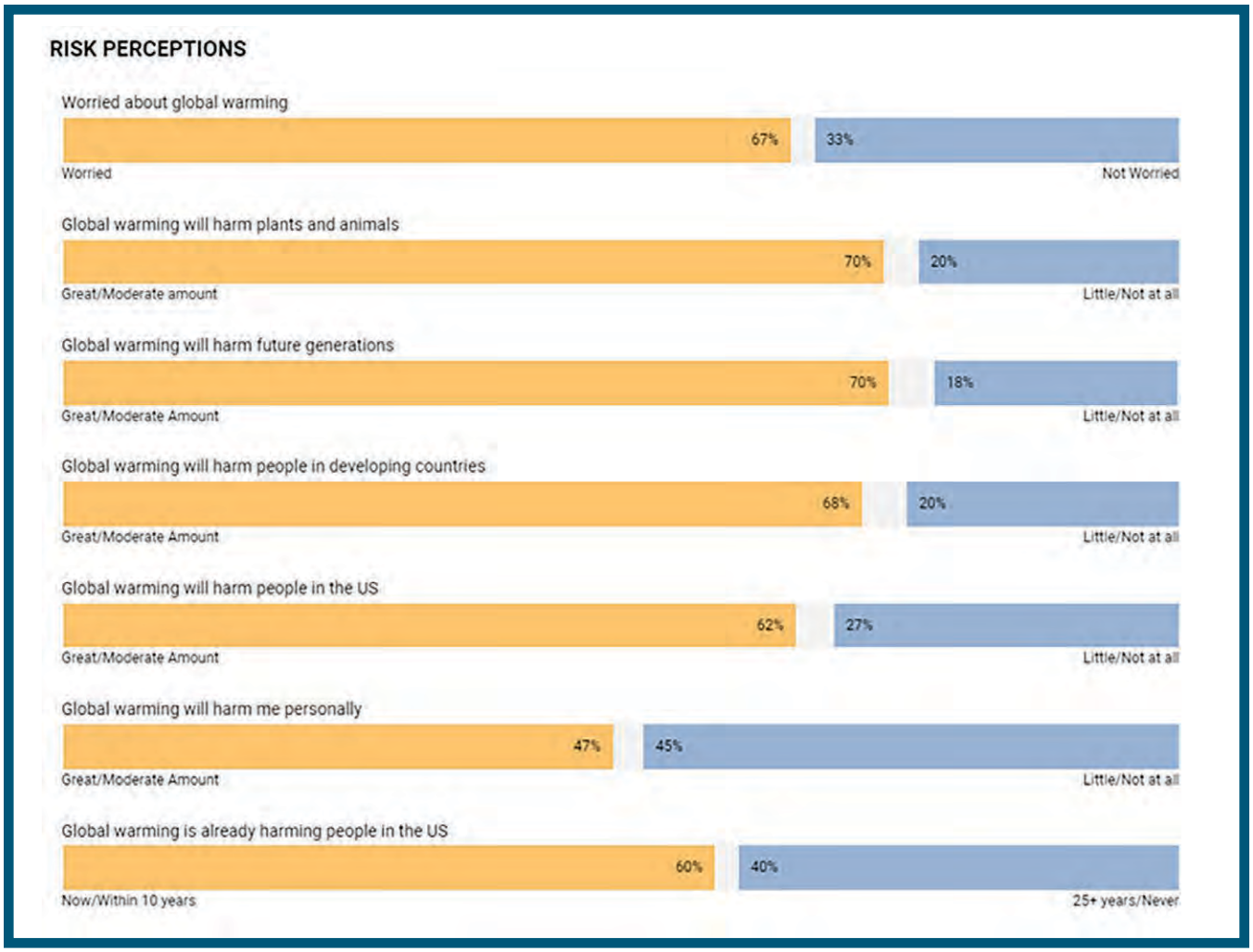
Question about who should act:

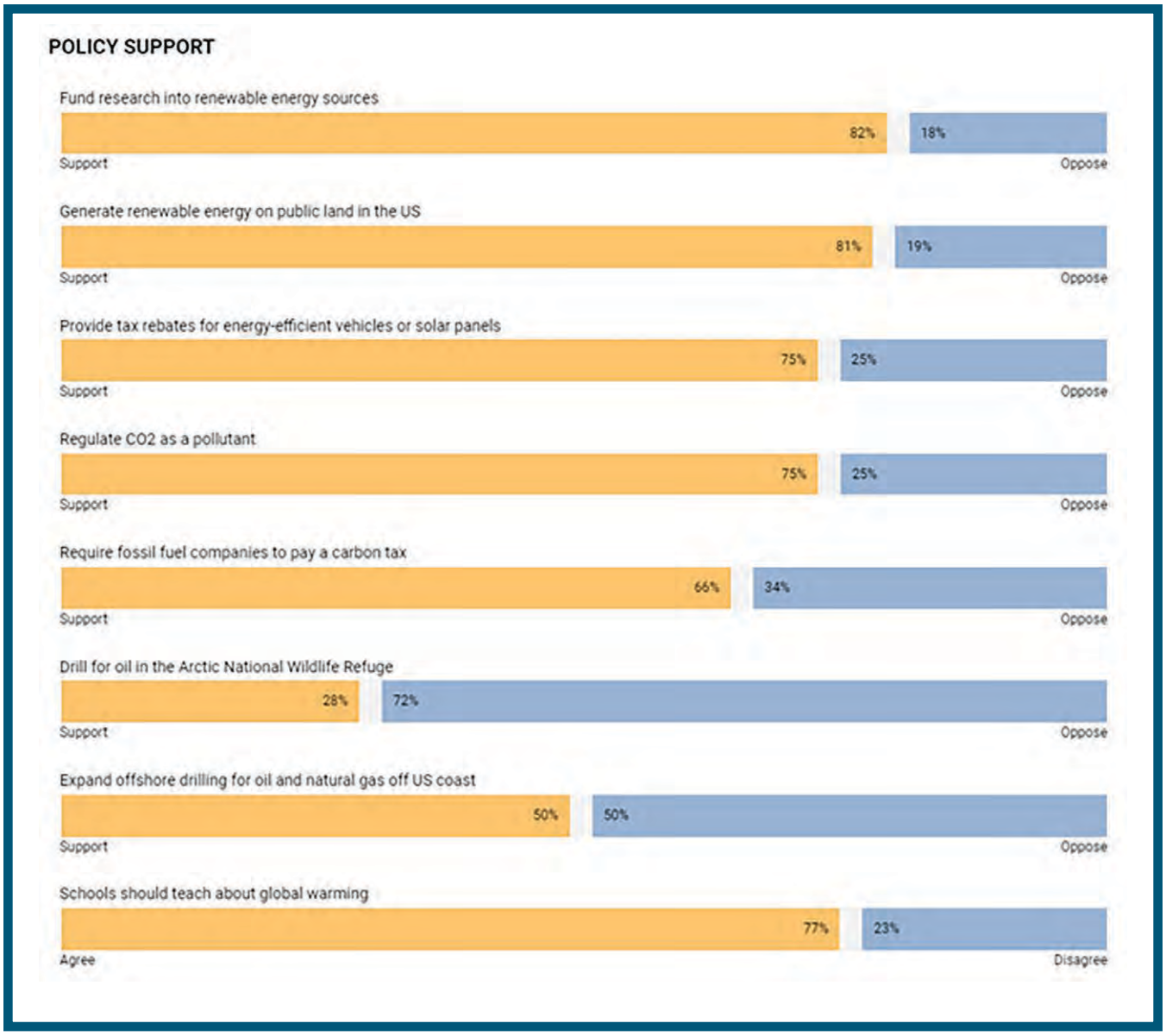
Question	Yes/More	No/Less
Fund research into renewable energy sources	82%	18%
Generate renewable energy on public land in the US	81%	19%
Regulate CO2 as a pollutant	75%	25%
Require fossil fuel companies to pay a carbon tax	66%	34%
Drill for oil in the Arctic National Wildlife Refuge	28%	72%
Expand offshore drilling for oil and natural gas off US coast	50%	50%
Schools should teach about global warming	77%	23%

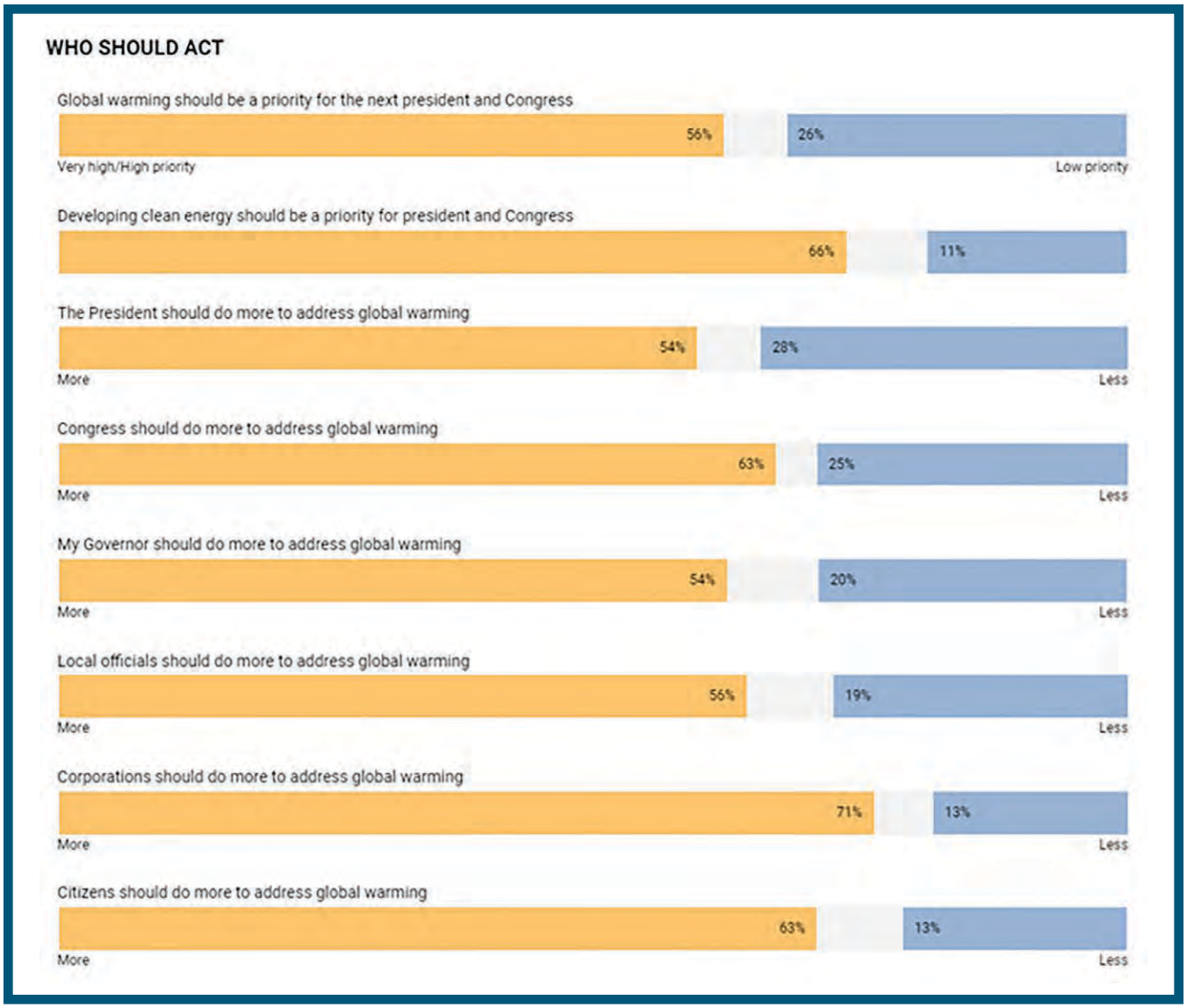
Question about behaviors:

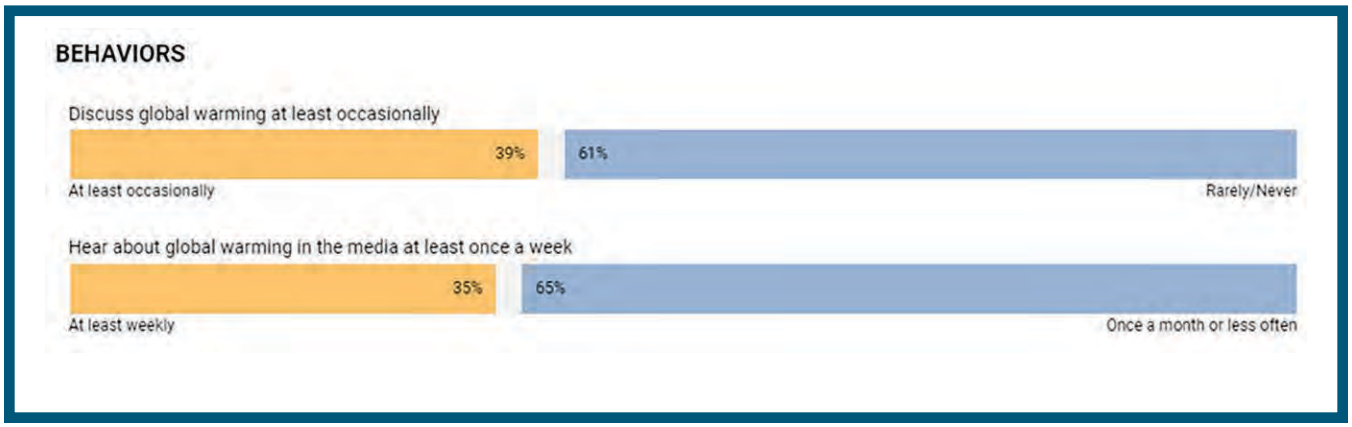
Question	Yes/More	No/Less
Discuss global warming at least occasionally	63%	13%
Hear about global warming in the media at least once a week	35%	65%




RISK PERCEPTIONS
Worried about global warming
67%
33%
Worried
Not Worried
Global warming will harm plants and animals
70%
20%
Great/Moderate amount
Little/Not at all
Global warming will harm future generations
70%
18%
Great/Moderate Amount
Little/Not at all
Global warming will harm people in developing countries
68%
20%
Great/Moderate Amount
Little/Not at all
Global warming will harm people in the US
62%
27%
Great/Moderate Amount
Little/Not at all
Global warming will harm me personally
47%
45%
Great/Moderate Amount
Little/Not at all
Global warming is already harming people in the US
60%
40%
Now/Within 10 years
25+ years/Never


POLICY SUPPORT
Fund research into renewable energy sources
82%
18%
Support
Oppose
Generate renewable energy on public land in the US
81%
19%
Support
Oppose
Provide tax rebates for energy-efficient vehicles or solar panels
75%
25%
Support
Oppose
Regulate CO2 as a pollutant
75%
25%
Support
Oppose
Require fossil fuel companies to pay a carbon tax
66%
34%
Support
Oppose
Drill for oil in the Arctic National Wildlife Refuge
28%
72%
Support
Oppose
Expand offshore drilling for oil and natural gas off US coast
50%
50%
Support
Oppose
Schools should teach about global warming
77%
23%
Agree
Disagree


WHO SHOULD ACT
Global warming should be a priority for the next president and Congress
56%
26%
Very high/High priority
Low priority
Developing clean energy should be a priority for president and Congress
66%
11%
The President should do more to address global warming
54%
28%
More
Less
Congress should do more to address global warming
63%
25%
More
Less
My Governor should do more to address global warming
54%
20%
More
Less
Local officials should do more to address global warming
56%
19%
More
Less
Corporations should do more to address global warming
71%
13%
More
Less
Citizens should do more to address global warming
63%
13%
More
Less


BEHAVIORS
Discuss global warming at least occasionally
39%
61%
At least occasionally
Rarely/Never
Hear about global warming in the media at least once a week
35%
65%
At least weekly
Once a month or less often