



SONOMA CLIMATE MOBILIZATION

RESILIENT · EQUITABLE · TRANSFORMATIVE



DRAFT STRATEGYMarch 2021







Acknowledgements

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- SCTA Citizens Advisory Committee, Bicycle and Pedestrian Advisory Committee, Planning Advisory Committee, Transit Technical Advisory Committee, Technical Advisory Committee
- RCPA Climate Action Advisory Committee

Local Jurisdictions, Agencies, and Special Districts

- Bay Area Air Quality Management District
- Cities of Cloverdale, Cotati, Healdsburg, Petaluma, Rohnert Park, Santa Rosa, Sebastopol, and Sonoma, and Town of Windsor
- County of Sonoma
- Gold Ridge Resource Conservation District
- Northern Sonoma County Air Pollution Control District
- Sonoma Clean Power
- Sonoma County Agricultural Preservation and Open Space District
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- Sonoma Water
- Zero Waste Sonoma

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- Petaluma Wetlands Alliance
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- Santa Rosa Junior College Sustainability Committee
- Sierra Club Redwood Chapter
- The Climate Center

- Transition Sonoma Valley
- Sebastopol Climate Action Group
- Sonoma Land Trust
- Sonoma County Transportation and Land Use Coalition
- Sunrise Movement
- Working Group for Emergency Climate Action Now (WECAN)

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- Bay Area Air Quality Management District
- Cities of Cloverdale, Cotati, Healdsburg, Petaluma, Rohnert Park, Santa Rosa, Sebastopol, and Sonoma, and Town of Windsor
- County of Sonoma
- Northern Sonoma County Air Pollution Control District
- Sonoma Clean Power
- Sonoma County Agricultural Preservation and Open Space District
- Sonoma Water

Land Acknowledgement

We acknowledge that we inhabit the territorial traditional land of the Coast Miwok and Southern Pomo Peoples, past and present, and honor with gratitude the land itself and the people who have stewarded it throughout the generations. This land acknowledgement calls us to commit to continuing to learn how to be better stewards of the land we inhabit.

About the RCPA

The Sonoma County Regional Climate Protection Authority (RCPA) leads a local government coalition to mobilize regional climate action in Sonoma County. RCPA is a special district governed by a twelve-member Board of Directors comprised of representatives from the Sonoma County Board of Supervisors and Council Members from each of the nine municipalities — Cloverdale, Cotati, Healdsburg, Petaluma, Rohnert Park, Santa Rosa, Sebastopol, Sonoma, and Windsor.

As a coordination agency for ten member jurisdictions and multiple partner agencies, the RCPA provides a forum for local elected officials to engage in dialogue on countywide issues and enables discussions among local and regional entities on a wide range of topics related to decarbonization, carbon sequestration, and building community resilience.

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Introduction

In September 2019, the Sonoma County Regional Climate Protection Authority (RCPA) Board adopted a Climate Emergency Resolution outlining the agency's commitment to leading countywide efforts to mitigate and adapt to climate change in the decade ahead¹. The resolution directed the RCPA to develop a new strategy, the Sonoma Climate Mobilization Strategy, to mobilize an emergency response commensurate with the scale of the climate crisis.

The Sonoma Climate Mobilization Strategy builds on the Climate Action 2020 and Beyond (CA 2020) plan published in 2016. The new strategy sets a goal of carbon neutrality by 2030, a more ambitious goal than the CA 2020 goal of 40 percent below 1990 levels by 2030.

Despite the fact that most of our homes and businesses are now powered by 97 percent carbon-free electricity provided by Sonoma Clean Power; Sonoma Water met its carbon-free water goal in 2015; and Zero Waste Sonoma is actively working with local jurisdictions to reach zero waste, we still have a long way to go!

Our most recent greenhouse gas (GHG) inventory update² revealed that in 2018 our countywide emissions were 13 percent below 1990 levels. We will need to decrease emissions by another 0.5 million metric tons CO_2 equivalent (MT CO_2 e) in order to meet the 2020 goal of 25 percent below 1990 levels and another 1.6 million MT CO_2 e to meet the 2030 goal of 40 percent below 1990 levels (Figure 1).

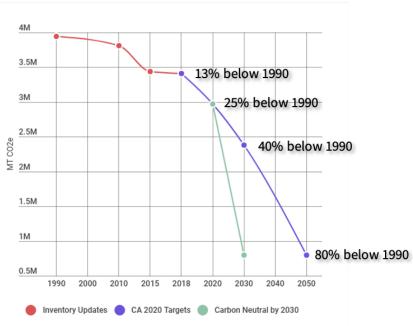


Figure 1 GHG Emission Targets

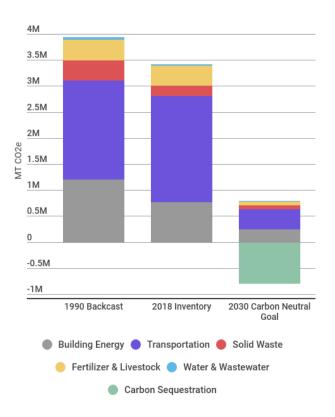
To meet the Sonoma Climate Mobilization goal of carbon neutrality by 2030, Sonoma County must reduce its GHG emissions by at least 80 percent below 1990 levels and achieve an increase in carbon sequestration that is large enough to remove the remaining CO_2 from the atmosphere.

¹ https://rcpa.ca.gov/wp-content/uploads/2019/11/RCPA CER 2019 Redacted.pdf

² https://rcpa.ca.gov/data-and-reports/sonoma-county-greenhouse-gas-inventory/

Figure 2 shows what an 80 percent reduction in emissions from each sector would look like and how much carbon sequestration would be needed to achieve carbon neutrality.





The Sonoma Climate Mobilization Strategy contains a ten-year policy package that outlines 13 countywide strategies under local authority that have the potential to significantly reduce greenhouse gas (GHG) emissions and increase carbon sequestration by 2030. These strategies were developed by the RCPA in collaboration with its members, partners, advisory committees, and local climate experts. The RCPA will support the policy package by coordinating with incorporated jurisdictions, the County of Sonoma, and multiple special districts to assist with policy development and implementation for those areas that provide the greatest impact to reducing emissions.

The scientific imperative for taking immediate action is clear. This call to act boldly and quickly is based upon guidance from the United Nations Intergovernmental Panel on Climate Change (IPCC), the U.S. Global Change Research Program (USGCRP), and the California Governor's Office of Planning and Research (OPR), among others. As stated in the RCPA Climate Emergency Resolution: "...an urgent global climate mobilization effort to reverse global warming is needed to achieve zero net emissions as quickly as possible and that full community participation, inclusion, and support is integral to our efforts to safely draw down carbon from the atmosphere and accelerate adaptation and resilience strategies in preparation for intensifying climate impacts..."

In order to avoid irreversible, catastrophic climate change impacts, RCPA has developed the Sonoma Climate Mobilization Strategy to guide our efforts in leading the countywide coalition needed to meet this challenge. With this strategy, we intend to mobilize our member jurisdictions and partner agencies, local businesses, community organizations, and residents to work both within and outside

of our regional boundaries and across sectors to accelerate the necessary systems change required to address the climate emergency.

Goal

Achieve carbon neutrality in Sonoma County by 2030 using an equity-centered process

Guiding Principles

- Prioritize equitable, high impact actions that are within local government control
- Prioritize equitable outcomes that improve quality of life for all, with a focus on those most impacted by climate change
- Center and focus on the voices of communities rendered most vulnerable by inequitable systems and connect their priorities to climate action, equity, and resilience
- Identify and advocate for the necessary regional and state policy solutions to enable Sonoma County to meet this equity-driven goal
- Align with and support local jurisdictions in climate work to ensure that they align with equitydriven goals and prioritize the voices and feedback of communities rendered most vulnerable by historically racist policies
- Establish equity-driven processes, metrics, and tools to track progress

Overview of Strategies

The strategies in the policy package are organized into four initiatives:

- **Decarbonization**: Target existing sources of greenhouse gas emissions
- Carbon Sequestration and Ecosystem Services: Significantly increase carbon stocks
- **Resilience and Adaptation**: Reduce risk and vulnerability, and increase the ability to recover and adapt
- **Equity and Community Engagement**: Support and enhance climate actions by engaging local communities, prioritizing those most impacted by climate change

Each initiative has multiple strategies designed to achieve significant GHG emissions reductions or increase carbon sequestration as shown in the table below.

Initiative	Sector	Strategy
Decarbonization	Building Energy	All-Electric Buildings Campaign Carbon-Free Electricity
	Transportation	3. Drive Less Sonoma County Campaign4. EV Access for All Partnership5. Sonoma County Vehicle Miles Traveled Mitigation Bank
	Solid Waste	6. Zero Waste by 2030
Sequestration and Ecosystem Services		7. Protect Existing Carbon Stocks8. Increase Carbon Stocks9. Scale Up Infrastructure for Sequestration
Resilience and Adaptation		10. Energy Grid for the Future 11. Climate Resilient Sonoma County
Equity and Community Engagement		12. Engage, Educate, and Empower for Equitable Climate Action 13. Equity and Climate in All Policies

Equity Commitments

RCPA acknowledges that climate change impacts have been and will continue to be felt most by communities rendered vulnerable by oppressive systems³. To address these impacts, RCPA has incorporated an initial set of equity guiding principles and objectives into the Sonoma Climate Mobilization Strategy. These equity principles and objectives are intended as a starting point from which to begin a more inclusive process to embed equity-centered design into every aspect of local climate policy design and implementation. RCPA is committed to revising the strategies as it deepens its connections with Black, Indigenous, and people of color (BIPOC) communities and strengthens its understanding of the impacts of systemic racism on these communities. RCPA will partner with these communities to learn how its proposed strategies may benefit or harm them and what additional strategies may be needed to support equitable outcomes.

RCPA has attempted to weave equity considerations throughout the entire Sonoma Climate Mobilization Strategy. Equity is integrated into the guiding principles, one of the four initiative areas is dedicated to equity and community engagement, and two of the 13 strategies are aimed at overcoming long-term equity disparities. Additionally, equity considerations are included in the other 11 strategies to the extent possible.

Definitions of "equity" abound, with no single definition considered universal. For organizational alignment, RCPA has chosen to use the definition currently in use by the Sonoma County Office of Equity and incorporated in the County's Five-Year Strategic Plan:

Equity is an outcome whereby you can't tell the difference in critical markers of health, well-being, and wealth by race or ethnicity, and a process whereby we explicitly value the voices of people of color, low income, and other underrepresented and underserved communities who identify solutions to achieve that outcome.
 (Sonoma County: https://sonomacounty.ca.gov/Board-of-Supervisors/Strategic-Plan/Racial-Equity-and-Social-Justice/)

RCPA will also use the definition recently published in President Biden's Executive Order On Advancing Racial Equity and Support for Underserved Communities Through the Federal Government⁴:

- Sec. 2. Definitions. For purposes of this order: (a) The term "equity" means the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality.
- (b) The term "underserved communities" refers to populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, as exemplified by the list in the preceding definition of "equity."

³ Lugo, A. & Shiels, S. (2021). Diversity, Equity, and Belonging (DEB) Brief: Analysis of the Sonoma Climate Mobilization Strategy, Equity First Consulting

⁴ https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/

For the Sonoma Climate Mobilization, we have chosen to focus our equity work on three key communities:

- Communities who have been systemically disadvantaged: Used in reference to specific
 geographic locations as well as for people who share the same demographic characteristics
 but are not clustered in a neighborhood. Identified using the methodology chosen by
 the Sonoma County Transportation Authority for its Comprehensive Transportation Plan.
 (SCTA: https://scta.ca.gov/planning/comprehensive-transportation-plan/sonoma-disadvantaged-communities/)
- Communities rendered vulnerable by inequitable systems: Identified as those communities
 that experience heightened risk and increased sensitivity to climate change and have less
 capacity and fewer resources to cope with, adapt to, or recover from climate impacts.
 (CA OPR: https://www.opr.ca.gov/docs/20200720-Vulnerable_Communities.pdf)
- Communities who have historically been underserved: Identified as geographic areas or demographic populations that have been historically underrepresented in the policy setting or decision-making process, have had little or no access to funding or incentive programs to make community improvements, or may be limited in their ability to fully participate due to societal constraints. Examples include youth, seniors, low-income households, extremely rural residents, and Native American tribes.

The California Climate Justice Working Group defines frontline communities as those that experience continuing injustice (e.g., people of color, immigrants, people with lower incomes, those in rural areas, and indigenous people), and face a legacy of systemic, largely racialized, inequity that negatively influences their health and economic opportunities⁵. Unless stated otherwise in this document, the term "frontline communities" will be used to refer to all three communities listed above.

RCPA recognizes that the integration of equity concerns is an ongoing process that must be given additional consideration as implementation efforts are undertaken. The topic of equity is complex and RCPA will need to rely on guidance from community-based organizations and from impacted community members to evolve the document and incorporate inputs from voices not represented during the initial development of the Sonoma Climate Mobilization.

Developing Cost Estimates

Undoubtedly, the long-term economic costs of responding to climate change will be immense. Investments will need to be made by every resident, agency, and organization across every sector of our society. While these costs may be large and seem unattainable, the cost of inaction is even larger. As an example, a recent report⁶ examined the cost of decarbonizing the entire U.S. economy by 2050. The simulation illustrated the difference between two scenarios, with one starting climate action in 2021 and the second delaying climate action until 2030. By comparing the net present value of the two scenarios (including cumulative capital, operational costs, and fuel expenditures), the study found that the cost of delaying action to 2030 was 72% more than early action.

In addition to the economic costs, delaying action also allows additional pollution sources (power plants, factories, and equipment) to continue coming online and operating for the next decade.

⁵ https://www.adaptationclearinghouse.org/resources/advancing-climate-justice-in-california-guiding-principles-and-recommendations-for-policy-and-funding-decisions.html

⁶ https://energyinnovation.org/wp-content/uploads/2021/01/Cost_of_Delay.pdf

Unfortunately, making a quick transition to zero carbon at a later date will then require the retirement of all this new polluting equipment before the end of its functional life. With the elevated costs of postponing climate action in mind, our best option is to commit to action early and to follow up on this commitment with sustained long-term funding, resources, and attention.

It goes without saying that implementation of the Sonoma Climate Mobilization Strategy will require considerable investment from multiple entities. Local governments will incur costs by taking a leading role in responding to climate change. Community-based organizations, local residents, and the business sector will also incur costs associated with the implementation of this plan, mainly due to individual choices about how to participate in the various climate mitigation and adaptation efforts identified in the strategy.

One set of costs that need to be explored further include the existing economic impacts of pollution and climate change on frontline communities. Not only are these communities already burdened by these existing costs more than others, but the increasing impacts of climate change will continue to exacerbate this disparity. By focusing our efforts using an equity-centric approach, RCPA commits to exploring culturally-responsive implementation techniques and to evaluating the past distribution of local climate funding in an attempt to ensure equitable benefits to all residents of Sonoma County.

Following adoption of the Strategy by the RCPA Board, a prioritization matrix will be developed for each objective that includes identified partners, expected tasks, initial cost estimates, and potential funding opportunities. To ensure the cost estimates are as accurate as possible, RCPA will use established cost methodologies from industry experts and recently adopted climate action and adaptation plans. To start, previous estimates of implementation costs from the Climate Action 2020 initiative will be reviewed and updated to reflect the objectives in the Climate Mobilization Strategy and current cost realities of the selected initiatives.

Throughout the process, RCPA will continue to strive for an overall funding approach that ensures that the full mix of strategies will be funded and implemented efficiently and quickly by:

- Pursuing funding for strategies concurrently, whenever possible, to use funds most efficiently
- Leveraging federal, state, and regional grants and other funding sources
- Partnering with other communities and regional entities to administer joint programs, and partnering with the private sector on implementation of the strategy
- Incorporating the unequal economic impacts of climate change into our cost analyses and identifying additional funding sources designed to benefit frontline communities
- Reducing barriers to private investment in climate solutions and supporting strategies to direct investments in energy, buildings, transportation, water, and other GHG sources toward low- or zero-carbon options
- Seeking long-term strategies such as a local sales tax measure to increase the amount of funding available for local climate action

A Note on Consumption-Based Emissions

The emission reduction goals shown in Figure 2 are based on the RCPA's 2018 GHG Inventory Update. This inventory is activity-based, meaning that it does not include all human activities in Sonoma County that drive an increase or decrease in GHG emissions. Rather than trying to account for every source of emissions, the RCPA publishes inventories to monitor progress on the largest emissions sources that can most directly be influenced by local government actions. The types of emissions that

are not accounted for in the RCPA's GHG inventories include the consumption of goods and services imported into Sonoma County and air travel.

Based on data from a 2015 study by the Cool Climate Network, 7 Sonoma County's total consumption-based emissions in 2015 were 7.2 million MT CO_2e — significantly higher than the approximately 3.4 million MT CO_2e activity-based emissions reported in the 2018 GHG inventory. There is some overlap in emissions accounted for in the two types of inventories. For example, the emissions from fossil fuel used to power our transportation and building sectors are included in both inventories.

While we all have a role to play in reducing emissions from our consumption of goods and services, the Sonoma Climate Mobilization focuses on high impact strategies within local government control. The strategies under the Equity and Community Engagement Initiative will help build support for and identify additional actions that we can take to reduce our consumption-based emissions.

Strategies

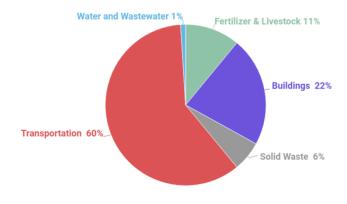
The Sonoma Climate Mobilization Strategy is intended to be a guiding document that describes recommended actions, co-benefits, possible implementation partners, and pillars for success for each of the 13 strategies. This information will be used to develop implementation and funding plans for each strategy.

Initiative: Decarbonization

Our world is still largely dependent on the burning of fossil fuels to power our buildings and transportation systems. From petroleum-fueled cars to natural gas stoves, we have relied on burning things to get energy from the beginning of human history. Decarbonization means turning a new page in our evolution, where we stop relying on fire and start using smarter, cleaner forms of energy.

Decarbonization means that we must rapidly transition away from all use of fossil fuels. Achieving this goal will require a careful reworking of many of our systems. The good news is that we have proven solutions to decarbonize most of the activities that produce the majority of our GHG emissions. The sources of Sonoma County's 2018 emissions are shown in Figure 3.

Figure 3 GHG Emissions by Sector



⁷ https://coolclimate.berkeley.edu/index

Sector: Buildings

Burning fossil fuels to power buildings contributed approximately 22 percent of Sonoma County's greenhouse gas emissions in 2018. Sonoma County reduced emissions by 37 percent between 1990 and 2018, primarily because of improved energy efficiency in newer buildings and the implementation of Sonoma Clean Power as the county's default power provider. Now that Sonoma County's electricity supply has gotten cleaner, we must focus on reducing emissions from natural gas.

To significantly reduce emissions from buildings, Sonoma County must decarbonize its building energy use by transitioning from natural gas to clean electricity for space heating, water heating, and cooking. It must also achieve 100 percent carbon-free energy sooner than 2045, which is the existing requirement established by Senate Bill 100.

Strategy 1. All-Electric Buildings Campaign

Goal: Accelerate the electrification of existing buildings and electrify all new buildings.

Objectives:

- 1.1 Develop a date-certain, funded, and phased retrofit requirement for existing buildings to transition to all-electric and improve their overall energy efficiency:
 - Adopt a requirement to retrofit 25 percent of all residential and commercial buildings to enhance energy efficiency and convert to all-electric by 2030 and the remaining 75 percent by 2050.
 - Adopt a requirement to retrofit all municipal buildings to enhance energy efficiency and convert to all-electric by 2030.
- 1.2 Require new buildings to be all-electric:
 - Advocate for and work with the State of California to accelerate electrification through California Energy Code updates in 2022 and 2025.
 - o Ban natural gas and propane for all new construction in Sonoma County.
- 1.3 Integrate equity into building electrification plans:
 - Require equity impact assessments to be completed for all electrification policies.
 - o Ensure funding for building electrification investments in frontline communities.

Discussion:

For existing buildings, priority should be given to actions that increase energy efficiency. This includes building shell Improvements that retain conditioned air and prevent air Infiltration; technologies that require less energy (e.g., replacing incandescent/fluorescent light bulbs with LEDs), and actions that result in energy conservation (e.g., installing light sensors for turning off lights when leaving a room). These measures reduce demand for energy to heat, cool, and light buildings and will make it easier and more cost effective to achieve all-electric buildings.

Implementation of the All-Electric Buildings Campaign will require a combination of education, incentives, and new regulations. Jurisdictions are already working with Sonoma Clean Power, Healdsburg Electric, and PG&E to promote electrification. When it opens in 2021, Sonoma Clean

⁸ RCPA 2018 GHG Inventory Report

⁹ "Equally important to reducing emissions from the building sector is ensuring that the buildings are efficient at retaining conditioned air and preventing air infiltration." *A Roadmap to Decarbonize California Buildings*, Building Decarbonization Coalition, February 12, 2019.

Power's Advanced Energy Center will provide additional educational and financial resources for local residents to save energy and convert to an all-electric home.

The Sonoma County Energy Independence Program (SCEIP) provides financing for residential energy efficiency, renewable energy, and water conservation upgrades. The Bay Area Regional Energy Network (BayREN) and Sonoma Clean Power are providing financial incentives for energy retrofits and the purchase and installation of electric appliances. These programs should continue and be expanded to reach more renters, homeowners, and property owners.

In advance of the next California Energy Code update, local jurisdictions should pursue reach codes to support a more rapid transition to all-electric homes. Other policy tools will need to be developed to accelerate the retrofitting of existing buildings. The Clean Building Compass¹⁰, a new resource funded by the Bay Area Air Quality Management District, is an online database of information and model policies on building electrification that will be used to support this strategy.

To date, early adopters of renewable energy and building retrofits have been primarily higher-income property owners who can afford to make these changes. We must take equity into consideration as we plan and implement the All-Electric Buildings Campaign to facilitate a just transition from fossil fuels to renewables for all Sonoma County residents. The campaign should evaluate all policies through an equity lens and use this information to ensure that residents in frontline communities are able to benefit from the new policies. The Building Electrification Equity Project recently published a report¹¹ with recommendations that could be implemented in Sonoma County:

- Provide funding for community-based organizations to support effective outreach to frontline communities
- Build requirements for diversity, training, pre-apprenticeship, and apprenticeship actions and funding into building electrification policies
- Increase capacity of minority- and women-owned firms to perform energy retrofits and allelectric upgrades
- Fund HVAC training for workers from frontline communities
- Enact policies to support a just transition from gas to electric, ensuring the cost burden of stranded gas assets is not placed on those who can least afford to make the switch to all electric

Additional care will also need to be given to the design of new incentive programs to ensure that they do not unintentionally harm parts of the community. Examples of such impacts include raising costs for renters whose landlords make incentivized upgrades but do not pass the savings on to their tenants or ensuring that fixed-income homeowners have the ability to upgrade their home without having the economic capacity to finance the debt needed to cover the full cost of the project.

¹⁰ https://www.buildingdecarb.org/compass.html

¹¹ The Building Electrification Equity Project. (2020). Emerald Cities Collaborative. https://nmcdn.io/e186d21f8c7946a19faed23c3da2f0da/9bb11a106d6f43d5ae8118a05a071e96/files/BEE_Report_Final.pdf

Co-benefits:

- Improvements in indoor air quality and health
- Potential green job creation, especially for workers from disadvantaged communities

Potential Implementation Partners:

RCPA, County of Sonoma Energy and Sustainability Division, Sonoma Clean Power, Healdsburg Electric, PG&E, BayREN, Bay Area Air Quality Management District, municipalities/county, local community-based organizations, especially those representing Black, Indigenous, Latinx, and other communities of color

Pillars for Success:

- Resources to subsidize, incentivize, and manage implementation
- Sufficient supply of new appliances, equipment, materials, and a trained workforce capable of implementing the retrofits in the next ten years
- Updates to California Energy Code support strategy
- Additional regulatory changes and funding to accelerate retrofitting of existing buildings
- Strong community-wide awareness and support for building decarbonization

Strategy 2. Carbon-Free Electricity

Goal: Accelerate the transition to 100 percent carbon-free electricity.

Objectives:

- 2.1 Promote the use of 100 percent renewable and/or carbon-free energy, such as Sonoma Clean Power Evergreen or City of Healdsburg Green Rate, in residential and commercial buildings.
- 2.2 Achieve 100 percent carbon-free electricity in municipal buildings by 2030 through a combination of Sonoma Clean Power Evergreen, City of Healdsburg Green Rate, and onsite solar plus battery storage.
- 2.3 Develop a campaign using effective, research-based incentives to increase installations of solar plus battery storage in residences of all income groups.
- 2.4 Develop a campaign to increase the use of demand response using capable technologies (e.g., appliances, cars, batteries, etc.)
- 2.5 Identify and promote carbon-free energy and demand response options that are available to income-based CARE/FERA customers, specifically targeting the multi-family rental market.

Discussion:

Sonoma County has already achieved significant reductions in greenhouse gas emissions through the implementation of Sonoma Clean Power, Healdsburg Electric's Green Rate, and the increasing renewable content in PG&E's electricity supply. Moving to 100 percent renewable and/or carbon-free electricity will require a combination of actions including the use of on-site solar with battery storage.

Co-benefits:

- Increased resilience from power outages through a combination of solar plus battery storage
- Potential green job creation

Potential Implementation Partners:

RCPA, County of Sonoma Energy and Sustainability Division, Sonoma Clean Power, Healdsburg Electric, PG&E, municipalities/county, installers/contractors, local community-based organizations, especially those representing Black, Indigenous, Latinx, and other communities of color

Pillars for Success:

- Availability of local renewable energy sources
- Trained contractor workforce for installations
- Load shifting from evening hours to daytime using appliances, HVAC, Sonoma Clean Power GridSavvy, etc.

Sector: Transportation

Emissions from the burning of fossil fuels to power Sonoma County's transportation system contributed approximately 60 percent of its total greenhouse gas emissions in 2018. Transportation emissions have increased from 1.9 million metric tons carbon dioxide equivalent (MTCO $_2$ e) in 1990 to over 2 million MTCO $_2$ e in 2018 — an increase of 7 percent.

Almost 93 percent of the 2018 transportation sector emissions were from on-road transportation (cars, motorcycles, trucks, and buses). The majority of the remaining 7 percent consisted of emissions from off-road equipment such as construction and farm equipment. Less than 1 percent of total transportation emissions were from the SMART diesel-powered commuter rail system, which began service in 2017.

Between the greenhouse gas inventory base year of 1990 and the 2018 inventory, total county population increased by 29 percent and vehicle miles traveled per capita increased 18 percent. During the same time period, per capita greenhouse gas emissions from on-road transportation decreased by approximately 14 percent. The decrease in emissions is attributed to improvements in vehicle fuel efficiency and an increasing shift toward hybrid, plug-in hybrid, and battery electric vehicles.

The strategies in this section focus on increasing transportation options, reducing vehicle miles traveled, and shifting from fossil fuels to electricity.

Strategy 3. Drive Less Sonoma County Campaign

Goal: Make it easier to get around Sonoma County without a car.

Objectives:

- 3.1 Implement a broad network of low-stress bike and pedestrian facilities (e.g., pathways, bike lanes, sidewalks) connecting to major bus and rail transit hubs, schools, employment centers, medical facilities, and other key destinations as identified in the SCTA Travel Behavior Study.
- 3.2 Implement recommendations from Vision Zero Action Plan to make walking and biking safer.

- 3.3 Develop a "next generation" transit system for Sonoma County that is an attractive and viable alternative to driving alone and provides equitable mobility for all.
- 3.4 Implement strategies from the SCTA Comprehensive Transportation Plan¹² that reduce emissions (e.g., bikeshare, expanded employer commute programs, unbundled parking from residential and commercial leases.)

Discussion:

The Drive Less Sonoma County Campaign is a set of actions aimed at making it easier to get around Sonoma County without a car. During the initial months of the COVID-19 pandemic, the county experienced a huge rise in bicycling as residents sought virus-free alternatives to mass transit. This campaign will explore how these new active-mobility habits can continue and make a lasting, permanent reduction in drive-alone trips.

The Drive Less campaign will also support a "next generation" transit system for Sonoma County that is an attractive and viable alternative to driving alone and provides equitable mobility for all. Few people use only one form of transportation, so creating a network of decarbonized options is essential for success.

The objectives in this campaign are designed to achieve a significant reduction in vehicle miles traveled by shifting from the use of single occupant vehicles to walking, biking, transit, and shared vehicles. The "next generation" transit system objective also includes the electrification of the transit fleet. Local bus transit operators have begun upgrading their fleets to electric to comply with the Innovative Clean Transit (ICT) regulation, which requires agencies to gradually transition to 100 percent zero emission bus fleets by 2040.¹³

Co-benefits:

- Increased resilience
- Improved air quality
- Improved public safety and health
- Potential green job creation
- Increased mobility
- Reduced transportation costs

Potential Implementation Partners:

SCTA, transit agencies, Sonoma Clean Power, MTC, municipalities/county, Sonoma County Bicycle Coalition, local community-based organizations, especially those representing Black, Indigenous, Latinx, and other communities of color

Pillars for Success:

- Sonoma County's existing land use patterns and geography make it more challenging to access jobs, schools, recreation, and services without a car. SCTA's recent travel behavior study revealed that 60 percent of trips were less than 5 miles in length, which indicates an opportunity to reduce driving through improvements in infrastructure and transit.¹⁴
- To address the land use challenges, the municipalities and County will need to continue to focus development near transit and in Priority Development Areas. For example, Santa Rosa's recent update to its Downtown Station Area Plan was designed to facilitate more development in its downtown core.

¹² https://scta.ca.gov/planning/comprehensive-transportation-plan/

¹³ https://ww2.arb.ca.gov/our-work/programs/innovative-clean-transit

¹⁴ https://scta.ca.gov/wp-content/uploads/2020/02/Sonoma TBS 2-7-2020 web.pdf

Strategy 4. EV Access for All Partnership

Goal: Accelerate the transition to 100 percent electric vehicles (EVs) for all transportation needs not otherwise met by biking or walking.

Objectives:

- 4.1 Work with regional partners and local businesses to develop over 10,000 public and workplace charging stations in Sonoma County by 2027, emphasizing the installation of charging stations in rental properties in frontline communities.
- 4.2 Develop a package of local ordinances and other actions to address remaining permitting barriers for installing charging equipment, while also limiting permitting of new fossil fuel infrastructure.
- 4.3 Support the use of electric bicycles and other lightweight electric utility vehicles through an awareness campaign and incentives strategically focused toward specific media market segments that best reach members of frontline communities.
- 4.4 Increase the use of heavy-duty EVs, such as public transit buses, school buses, and refuse collection trucks through infrastructure planning at central yards and support for state and federal incentive applications.
- 4.5 Create an accessible and affordable EV assistance service to connect low-income residents, students, and seniors with existing EV incentives, financing, and education initiatives.

Discussion:

While transportation accounts for 60 percent of Sonoma County emissions, electric vehicles using renewable power can nearly eliminate the pollution associated with driving. The EV Access for All Partnership would use technologies that are commercially viable and build on existing infrastructure needed to use electricity as a transportation fuel.

The Partnership proposes investments in programs to expand the availability of charging, make EVs accessible and affordable for more Sonoma County residents, expand the use of electric bikes, and accelerate the adoption of EVs in heavy-duty applications. It will support implementation of the Bay Area Air Quality Management District 2021 Charge! and Clean Cars for All programs. Electric bikes and other lightweight electric utility vehicles, like electric cargo bikes, could provide viable alternatives to car ownership — especially if incentives are focused on low-income residents, students, and seniors.

Co-benefits:

- Reduced ground-level pollution
- Reduced levels of surplus renewable energy
- Increased investment from EV charging networks
- Reduced risk from stranded assets by preventing additional fossil fuel infrastructure
- Localized redirection of money spent on fueling
- Reduced soil and groundwater contamination
- Reliable zero-emission transportation for disadvantaged communities

Potential implementation partners:

RCPA, Sonoma County Regional Parks, Permit Sonoma, local permitting offices, Sonoma Clean Power, Bay Area Air Quality Management District, low-income housing managers, transit agencies, waste haulers, school districts, carsharing organizations, local community-based organizations, especially those representing Black, Indigenous, Latinx, and other communities of color

Pillars for success:

- Governor Newsom's Executive Order requiring 100 percent of all new in-state sales of cars and light trucks to be zero-emissions vehicles by 2035.
- California Air Resources Board regulations mandating that all operations of medium and heavy-duty vehicles be 100 percent zero emission by 2045.
- Ongoing incentives from the federal, state, and regional level to install workplace and public EV charging stations and retire fossil fuel vehicles.
- Ongoing reductions in the cost of electric vehicles due to new business models and advancements in manufacturing.

Strategy 5. Sonoma County Vehicle Miles Traveled (VMT) Mitigation Bank

Goal: Develop new funding sources for transportation projects that reduce VMT.

Objective:

- 5.1 Develop a VMT mitigation banking structure for new development to fund transportation demand management (TDM) and VMT reducing projects and programs to achieve countywide VMT reduction goals as defined in the SCTA Comprehensive Transportation Plan (CTP) and other policies.
- 5.2 Implement additional equity recommendations identified by the Climate Action Advisory Committee and other community partners in Strategy 12: Engage, Educate, Empower for Equitable Climate Action.

Discussion:

Senate Bill 743 (Steinberg, 2013) reformed the process for California Environmental Quality Act (CEQA) review of transportation impacts to align with greenhouse gas emissions reduction goals via VMT analysis. Lead agencies that are making the transition from level of service (LOS) analysis to VMT, to assess impacts and project developers, now must reduce vehicle miles traveled to mitigate significant transportation impacts.

One approach to address mitigation is a VMT-based transportation impact fee. Fee programs can be time consuming to develop, monitor, and maintain but are recognized as an acceptable form of CEQA mitigation if they can demonstrate that the mitigation projects will be fully funded and implemented.

Another approach is the creation of mitigation "banks" or "exchanges." Under the banking approach, a developer commits funds instead of undertaking specific on-site mitigation projects, and then a local or regional authority could aggregate these funds and deploy them to top-priority mitigation projects throughout the jurisdiction. Similarly, in a mitigation exchange, developers would be permitted to select from a list of pre-approved mitigation projects throughout the jurisdiction (or could propose a project of their own), without needing to mitigate their transportation impacts on-site. Both models can be applied at a city, county, regional, and potentially state scale.

Programs can pool development mitigation contributions to pay for larger and more effective VMT reduction strategies that are not be feasible for individual projects. The concept of a programmatic approach to impact mitigation has been used for other technical subjects including transportation, air quality, greenhouse gases, and habitat protection.

Like all mitigation, substantial evidence would be required to show that the projects covered by the bank would achieve expected VMT reductions, with some form of monitoring required. The verification of how much VMT reduction is associated with each dollar or credit may be challenging to determine. It may also be difficult to determine how many years of VMT reduction are required in order to declare a VMT impact less than significant under CEQA.

This strategy supports the other transportation strategies in the Sonoma Climate Mobilization by providing a new funding source for larger infrastructure projects that could not be funded by any single development project.

Co-benefits:	Potential implementation partners:
 Simplifies mitigation process for municipalities and developers Provides funding for projects with greater GHG reduction potential 	SCTA, MTC, and municipalities/county

Pillars for success:

- Effective method for determining expected VMT reductions
- Process in place to prioritize projects for funding based on VMT and GHG impact

Sector: Waste

The emissions resulting from the disposal of solid waste produced in Sonoma County were approximately 6 percent of total emissions in 2018. While this is a much smaller percentage of Sonoma County's total emissions, the amount of solid waste disposed reflects the impact of the county's consumption of goods and services. As described earlier, emissions from consumption are a significant component of the county's carbon footprint.

To achieve our goal of zero waste and reduce emissions related to the upstream and downstream impacts of our purchases, we must shift to more sustainable consumption practices such as reducing what we consume, reusing what we can, and recycling or composting everything else to achieve 100 percent diversion from the landfill.

Strategy 6. Zero Waste by 2030

Develop policies, programs, and education campaigns to eliminate waste sent to landfills.

Objectives:

- 6.1 Develop a program to achieve zero organic waste being sent to landfills by 2030.
- 6.2 Adopt a countywide construction and demolition ordinance that requires contractors to meet recycling goals beyond CALGreen, including a requirement for tracking and reporting construction waste disposal.
- 6.3 Launch a community-wide zero waste campaign with a focus on reusing waste products and reducing consumption of new materials.

Discussion:

Zero Waste Sonoma is leading efforts in Sonoma County to achieve zero waste by 2030. This regional agency has developed a model zero waste resolution and is working with local jurisdictions to support its adoption. To date, six of the ten jurisdictions have adopted the resolution.

Co-benefits:	Potential implementation partners:			
 Reduction in consumption-based GHG emissions 	SCTA, MTC, and municipalities/county			
Pillars for success:				
 Effective method for determining expected VMT reductions Process in place to prioritize projects for funding based on VMT and GHG impact 				

Initiative: Carbon Sequestration and Ecosystem Services

Carbon sequestration is a critical part of achieving the Sonoma Climate Mobilization goal of carbon neutral by 2030. There are existing efforts on rural lands to increase sequestration, and the potential exists to increase sequestration in the urban parts of the county as well. Sonoma County's forestlands and wetlands, especially the Sonoma Baylands, provide additional capacity to sequester carbon.

Sonoma County can achieve carbon neutrality by fully engaging the owners and operators of working farms and ranches through programs to increase carbon sequestration in soils and plants. If Sonoma County reduces its emissions to 80 percent below 1990 levels by 2030, the remaining carbon will need to be sequestered to achieve carbon neutrality. Terrestrial sequestration is ultimately the best available strategy to move beyond carbon neutrality to a net drawdown of CO₂, while also offering many ecosystem services and agricultural production co-benefits.

There has been extensive work undertaken over the past decade by the Sonoma County Agricultural Preservation and Open Space District to identify and quantify the benefits of ecosystem services provided by natural and working lands. Some of these benefits include improving water quality and delivery, preventing soil erosion or accumulation, keeping disease organisms in check, assisting with nutrient cycling, providing the physical materials that society uses such as lumber and food, and maintaining genetic and biological diversity. Another important function that ecosystem services provide is allowing humans to interact meaningfully with nature, such as providing spiritually significant natural areas, places for recreation, and opportunities for scientific research and

education. Taken together, the combined benefits of carbon sequestration and ecosystem services highlight the important nexus of climate protection, ecological biodiversity, and human health.

Strategy 7. Protect Existing Carbon Stocks

Goal: Maintain the carbon that is currently held in soil and plants.

Objectives:

- 7.1 Support the implementation of forest management practices that protect existing carbon stocks by reducing the risk of catastrophic wildfire. Increase carbon sequestration by growing large, mature trees and moving surplus biomass to the soil carbon pool through mulching in place, prescribed fire, conservation burns, and off site uses, including compost and mulch production.
- 7.2 Work with the Sonoma County Agricultural Preservation and Open Space District on strategic land protection and stewardship actions that increase carbon sequestration and minimize conversion to land uses that have a lower capacity to sequester carbon.
- 7.3 Work with Permit Sonoma to implement existing and develop new land use policies (e.g., Sonoma County General Plan, Williamson Act, etc.) that result in measurable carbon sequestration.
- 7.4 Implement countywide fire-safe landscape practices, tree care and protection, and compost/mulch applications
- 7.5 Partner with outdoor recreation and environmental education partners to offer tours of sequestration projects to members of frontline communities.

Discussion:

In 2016, the Climate Action Through Conservation (CATC) initiative 15 completed a carbon inventory for Sonoma County to estimate the amount of carbon sequestered in different land-cover classes (e.g., agriculture, grassland, shrubland, and forests.) The inventory found that from 1990 to 2010, carbon sequestration increased in the county by more than 15 million MTCO $_2$ e. The majority of this increase was attributed to the expansion of forest cover in the county. The results highlight the importance of management practices that promote healthy forests and minimize the risk of carbon loss through conversion to other uses or through catastrophic wildfires such as those that swept through Sonoma County in 2017, 2019, and 2020.

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¹⁵ https://www.sonomaopenspace.org/projects/catc/

Co-benefits:

- Increased soil water holding capacity
- Increased soil water infiltration rates
- Increased groundwater recharge
- Reduced fertilizer and pesticide use
- Increased agricultural productivity
- Increased biodiversity
- Increased resilience to extreme weather events
- Job creation

Potential implementation partners:

- Forest Management Practices Resource Conservation Districts, CalFire, Natural Resources Conservation Service (NRCS), UC Cooperative Extension, Rebuild North Bay Foundation, consulting foresters, Good Fire Alliance, LandPaths, Sonoma County Agricultural Preservation and Open Space District, Sonoma County Regional Parks, Sonoma Land Trust, Audubon Canyon Ranch, private conservation NGOs, and public and individual landowners
- Land Conservation Work Sonoma County Agricultural Preservation and Open Space District, Permit Sonoma, municipalities, Sonoma Land Trust, Bodega Land Trust, Greenbelt Alliance, American Farmland Trust, Community Alliance with Family Farmers, tribal councils, and individual landowners
- Fire Safer Landscape Practices Permit Sonoma, Fire Safe Sonoma, Resilient Landscapes Coalition, Renewable Sonoma, local fire safe councils, and individual landowners

Strategy 8. Increase Carbon Stocks

Goal: Capture more carbon in soils and plants

Objectives:

- 8.1 Support local agricultural producers to plan, implement, and scale carbon sequestration.
- 8.2 Increase our urban forest cover starting with communities impacted by recent fires and in frontline communities.
- 8.3 Implement regenerative land management practices at the municipal scale, including practices that draw down carbon, reduce GHG emissions, and improve watershed and human health.
- 8.4 Develop engagement strategies that specifically target members of frontline communities to increase urban forest cover, implement regenerative land management practices, and improve human health.

Discussion:

Sonoma County is uniquely positioned to lead on carbon farming and sequestration and to develop a model that can be replicated throughout the state and nation. Sonoma County has a strong set of partners, anchored by the Resource Conservation Districts (RCDs), UC Cooperative Extension, the

Carbon Cycle Institute, and USDA-NRCS, which have the experience and long-term working partnerships with farmers and ranchers who are implementing conservation projects and carbon farming plans.

Carbon farming is good for the health and resilience of the agricultural industry in Sonoma County, and its farmers and ranchers are already working with the RCDs to create and implement Carbon Farm Plans. While there are state and federal funding resources for carbon farming initiatives to leverage, local matching funds are also needed to bring these state and federal funds to Sonoma County and to scale the work even further.

Farmers and ranchers engaged in carbon farming can gain a marketing benefit by selling their carbon farming story to consumers. Some consumers may be willing to pay a premium for climate-beneficial food and fiber that also is healthy for regional ecologies and the planet. Farmers and ranchers are seeing increased soil fertility and on-farm production, including increased forage production. Carbon farming can decrease irrigation needs and thus improve drought resilience while reducing demand on limited ground and surface water resources.

Many carbon farming practices have benefits to water quality and quantity, as well as to wildlife habitat — such as hedgerows and riparian restoration projects supporting pollinators, fish, birds, and other wildlife. Carbon farmers and ranchers see themselves, and are recognized by their community, as part of the solution to climate change and its catastrophic consequences. Many farms and ranches also include forests and woodlands as part of their larger landholdings. Managing these resources for climate change and drought resilience through carbon farming approaches can reduce vulnerability to wildfire.

Co-benefits:

- Increased soil water holding capacity
- Increased soil water infiltration rates
- Increased groundwater recharge
- Reduced fertilizer and pesticide use
- Increased agricultural productivity
- Increased biodiversity
- Increased resilience to extreme weather events
- Reduced heat island effect
- Reduced summer cooling required
- Job creation

Potential implementation partners:

- Support local agricultural producers:
 Resource Conservation Districts (RCDs),
 UC Cooperative Extension, Carbon Cycle
 Institute, USDA-NRCS, Sonoma County
 Department of Agriculture, Community
 Alliance with Family Farmers, Sonoma
 County Farm Bureau, Sonoma County
 Winegrowers, farmers and ranchers,
 agricultural workers
- Increase urban forest:
 Municipalities/county; North Bay
 Conservation Corps (NBCC), UC
 Cooperative Extension
- Implement regenerative land management practices: Municipalities, Safe Ag Safe Schools (SASS) coalition, Carbon Cycle Institute, ReScape California, California Landscape Contractors Association (CLCA), and Russian River Watershed Association

Strategy 9. Scale Up the Infrastructure for Sequestration

Goal: Build the physical, social, and economic capacity for successful carbon sequestration. Objectives:

- 9.1 Create a "sequester local" program to help Sonoma County businesses reinvest carbonoffset dollars within the community.
- 9.2 Secure permanent Resource Conservation District funding for scaling carbon farming, starting with \$2 million and increasing to \$20 million per year within the next ten years.
- 9.3 Scale up the infrastructure necessary to fully implement Carbon Farm Plans.
- 9.4 Develop a comprehensive residential carbon gardening education campaign.
- 9.5 Develop a carbon sequestration training for landscape professionals, and County and municipal parks and recreation staff.
- 9.6 Use policies, civic incentives, and educational efforts to take action and build civic engagement toward achieving Sonoma County's ambitious climate action goals.
- 9.7 Implement additional equity recommendations identified by the Climate Action Advisory Committee and other community partners in Strategy 12: Engage, Educate, Empower for Equitable Climate Action.

Discussion:

To implement the sequestration strategies designed to maintain and increase carbon stocks, significant investments in Sonoma County's physical, social, and economic capacity are needed. Funding and resources such as adequate supply of plants and compost must be secured to significantly scale up carbon farming.

To build the social capital and community support for sequestration, this strategy includes an objective to engage community members in programs that increase carbon sequestration in urban spaces.

In an urban context, municipalities can implement practices to sequester carbon such as using compost and mulch on city-owned land and encouraging residents to engage proactively with the carbon cycle by implementing carbon gardens in their yards and neighborhoods. Residents can be encouraged to reduce food waste that would otherwise be sent to landfills through the implementation of food rescue programs, backyard and small community composting projects, and by placing organics in the green can for weekly pickup by waste haulers.

Increasing awareness of carbon sequestration in the urban community can also increase markets for carbon-farmed agricultural products while helping to build local food security and increase climate resilience. Focusing on a multi-benefit approach in urban areas that includes water conservation, stormwater retention, and watershed health will provide additional funding sources through existing municipal programs. Finally, an urban sequestration strategy provides an opportunity to build the civic engagement needed for a bold climate vision.

Co-benefits:

- Increased community support for carbon sequestration
- Increased soil water holding capacity
- Increased soil water infiltration rates
- Increased groundwater recharge
- Reduced fertilizer and pesticide use
- Increased agricultural productivity
- Increased biodiversity
- Increased resilience to extreme weather events
- Job creation

Potential implementation partners:

- Sequester local program: REcology, Zero Foodprint, Zero Waste Sonoma, and local businesses
- Secure permanent RCD funding: Resource Conservation Districts, Zero Foodprint, REcology, and State of California
- Scale up the infrastructure for carbon farming: The Center for Social and Environmental Stewardship, Nursery at Sonoma County Jail Industries, California Native Plant Society Milo Baker Chapter, North Bay Conservation Corps, Point Blue Conservation Science (STRAW program), Zero Waste Sonoma, Laguna Foundation, and Petaluma Wetlands Alliance
- Carbon gardening residential education program: Zero Waste Sonoma, Daily Acts, Sonoma County Master Gardeners, and other community-based organizations
- Carbon sequestration training: ReScape California, California Landscape Contractors Association (CLCA); County and City parks and recreation departments., Russian River Watershed Association, Green Garden Group, Daily Acts, and Sonoma County Master Gardeners
- Civic engagement: Daily Acts, RCPA, Municipalities, Los Cien, North Bay Organizing Project, Latino Service Providers, La Plaza, Sunrise Movement, LandPaths, and other community-based organizations

Pillars for Success for all Sequestration Strategies:

- Sustained leadership and commitment from the County to engage and incentivize the agricultural and urban community in carbon farming/urban sequestration.
- Focused funding and incentives.
- More technical service providers who understand conservation planning, agriculture, horticulture, carbon cycling, and climate science.

- A scaled labor force to work with our carbon farmers to plan, implement, and maintain climate-beneficial projects.
- Expanded infrastructure focused on tools and materials such as local nurseries, organic waste collection and processing, and technical assistance and regulatory support for on farm composting.
- Community engagement efforts that raise awareness about the benefits of carbon farming and urban sequestration and regularly update the community on progress.
- An integrated approach to outreach and education on carbon farming and gardening programs and concepts that maximizes existing programming and increases funding opportunities.
- Development of equitable land use and housing policies that meet both sequestration and affordable housing goals and ensure amount of green space is increased in traditionally under-resourced neighborhoods.

Initiative: Resilience and Adaptation

In April 2016, the North Bay Climate Adaptation Initiative (NBCAI) released *A Roadmap for Climate Resilience in Sonoma County*. The roadmap provides a framework and recommendations for how Sonoma County should approach climate resilience. ¹⁶ The roadmap defines a set of nine climate resilience goals that are designed to address extreme heat, drought, wildfires, fewer freezing nights, extreme floods, higher sea level, and high storm surges. Each goal has a set of priority actions to address the climate hazards related to that goal.

Since the roadmap was published, Sonoma County has experienced more frequent and severe climate hazards including devastating Russian River floods in 2019 and extreme wildfires in 2017, 2019, and 2020. These climate hazards disproportionately affect our local communities rendered most vulnerable by historically inequitable policies. As revealed in the aftermath of the 2017 Tubbs Fire, disasters exacerbate existing inequities in access to affordable housing, food, and good paying jobs. The 2017 fires increased already high housing costs and triggered job losses in businesses impacted by the fires such as tourism, hospitality, and retail.¹⁷

Given current and forecasted climate conditions, both wildfires and flooding will continue to be a significant risk for Sonoma County. Buildings, energy systems, and transportation systems must become more resilient to wildfires. Power shutoffs as a wildfire prevention strategy will continue to pose threats to human health and safety if we do not create a more resilient electricity grid. As we shift away from fossil fuel use, we will become more dependent on electricity to power our buildings and transportation systems. The strategies in this section are designed to build on existing resilience and adaptation efforts underway or planned in the county. The strategies will be developed using an equity lens to ensure they address the disproportionally negative outcomes for frontline communities.

¹⁶

https://docs.google.com/viewer?a=v&pid=sites&srcid=bm9ydGhiYXljbGltYXRlLm9yZ3x3d3d8Z3g6NGZkMTIyMGNjOGY1ODIwMQ

¹⁷ National Academies of Sciences, Engineering, and Medicine 2020. Implications of the California Wildfires for Health, Communities, and Preparedness: Proceedings of a Workshop. Washington, DC: The National Academies Press.

Strategy 10. Energy Grid for the Future

Goal: Increase resilience of the electrical grid and prepare for electrification of buildings and transportation systems.

Objectives:

- 10.1 Develop both community and municipal microgrids, focusing on supporting critical infrastructure and vulnerable populations first.
- 10.2 Advocate for the creation of a reliable and robust energy grid that will support increased loads from electrification and not be disrupted by wildfires or other climate related risks.

Discussion:

There is growing interest in Sonoma County in using microgrids to build resiliency into our electric grid. Stone Edge Farm has a fully operational microgrid and the Santa Rosa Junior College is implementing a microgrid demonstration project. WeAct, a group of local citizens in Windsor, recently prepared a report exploring the feasibility of building and operating "clean microgrids" in Windsor to decentralize energy generation and storage and provide backup power during emergencies. The County of Sonoma has included support for microgrids as part of its draft five-year strategic plan. The Redwood Coast Municipal Airport microgrid project in Mendocino County and Santa Barbara's school district microgrids are examples of replicable models in other parts of California.

In addition to microgrids, the solar plus battery backup objective defined earlier under the All-Electric Buildings Campaign strategy also contributes to more reliable power for property owners who can implement this solution. Sonoma Clean Power is conducting a feasibility study on the installation of battery backup systems for school sites that already have solar power. Other existing residential, commercial, and municipal buildings should consider this strategy as a way to reduce their vulnerability to power outages and help to balance supply and demand on the grid.¹⁸

The combination of increased threats to energy grid stability from wildfires and the increased loads from electrification of building and transportation systems require a transformation of our energy grid to increase capacity and reliability. While not under local control, Sonoma County should advocate for policy and funding solutions at the state level to transition to a future energy grid that supports our resilience and decarbonization goals.

Co-benefits:

- Energy supply that is not disrupted by wildfires and other climate hazards
- Increased community resilience during emergencies

Potential implementation partners:

County of Sonoma Energy and Sustainability Division, Sonoma Clean Power, PG&E, City of Healdsburg Electric Utility, municipalities/county, County of Sonoma Office of Recovery and Resiliency, installers/contractors, local community-based organizations, especially those representing Black, Indigenous, Latinx, and other communities of color.

¹⁸ https://www.energy.gov/eere/articles/confronting-duck-curve-how-address-over-generation-solar-energy

Pillars for success:

- Regulatory and power market changes to support microgrids
- Increased incentives for solar plus battery solutions for critical infrastructure and vulnerable populations
- Land use policies that support installation of microgrid infrastructure

Strategy 11. Climate Resilient Sonoma County

Goal: Address the economic, social, and environmental impacts of future wildfires, floods, extreme heat, drought, sea level rise, and other climate change risks.

Objectives:

- 11.1 Support launch of a local vegetation/forest management and fire prevention corps.
- 11.2 Support inclusion of climate adaptation and resiliency strategies in safety elements of local general plans.
- 11.3 Implement priority recommendations from the Urban Land Institute (ULI) Resilience
 Advisory Services Panel, which will assess Sonoma County land use, development, and local
 energy grid strategies in relation to community preparedness and wildfire and economic
 resilience.
- 11.4 Implement additional equity recommendations identified by the Climate Action Advisory Committee and other community partners in Strategy 12: Engage, Educate, Empower for Equitable Climate Action.

Discussion:

The increasing frequency and severity of wildfires in the region has increased interest in land and forest management practices to prevent or minimize the impact of future wildfires. The launch of a local vegetation/forest management and fire prevention corps would support a more proactive approach and be a good source of local jobs.

Under Senate Bill 379, municipalities and the County are required to include climate adaptation and resilience in the safety elements in the next revision to their general plans or local hazard mitigation plans. A collaborative effort is currently being led by Permit Sonoma to develop a multijurisdictional hazard mitigation plan to meet this requirement. Additional partners in this effort include the City of Santa Rosa, City of Cotati, Town of Windsor, City of Sonoma, Sonoma County Agricultural Preservation and Open Space District, Sonoma Resource Conservation District, Gold Ridge Resource Conservation District, Timber Cover Fire District, North Sonoma Coast Fire District, Cloverdale Fire District, Sonoma County Fire District, and Rancho Adobe Fire District.

With support from the Kresge Foundation, the RCPA, the City of Santa Rosa, and the County of Sonoma engaged with the Urban Land Institute (ULI) in 2019 to assemble a Sonoma County Resilience Advisory Services Panel. The purpose of the advisory services panel is to assess land use, development, and local energy grid strategies in relation to community preparedness and wildfire and economic resilience. The advisory services panel was scheduled to meet in March 2020 but was postponed to 2021 because of COVID-19.

Co-benefits:

- Job creation
- Increased energy grid resilience
- Reduced fire risk
- Fewer economic disruptions

Potential implementation partners:

RCPA, Urban Land Institute, Pepperwood Preserve, Sonoma Ecology Center, fire departments, County of Sonoma Department of Emergency Management, County of Sonoma Office of Recovery and Resiliency, Sonoma Clean Power, municipalities/county, local community-based organizations, especially those representing Black, Indigenous, Latinx, and other communities of color

Pillars for success:

- Ability to effectively conduct ULI Resilience Advisory Services Panel remotely or using a hybrid model.
- Funding for launch of local vegetation/forest management and fire prevention corps.
- Coordination with sequestration initiatives to leverage resources and approaches.
- Use of equity-centered approach to planning that addresses different resiliency limitations
 placed on communities made vulnerable by inequitable systems due to these communities
 consistently being under-resourced.

Initiative: Equity and Community Engagement

Too often the members of our community who are most impacted by climate change are not involved in creating solutions that affect their lives. When designed with equitable outcomes as a priority, the strategies in the Sonoma Climate Mobilization have the potential to significantly improve the quality of life for all members of our community through increased accessibility to jobs and services, improved indoor and outdoor air quality, safer and more comfortable homes, and other co-benefits from the reduction of greenhouse gas emissions.

Current solutions may be out of reach to frontline communities for many reasons including cost, accessibility, and cultural factors. The purpose of the strategies in this section is to increase civic engagement in the development of the Sonoma Climate Mobilization strategies, resulting in equitable outcomes that improve the quality of life for all residents in Sonoma County.

Strategy 12. Engage, Educate, and Empower for Equitable Climate Action

Goal: Coordinate with local leaders and develop a campaign to engage residents from frontline communities and key stakeholders in the Sonoma Climate Mobilization.

Objectives:

- 12.1 Ensure that the evaluation process for selecting incoming members of the Climate Action
 Advisory Committee includes considerations that encourage a more diverse representation
 from a wider range of stakeholders, representing various communities and sectors, to guide
 the development and implementation of the Sonoma Climate Mobilization campaign with a
 specific focus on equity.
- 12.2 Develop a strategic engagement, education, and empowerment campaign to listen to the needs of frontline communities and stakeholders; facilitate discussions on available climate

- solutions; and collaborate with strategic partners that can help advance implementation by aligning climate solutions with pressing community needs.
- 12.3 Partner with community-based organizations to support the engagement, education, and empowerment campaign, with a focus on frontline communities and those disproportionately affected by climate change.
- 12.4 Work with the Climate Action Advisory Committee and other community partners to analyze input given during the community listening sessions and create criteria to evaluate policy and investment prioritization decisions to support and empower those most vulnerable to the impacts of climate change during implementation.
- 12.5 Initiate discussion among RCPA members, partners, and other local community-based organizations on how best to integrate human health, social wellbeing, and community resilience into the Sonoma Climate Mobilization, potentially using a collective impact approach to develop a common agenda, shared measurement system, and continuous communication across organizations.

Discussion:

Over the next ten years, Sonoma County needs to make significant changes in all aspects of how we live — our transportation systems, homes, food, and consumption of goods and services. These changes will only be possible when residents understand the magnitude of the climate crisis, recognize they can play a role as part of the solution, and have the means to make the changes necessary in their own lives to affect change.

Community members representing our entire community, especially those disproportionately impacted by climate change, must be involved in the design and implementation of the local policies and programs that will be developed as part of the Sonoma Climate Mobilization strategy.

Co-benefits:

- Increased awareness and support for climate strategies
- More creative and effective solutions to climate challenges

Potential implementation partners:

RCPA, Sonoma County Office of Equity, municipalities/county, local businesses, Sonoma State University, Santa Rosa Junior College, neighborhood groups, schools, homeowner associations, and local community-based organizations, especially those representing Black, Indigenous, Latinx, and other communities of color

Pillars for success:

- Funding to support participation by community-based organizations.
- Successful evolution of the Climate Action Advisory Committee to include a more diverse representation of Sonoma County's population.

Strategy 13. Equity and Climate in All Policies

Goal: Develop processes and tools to support the inclusion of equity and climate in all policies.

Objectives:

- 13.1 Research national models of equity impact assessments and how they have been applied to the evaluation of proposed climate policies and programs for their impacts on frontline communities.
- 13.2 Work with community-based organizations and local jurisdictions to develop and implement an equity impact assessment process and evaluation tools to understand the impacts of proposed climate policies and programs on frontline communities.
- 13.3 Develop a checklist collectively with specific criteria and requirements for staff reports that require local Councils and Boards to consider how each policy and planning decision will or will not advance climate goals of decarbonization, carbon sequestration, climate adaptation, community resilience, and social equity.
- 13.4 Develop a Sonoma County Climate Resilience Index that leverages existing indicators to measure equity for each initiative area, including local "green" job creation and climate impacts, and track progress on these indicators at the individual strategy level over time.

Discussion:

The purpose of this strategy is to integrate equity and climate action into all local government policies and programs. Rather than treating equity and climate as separate subjects, the strategy will create and implement new tools and processes that facilitate the consideration of equity and climate in every decision made by local government. Our focus is on equitably addressing climate change, and to actualize these goals, we recognize the need to support the creation of dignified, local, well-paying jobs that advance decarbonization, sequestration, and adaptation efforts.

Frontline communities will continue to experience disproportionately negative impacts from climate change unless steps are taken to address these impacts. Other cities have developed successful models to integrate equity into their climate action planning processes. The City of Oakland recently released its *Equitable Climate Action Plan* (ECAP)¹⁹. This plan includes a Racial Equity Impact Assessment and Implementation Guide that provide recommendations and best practices to support city staff in maximizing equity throughout the implementation of the ECAP.

The City of Seattle uses a *Racial Equity Toolkit*²⁰ to address the impacts on racial equity in its policies, initiatives, programs, and budget issues. Through its membership in the Urban Sustainability Directors Network, the RCPA has access to additional resources to support the development of an equity impact assessment process for the Sonoma Climate Mobilization.

Sonoma County is fortunate to have numerous community-based organizations representing the diversity of our community. These organizations will play a key role in developing the equity and climate assessment tools.

¹⁹ https://www.oaklandca.gov/projects/2030ecap

²⁰ http://www.seattle.gov/civilrights/what-we-do/race-and-social-justice-initiative/racial-equity-toolkit

Co-benefits:

- Equity is addressed as part of all climate solutions
- Integration of equity and climate into policies saves time for local government staff
- Ensures benefits are available for all residents

Potential implementation partners:

RCPA, Sonoma County Office of Equity, Government Alliance on Race and Equity, municipalities/County, and local communitybased organizations, especially those representing Black, Indigenous, Latinx, and other communities of color

Pillars for success:

- Funding to support community-based organizations to participate in process and tool development.
- Strong partnership with RCPA members and partners to develop effective equity and climate assessment tools and processes.

Implementation Recommendations

The RCPA has developed the Sonoma Climate Mobilization Strategy to provide a framework for Sonoma County to achieve the ambitious goal of becoming carbon neutral by 2030 using an equity-centered process. While RCPA has a key role to play in coordinating implementation of the strategy, success in achieving our goal will require a collaborative, community-wide mobilization of resources across all sectors — local government, community-based organizations and nonprofits, business, labor, educational institutions, and individual community members.

Successful implementation of the Sonoma Climate Mobilization Strategy will require close coordination and alignment with RCPA's members and partner agencies. The cities of Santa Rosa, Rohnert Park, and Petaluma are in the process of updating their General Plans and will include sections on climate action. The County of Sonoma is developing a new five-year strategic plan that includes Climate Action and Resiliency as one of its five strategic pillars. The County will also be updating its General Plan and Local Coastal Plan in the next few years.

Sonoma Clean Power's Programs Division has developed a Strategic Action Plan that defines program strategies with supporting immediate, near-term, and long-term actions. At a regional level, the RCPA is assisting the Bay Area Air Quality Management District with the implementation of its 2017 Clean Air Plan, which aligns well with Sonoma Climate Mobilization strategies. RCPA is also working with the Northern Sonoma County Air Pollution Control District to align our strategic goals.

More detailed implementation plans and funding options for each strategy will be developed in 2021. A high-level timeline is shown below.

2021	2022–2025	2025–2030
 Expand representation on the Climate Action Advisory Committee Create Sonoma Climate Mobilization Implementation and Funding Plan Identify funding sources Implement strategic engagement, education, and empowerment campaign 	 Implement Sonoma County Climate Resilience Index Secure funding Implement strategies Monitor progress** and adjust plans as needed 	 Secure funding Implement strategies Monitor progress** and adjust plans as needed

**Metrics:

- RCPA GHG Inventory Updates
- Climate Resilience Index
- Implementation plan progress updates

Conclusion

To achieve the goal of carbon neutrality by 2030 using an equity-centered process, Sonoma County will need to build on its previous successes and significantly accelerate and scale up its climate action. RCPA and its members and partners will need to develop new relationships with frontline communities in order to embed equity in all climate policies. The Sonoma Climate Mobilization Strategy defines the high impact strategies that are necessary to achieve carbon neutrality. Many of the technologies and solutions needed to achieve carbon neutrality are known. The challenge is to secure the necessary resources and engage our entire community in an equitable transition from fossil fuels to a clean energy future and to implement strategies that sequester greenhouse gases.

Success in achieving our goal is also dependent on support from the state and federal government in the form of new climate legislation and funding to implement strategies like the All-Electric Buildings Campaign and EV Access for All Partnership. The Sonoma Climate Mobilization Strategy will be used to develop and coordinate Sonoma County's response to the climate emergency and track our progress toward achieving carbon neutrality by 2030.

In conclusion, the scientific imperative for action is clear, but the opportunity to innovate and transform ourselves and our social systems in ways that benefit the world is also unmistakable. While there is no denying the climate impacts we expect to see in Sonoma County—rising temperatures, increased drought, more intense storms, higher wildfire risk, just to name a few—there is also no denying that we must seize the opportunity for positive action.

By undertaking solutions that both mitigate and prepare for the effects of climate change, local government agencies within Sonoma County have the ability to preserve our human systems, our built environment, and natural ecosystems from devastating property damage, loss, and devaluation. We must work fast, we must work smart, and we must work together.

Addendum: Equity Questions for Further Discussion

The questions for reflection below were raised in the Diversity, Equity, and Belonging (DEB) Analysis conducted by Equity First Consultants in February 2021. They are included as an addendum to this strategy document to assist RCPA in determining equity actions to consider during implementation.

Overarching Opportunities

- What does it look like to build a structure for this action plan that embeds communities' genuine engagement?
- How might RCPA make space in its action plan for the living realities of communities that are rendered vulnerable by oppressive systems?
- How might RCPA build measurements and analyze its role in addressing that the increasing impacts of climate change will be carried most by low-income communities of color?
- What is the lever that RCPA has the power to utilize to embed equity in prioritizing actions to support these communities?
- What might it look like to indeed center this Draft Strategy around equity and justice?
- What might it look like to make a clear commitment to equity at the start of the action planning process?

Introduction

 How might the introduction honor the realities of communities who find themselves affected by the history of discrimination in Sonoma County?

Developing Cost Estimates

- How might RCPA build equity into its cost estimates and center the needs of communities rendered most vulnerable by oppressive systems?
- How might RCPA center equity and cultural responsiveness in its development of a detailed implementation?

- How will BIPOC communities, communities living in poverty, youth, elderly, renters, etc., be affected by these changes and who is there to represent their concerns, challenges and to expose the systemic barriers they will be faced with in adopting and adapting to these changes?
- How can RCPA account for a more balanced demographic breakdown of entities and individuals engaged in drafting this Draft Strategy moving forward?
- How can stakeholders be balanced between content expertise and lived experience expertise?
- Whose voices are missing from the current draft, and what is the opportunity for including their voices?
- How can you design to the margins moving forward?
- If equity is your overarching commitment, how will it be measured within each initiative?
- How will RCPA ensure equitable measures and outcomes?
- How will RCPA ensure that resources are not being directed to already-resourced communities and entities, i.e. Contracts?
- How might RCPA intentionally build equity into its costs?
- How might an equity focus expand RCPAs funding sources?

Strategies

- How might the RCPA community interrogate the concepts of "equity," "intersectionality," and "justice"?
- How might the RCPA community investigate and identify its norms and assess who these norms serve to further exclude, including communities already potentially excluded by the environmental sector?
- What would it look like if all parts of the community were represented?
- While there is a specific equity initiative, how will you resource people to become engaged?
- How may RCPA open itself up to seeking feedback on how these and/or other strategies may be most effective, impactful, or essential for others in the community?
- Is the goal to get all parts of the community, specifically those most historically harmed by these same systems, involved to help make decisions and do what is collectively decided?

Initiative 1: Decarbonization

- Which equity indicators can be included that hold RCPA accountable for practicing equity?
- Has there been a consideration for how these strategies could unintentionally harm parts of the community?

Initiative 2: Carbon Sequestration and Ecosystem Services

- How will the considerations, needs, and interests of some of the county's most vulnerable workers be protected and uplifted?
- Has the differential impact and trade-offs of this work and investment in this priority over others been vetted with all community members?
- Do these environmental priorities, including the strategies and objectives, reflect the most historically marginalized by the current system concerns and lived experiences?
- Whose voices, experiences, or concerns have not been heard in making these decisions?

- What will the people who still have to be invited to the table be empowered to do?
- Which community partners would best support RCPA in creating a culturally responsive and equitably funded implementation plan?
- How may RCPA set up partners for success in accounting for and practicing equity?
- What success indicators need to be added for every goal that centers communities marginalized by the system?
- What success indicators ensure that the strategies are designed to the margins and hold those historically harmed in the center for all work?
- How might RCPA begin developing, evolving, and transforming practices to ensure they are sitting on the pillars of DEB?
- How might RCPA use all trained community members in areas of DEB to build these practices?
- For example, how might costs for upgrades be potentially passed on to renters?
- What protections would renters and fixed income homeowners have in addressing these mandates?
- What are some of the interactions between sequestration and housing justice?
- Who will be tasked with and held accountable for resourcing green space in traditionally under-resourced neighborhoods?
- How will you ensure that these spaces will not come at the expense of affordable housing?
- How will families who already struggle to afford food be provided access to healthier food grown through these processes?
- What current policies, laws, and practices around zoning and housing might lead this initiative to roll out in an inequitable way, and how will you mitigate that?

Initiative 3: Resilience and Adaptation

- While the initiative clearly articulates the frequent and severe climate hazards that affect our area, is there space for the explicit recognition of these hazards disproportionately affecting the community rendered most vulnerable by systems of oppression?
- How may you incorporate recognition of the different resiliency limitations placed on communities made vulnerable by systems of oppression due to these communities' consistently being underresourced?
- What data is available to track the resiliency of neighborhoods and communities after environmental emergencies?

- Are there ways to prioritize the neighborhoods with the most challenging time recovering, thus intentionally and purposefully buffering them from anticipated impact?
- The word "incentives" is used multiple times throughout the report. It will be essential to clarify how that word will translate into policy. Specifically, how will it be used to support community members who have been dispossessed of wealth and therefore are unable to pay upfront costs even when those costs may be reimbursed or provide long-term savings?

Initiative 4: Equity and Community Engagement

- What would it look like if equity and engagement were interwoven into every strategy?
- Who would be involved in the conversations, and how early in the process?
- How is the power structure of decision-making transparent?
- How might RCPA collect data for different community parts that specifically reflect their lived experiences- both qualitative and quantitative?
- How might the success indicators reflect the need to positively impact those communities first?