



SAN MATEO COUNTY, CA

CLIMATE
ACTION
PLAN



2022 COMMUNITY CLIMATE
ACTION PLAN SUMMARY

INTRODUCTION

The Community Climate Action Plan (CCAP) outlines priority actions to achieve a 45% reduction of greenhouse gas (GHG) emissions over 1990 levels by 2030 and carbon neutrality¹ by 2040. By reaching this goal, the San Mateo County will demonstrate leadership in climate action and keep pace with the rate of action needed to mitigate the harmful impacts of climate change that the County is already experiencing. San Mateo County residents and communities are already facing a new reality of coastal flooding, reduced water supply, severe fires, and heat waves occurring more frequently and severely than before. These are no longer hypothetical scenarios. These changes threaten our safety and health, and the natural ecosystems and resources we rely on—and exacerbate existing social and economic inequities. The wellbeing, viability, and sustainability of our society is at stake if the County and its partners do not successfully confront the multiple and deeply complex challenges society currently faces.

The County will need to significantly reduce energy consumption of our buildings and vehicles and shift from fossil fuels like gasoline, diesel, and natural gas to renewable sources like solar and wind. And yet, the challenge ahead is not just about the fuel that powers our homes and cars, it is about the quality of our communities and our built and natural environments. It is about people living dignified lives, it is about *all of us*. The challenge ahead also requires thinking seven generations ahead and considering the long-term costs and consequences of prioritizing near-term financial savings. Inherent in this challenge is also an opportunity to reduce energy and transportation costs, improve access to livable wage career opportunities, improve public health, improve neighborhood connectivity and resilience to power shutoffs and natural disasters, increase access to shared communal spaces, parks, and essential services, and support a vibrant and economically sustainable agricultural community. Taking steps to reduce climate pollution systematically and strategically in the County is an important aspect of protecting and investing in the health and wellbeing of our community for current and future generations. It also presents opportunities to improve access to healthy living environments and livable wage careers, among other equity-related social outcomes.

Plan History

The County's first plan, the Energy Efficiency Climate Action Plan (EECAP), was drafted in 2013 and set the path for meeting 2020 state goals early and laid important groundwork for further action on climate change. Much has changed since County staff completed the EECAP. State law, technology, and new policy pathways and programmatic partnerships have all evolved since 2013. The County accomplished some of what the EECAP laid out (launching what became Peninsula Clean Energy, for example), some of what the EECAP contains is outdated due to rapidly evolving science, or due to the changing social context within San Mateo County. This Community Climate Action Plan (CCAP or "plan") builds on the initial EECAP document and presents an updated pathway for addressing climate change in ways tailored to unincorporated San Mateo County.

¹ Carbon neutrality is where a jurisdiction sequesters or removes from the atmosphere the same amount of greenhouse gases it produces, creating a net carbon neutral state.

EQUITY

San Mateo County recognizes the inextricable link between racial equity and climate change. Globally and locally, climate change threatens many of the populations who are least responsible for causing climate change, as well as those who are already experiencing disproportionate environmental, economic, and social hardships. The COVID-19 pandemic has further exacerbated these inequities. The County's strategy to reduce greenhouse gas (GHG) emissions must put historically underserved communities at the center of its action and decision making. The County aimed to prioritize racial equity throughout the planning process and embed it in all measures through:

- **Inclusive community engagement.** The County prioritized outreach and engagement with minority and non-English speaking communities across the County and partnered with local community-based organizations to design events for accessibility and co-learning.
- **Targeted stakeholder consultation.** The County solicited community stakeholder feedback on all proposed measures in the CCAP and modified or added measures to bolster equity considerations, and minimize potential harmful impacts
- **Equity evaluation of proposed measures.** All proposed measures underwent an iterative and robust evaluation and prioritization process that included consideration of negative or positive equity impacts.

Implementation considerations: While equity must be considered in the measure development and prioritization process, it must also be an explicit consideration during measure implementation. The CCAP's implementation plan will include a checklist of questions and considerations for County staff to consult when putting the proposed measure into practice.

Climate action requires meeting the needs of the entire San Mateo County community. For more detail on the engagement process including how the County solicited feedback from constituents countywide and how this has influenced the plan's development, please see the section "How it Came Together" in the full draft plan.

How it Came Together

The CCAP is the outcome of a two-year collaborative and communitywide development process. The process included the following elements:

- 1) GHG emissions inventorying and forecasting
- 2) Stakeholder engagement with County staff, technical experts, and community representatives including over 30 one-on-one interviews and over 20 different group meetings
- 3) engaged over 500 unincorporated residents through:
 - Over 70 one-on-one interviews and briefings
 - Five in person public events
 - 15 online workshops
 - Over 100 survey responses
- 4) Iterative qualitative and quantitative evaluation and prioritization of proposed actions.

GREENHOUSE GAS EMISSION REDUCTION GOALS

San Mateo County's 2013 Energy Efficiency Climate Action Plan (EECAP) set a goal to achieve a 17% reduction below 2005 baseline emissions by 2020—a target that exceeds those set forth by California Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. The County met that goal early, achieving a 33% reduction in emissions over 2005 levels by 2017. This historic reduction is largely due to the establishment of Peninsula Clean Energy, San Mateo County's locally-controlled public electricity provider.

State policy has evolved since the EECAP was adopted in 2013. Senate Bill 32, signed in 2016, expands upon AB 32 and requires the state to reduce emissions to 40% below 1990 levels by 2030. Governor Jerry Brown issued Executive Order B-55-18, which established a statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045. More recently, in September, 2021, Governor Gavin Newsom issued Executive Order N-79-20, which requires the elimination of new gas-powered passenger vehicles by 2035, and Executive Order N-82-20, which enlists the state's natural and working lands in storing and removing carbon from the atmosphere to slow climate change, and calls for the preservation of 30 percent of the state's land and coastal water. Given this new context, the County has updated its communitywide targets. The CCAP lays a clear path to reduce GHG emissions by 45% by 2030, the most critical (and imminent) goal,² and to reach carbon neutrality by 2040,³ as seen in Figure 1. CCAP pathway compared with Business as Usual (BAU) scenario

² In order to meet the 2030 goal, the County must reduce emissions from the transportation, building energy, and solid waste sectors.

³ Carbon neutrality is when a jurisdiction sequesters or removes from the atmosphere the same amount of greenhouse gases it produces, creating a net carbon neutral state. In order to meet this goal, the County must reduce emissions further, as well as sequester the equivalent of its remaining emissions.

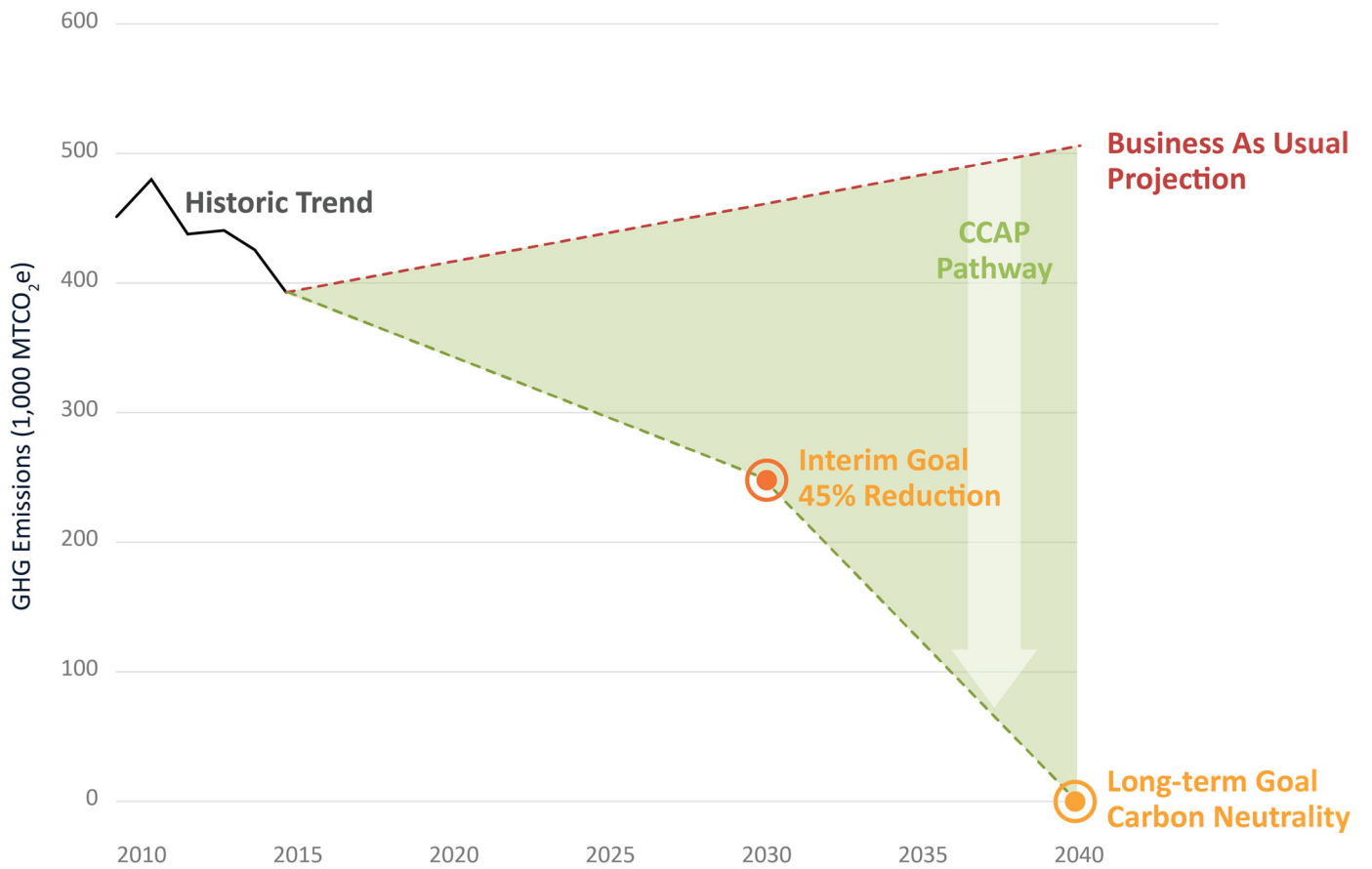


Figure 1. CCAP pathway compared with Business as Usual (BAU) scenario

HOW WE'LL GET THERE

To achieve the County's target of 45% emissions reduction by 2030 and carbon neutrality by 2040, the San Mateo County will need to implement a suite of policies, programs, and activities. Figure 2. Emissions reduction goals by 2030 Partnership and collaboration across institutional boundaries will be critical to meet climate goals. Partners will include state, regional, and federal agencies, energy providers, businesses, and community members and organizations. The County's strategies and actions are structured around four focus areas:



Building Energy

Strategies to reduce energy use and transition to renewable energy sources.



Transportation

Strategies to shift from fossil fuels to electricity and use transportation modes such as transit, walking, and biking.



Waste

Strategies to reduce waste generation, divert waste from the landfill, and purchase more sustainable goods and services.



Working Lands

Strategies to sequester carbon, enable climate beneficial agricultural practices, and support the local food system.

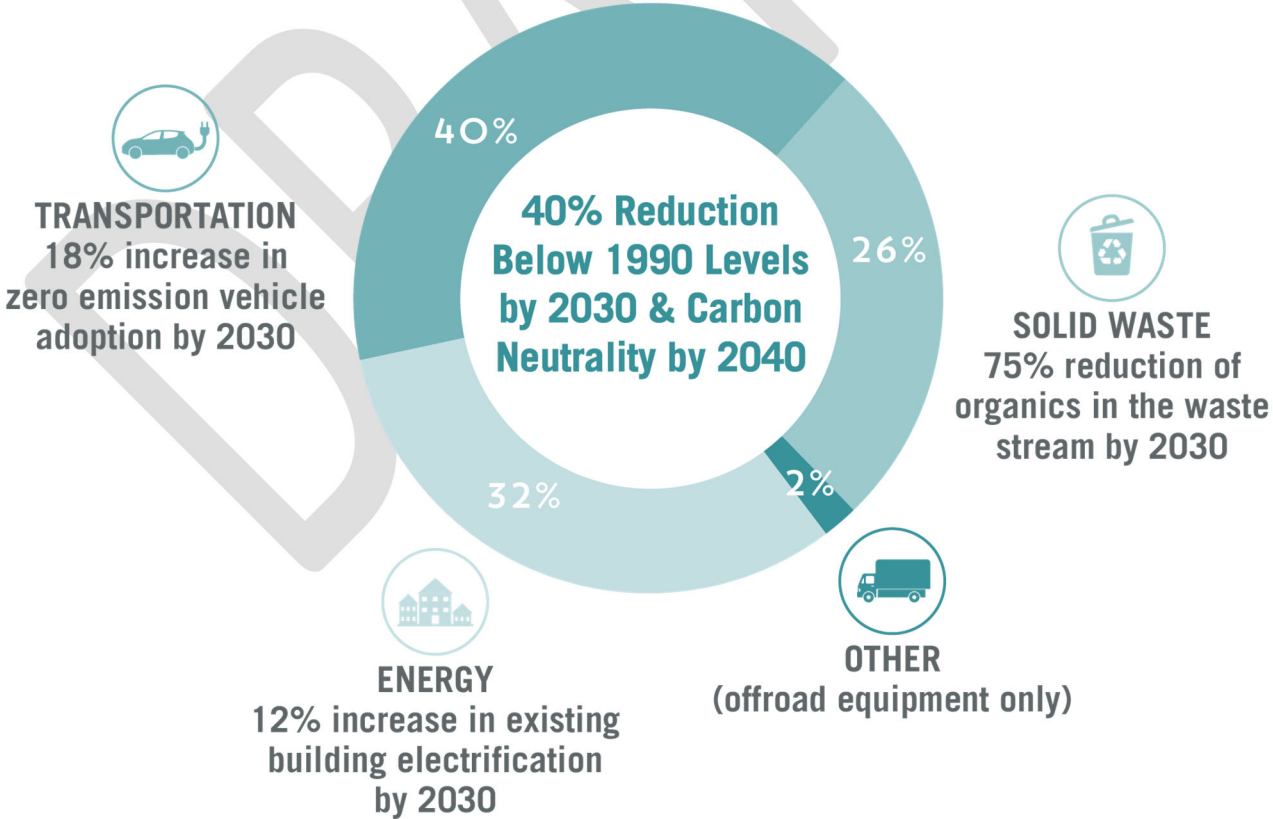


Figure 2. Emissions reduction goals by 2030

STRATEGIES & ACTIONS



BUILDING ENERGY

Buildings are the second largest contributor to GHG emissions in unincorporated areas of the County, accounting for 32% of all emissions. These emissions stem primarily from the use of natural gas in residential and commercial buildings. Transitioning away from natural gas in existing buildings will require electric replacements for existing equipment when it reaches the end of its useful life. The County has a unique degree of influence on buildings through building code and zoning. Therefore, in this sector, the County has more leverage to rapidly meet climate goals and simultaneously improve the quality of life for county residents. Presented in Figure 3 and Table 1 to Table 4 are the measures that are designed to reduce emissions from new and existing buildings.

To meet our climate goals, we will need to:



Figure 3. Buildings and energy requirements for meeting overarching climate goal

Summary of Building Energy Policy strategies⁴

- Policy B-1: Transition to all-electric new construction
- Policy B-2: Convert existing buildings to all-electric
- Policy B-3: Use microgrids⁵ to generate local renewable energy and improve resiliency
- Policy B-4: Pursue integrated opportunities to address climate adaptation and mitigation

⁴ **Note on the measure order:** the following tables of measures have been arranged by strategy; while the strategies are not listed in order of importance, the measures within them are arranged by importance in achieving emissions reduction goals, with the most important measures being at the top.

⁵ "Microgrids are localized grids that can disconnect from the traditional grid to operate autonomously. Because they are able to operate while the main grid is down, microgrids can strengthen grid resilience and help mitigate grid disturbances.... Microgrids support a flexible and efficient electric grid by enabling the integration of growing deployments of distributed energy resources such as renewables like solar." Office of Electricity, US Department of Energy, <https://www.energy.gov/oe/activities/technology-development/grid-modernization-and-smart-grid/role-microgrids-helping>.

TABLE 1. SUMMARY OF POLICY B-1 ACTIONS TO TRANSITION TO ALL-ELECTRIC CONSUMPTION

ACTIONS		DESCRIPTION
B-1.1	Reach Code Implementation	Support Planning and Building Department to implement existing reach code and ensure that the cost of permitting for all-electric projects does not exceed natural gas alternatives.
B-1.2	Heat Pump Water Heater Installation in New Homes	Partner with Bay Area Regional Energy Network (BayREN) and Peninsula Clean Energy (PCE) to develop a pilot for deploying heat pump water heaters in new single-family and multi-family construction or major remodel or addition projects.
B-1.3	Heat Pump Water Heater Incentives	Initiate a public-private partnership to create mid-stream incentives and/or bulk purchasing of heat pump appliance technology. Prioritize partnerships with small and underrepresented businesses.
B-1.4	Renewable Energy and Storage Technologies	Partner with PCE and Pacific Gas and Electric (PG&E) to identify locations for installing storage technology in tandem with renewable energy infrastructure. Prioritize community centers and libraries as backup power centers and resiliency hubs. ⁶
B-1.5	Electricity Rate Increase Minimization	Work with PCE, BayREN, and other stakeholders to ensure that future ratemaking and rate-cases do not result in disproportionately high residential electricity rates for lower income residents.
B-1.6	Energy Efficiency in New Construction	Improve energy efficiency in new construction through enhancements in the building envelope (aspects such as insulation, windows, door seals, airflow, façade materials) by adopting a more aggressive climate zone in the building code.
B-1.7	Industry and Workforce Development	Provide and promote accessible local workforce development opportunities related to building electrification. Create new partnerships and economic opportunities to provide maximum benefit in the form of employment opportunities for the local workforce, residents with barriers to employment, and communities most affected by climate change.

TABLE 2. SUMMARY OF POLICY B-2 ACTIONS TO ELECTRIFY EXISTING CONSTRUCTION

ACTIONS		DESCRIPTION
B-2.1	Natural Gas Phase Out	Coordinate with PG&E and PCE to eliminate natural gas as an energy source in residential and commercial buildings by 2040.
B-2.2	Existing Building Electrification	Investigate regulatory pathways for converting existing buildings to all-electric. Conduct a feasibility analysis for options including but not limited to a point-of-sale or listing requirement, replacement on burnout requirement for gas powered appliances, and a ban of sale of gas fired equipment among others.
B-2.3	Electrification Retrofit Pilot	Partner with BayREN and PCE to develop a pilot for deploying heat pump appliance technology along with electric panel upgrades in large-scale retrofit

⁶ A resiliency hub would be located at a critical facility and/or community center and, during an emergency event, would serve to support residents, coordinate communication, distribute resources, and, outside of emergency events, would reduce carbon pollution overall.

		opportunities in existing multi-family buildings, and other buildings such as homeless shelters and farmworker housing.
B-2.4	Electrification Opportunities Assessment	Perform a County-wide electrification opportunities assessment in partnership with PG&E and PCE to identify priority buildings and neighborhoods for targeted electrification incentives.
B-2.5	Pilot Improvements for Existing Homes	Accelerate uptake of energy efficiency programs by landlords and renters of both multi- and single-family households. Utilize findings from county-wide electrification opportunities assessment and partner with BayREN, PCE, the Department of Housing, and community-based organizations to deploy an electrification, energy efficiency, and environmental health pilot.
B-2.6	Electrification and Renewable Energy On-Bill Financing	Partner with PG&E or PCE to set up on-bill or accessible financing solutions for electrifying buildings and/or local renewable installations, including offering low-interest loans.
B-2.7	Utility User Fee Evaluation	Evaluate feasibility and equity-related concerns of a utility user fee increase that could fund electrification projects. If feasible, and if it will not accrue disproportionately to minority groups and historically underserved communities, partner with PG&E and PCE to implement.
B-2.8	Electrification Outreach	Facilitate electrification of appliances (water heaters, space heaters, stoves, and dryers) by expanding and improving targeted outreach for existing electrification programs and incentives. Initial phase may focus on buildings that have prewiring for electrification.
B-2.9	Rental property Owner Incentives	Partner with the Department of Housing and local realtors to educate, engage, and incentivize building owners and real estate and property management representatives to address split-incentive issues ⁷ , with a focus on rental protection and minimizing cost increases for low-income renters.
B-2.10	Energy Efficiency in Existing Buildings	Improve energy efficiency in large additions (400 square feet or larger) by adopting a higher climate zone in the building code that more accurately reflects anticipated climatic shifts. By responding to changes in climatic conditions, new energy efficiency building standards become cost-effective and can be adopted.
B-2.11	Green Business Program Expansion	Expand the reach of the San Mateo County Green Business Program to support 10% more small and medium businesses and establish a GHG reduction goal specifically for unincorporated businesses. Proactively recruit historically underserved businesses and identify opportunities to simultaneously share information about other retrofit/upgrade programs.

TABLE 3. SUMMARY OF POLICY B-3 ACTIONS TO USE MICROGRIDS TO GENERATE LOCAL RENEWABLE ENERGY AND IMPROVE RESILIENCY

ACTIONS	DESCRIPTION
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⁷ “Split incentive” refers to a condition where the benefits and costs of capital improvements are unequally distributed. An appliance upgrade, for example, might produce savings or benefits for one party (the renter) while the costs are born by the other party (the property owner).

B-3.1	Capacity Mapping	Use utility distribution system capacity maps to investigate the feasibility of siting and maintaining microgrid, solar or wind combined with storage, and other distributed energy resource project opportunities.
B-3.2	Microgrid Pilots	Establish microgrid pilot projects and distributed energy resources at critical facilities across San Mateo County (e.g., schools, hospitals, fire, police).
B-3.3	Battery Storage	Support and enhance PCE's existing battery storage incentive program.

TABLE 4. SUMMARY OF POLICY B-4 ACTIONS TO PURSUE INTEGRATED OPPORTUNITIES TO ADDRESS CLIMATE ADAPTATION AND MITIGATION

ACTIONS		DESCRIPTION
B-4.1	Cool Roof Technology	Develop and adopt regulations or modify existing adopted regulations to require reroofing projects to meet or exceed the most current cool roof efficiency standards as determined by the California Energy Commission for Climate Zone 11 (or whichever zone more accurately reflects anticipated shifts in climatic conditions).
B-4.2	At-Risk Housing and Community Facility Electrification	Explore electrification opportunities when developing adaptation strategies for housing and community facilities. Provide technical assistance and support to public schools and communities to plan for electrification of housing and community facilities vulnerable to climate risks.



TRANSPORTATION

Emissions in the transportation sector come from people driving vehicles (vehicle miles traveled or VMT) on roads within the county. In 2017, this represented 40% of the County’s emissions inventory and remains the largest contributor when compared to the other sectors. Reducing this emissions source will require reducing VMT as well as increasing the community adoption of electric vehicles (EVs). While making this change will require multijurisdictional action beyond the County’s jurisdiction, and will rely upon individual behavior change, the County can still play a critical role. San Mateo County can facilitate EV adoption, build the necessary charging infrastructure to enable widespread EV use, increase access to jobs, goods and services in neighborhoods, help its communities shift to active transportation (human-powered forms of transportation including walking, rolling, and biking), and work in partnership to enhance and improve public transit access and ridership. Presented below in Figure 4 and Table 5 to Table 7 are the measures that are designed to reduce emissions from transportation.

To meet our climate goals, we will need to:

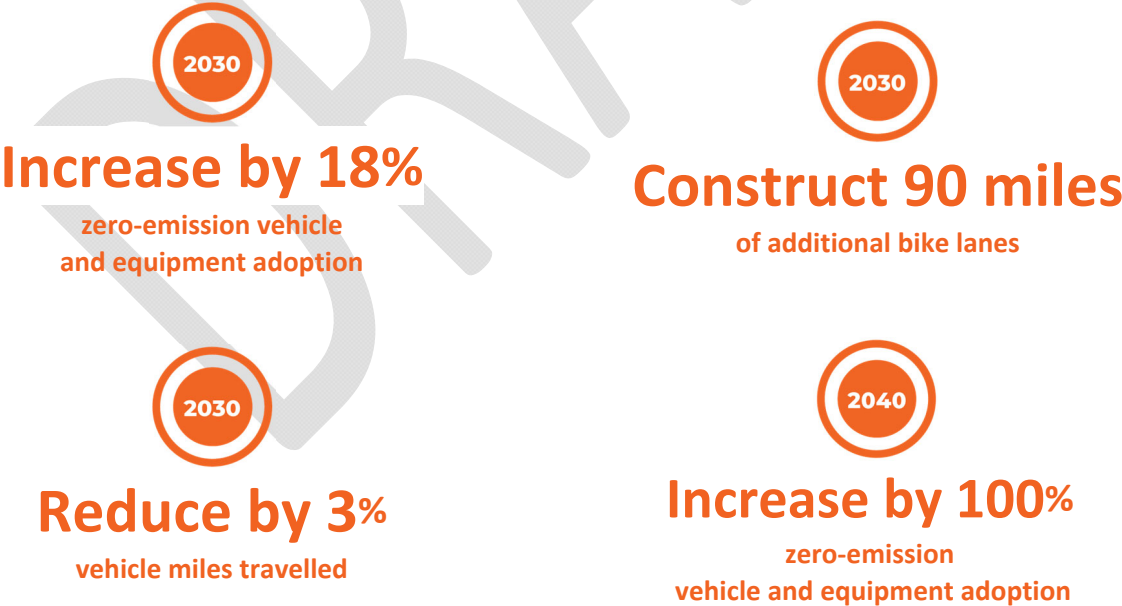


Figure 4. Transportation requirements for meeting overarching climate goal.

SUMMARY OF TRANSPORTATION POLICY STRATEGIES⁸

- Policy T-1: Increase electric vehicle adoption
- Policy T-2: Encourage urban density and the revision of parking standards, and support bicycle and pedestrian-friendly planning
- Policy T-3: Implement programs for shared transit that reduce VMT

TABLE 5. SUMMARY OF POLICY T-1 ACTION TO INCREASE ELECTRIC VEHICLE ADOPTION

ACTIONS		DESCRIPTION
T-1.1	EV Charging Requirements	Evaluate the energy and green building standards at each California Building Standards code cycle to ensure that building electrification and EV charging station requirements are sufficient to meet community needs and climate goals. Adopt local ordinances when the State's code does not keep pace with climate action in San Mateo County.
T-1.2	Public Charging Stations	Install public EV charging stations, with an emphasis on daytime charging. Investigate options for shared EV charging, paired with solar and storage capacity.
T-1.3	EV Readiness Plan	Prepare an EV readiness plan to identify suitable, equitable, and cost-feasible opportunities for installation and maintenance of EV charging station locations throughout the County.
T-1.4	Alternative Fuel Outreach	Collaborate with key partners such as PCE to conduct alternative fuel outreach, focusing on electric vehicles and lawn equipment.
T-1.5	End-Of-Life Vehicle Conversion	Partner with PCE and regional partners to develop a program to help transition private-use vehicles to zero emission vehicles at end of life, with a focus on supporting new EV purchases for low-income demographics.
T-1.6	Electric Leaf Blowers	Assess opportunities for a program to support the transition to electric leaf blowers.

TABLE 6. SUMMARY OF POLICY T-2 ACTIONS TO ENCOURAGE URBAN DENSITY AND THE REVISION OF PARKING STANDARDS, AND SUPPORT BICYCLE AND PEDESTRIAN-FRIENDLY PLANNING

ACTIONS		DESCRIPTION
T-2.1	Mixed-Use Development Requirements	Update the General Plan and Local Coastal Plan with neighborhood mixed use, commercial mixed use, industrial mixed use, and multi-family residential designations to enable mixed-used development where feasible.
T-2.2	Affordable Housing Near Transportation	Continue interdepartmental coordination and collaboration to update policies according to Housing Element updates to enable and promote affordable housing near transportation.
T-2.3	Traffic Calming and Complete Streets	Pursue bicycle and pedestrian-friendly design by maximizing opportunities to implement traffic calming and complete streets measures into infrastructure

⁸ **Note on the measure order:** the following tables of measures have been arranged by strategy; while the strategies are not listed in order of importance, the measures within them are arranged by importance in achieving emissions reduction goals, with the most important measures being at the top.

		projects Identify opportunities to incorporate green infrastructure and pavement-to-parks concepts. ⁹
T-2.4	Transportation Demand Management Ordinance	Update the County’s Transportation Systems Management Ordinance to reflect updated regional policies, including but not limited to the San Mateo County Congestion Management Plan Transportation Demand Management Policy.
T-2.5	Transportation Improvements to Reduce VMT	Conduct interdepartmental coordination to develop and adopt local guidelines, policies, and tools to implement changes to the California Environmental Quality Act's transportation significance metric and criteria (SB 743).
T-2.6	Active Transportation Plan Implementation	Support the implementation of the Active Transportation Plan by implementing priority pedestrian and bikeway projects, with a focus on those in historically underserved neighborhoods.
T-2.7	Regional Coordination to Increase Multimodal Travel	Collaborate with local and regional partners to study existing parking policies, practices, programs, and demand, and opportunities to support increased multimodal travel ¹⁰ .
T-2.8	Bicycle Parking and Amenities	Review and revise existing bike parking requirements if they are inadequate for current and future demand. In districts without current bike parking requirements, evaluate opportunities for developing them.

TABLE 7. SUMMARY OF POLICY T-3 ACTIONS TO IMPLEMENT PROGRAMS FOR SHARED TRANSIT THAT REDUCE VMT

ACTIONS		DESCRIPTION
T-3.1	Access to Transportation	Work with partners to implement policies, programs, and pilot projects that support access to transit; for example, a first mile-last mile shuttle program or a school district-oriented transportation pilot. Prioritize efforts that provide access for households without access to a car, low-income, disabled, senior, and racial or ethnic minority populations.
T-3.2	Zero Emissions Buses	Support the transition of public and private buses and shuttles to zero emission vehicles.
T-3.3	Micro-Mobility and Shared Transportation Model Policies	Develop model policies for micro-mobility ¹¹ and shared transportation options (bike, scooter, and car share) that facilitate equitable access to mobility services and region-wide transit (first mile-last mile).
T-3.4	Programs to Facilitate Transportation Equity	Facilitate transportation equity through targeted provision of programs and infrastructure that support low-income, disabled, senior, and racial or ethnic minority populations to take transit, walk, bike, and use ride- or car-share.
T-3.5	Tax Transit Network Company Trips	Explore opportunities for applying a tax on all transit network company trips (rides provided by commercial ride-hail companies and private transit services) that originate in San Mateo County to support transit and complete streets and safety improvements.

⁹ Pavement-to-parks refers to the creative utilization of unpaved areas or underutilized paved areas in neighborhoods with less access to green space to create new pedestrian and pocket-park spaces. This facilitates traffic calming as well as pedestrian-friendly street environments.

¹⁰ “Multimodal travel” refers to the combined usage of several types of transportation in an interconnected network to reach a destination. Complementary modes may include, bike or car share, bus, train, or walking.

¹¹ “Micromobility” refers to lightweight vehicles that facilitate local transportation over shorter distances. Devices might include bicycles or e-bikes, scooters, or skateboards (all may be privately owned or shared).



WASTE & CONSUMPTION

Waste produced in unincorporated communities is sent to Ox Mountain Landfill where the organic materials decompose and produce methane, which is a GHG that is 28 times more potent than carbon dioxide.¹² Waste represents a smaller share of overall county emissions at 26%. Presented below are measures designed to prevent materials from entering the landfill through source reduction and waste diversion actions such as reducing waste generated, reusing materials, composting organics, and recycling. Presented below in Figure 1 and Table 8 to Table 10 are the measures that are designed to reduce emissions from waste and consumption.

To meet our climate goals, we will need:



18% reduction

in organics in the waste stream by
implementing SB 1383

Figure 5. Waste and consumption requirements for meeting overarching climate goal.

SUMMARY OF WASTE & CONSUMPTION POLICY STRATEGIES¹³

- Policy W-1: Reduce construction materials and waste
- Policy W-2: Reduce organics in the waste stream
- Policy W-3: Reduce inorganic waste sent to landfills

¹² "Methane and Climate Change." IEA. (2021). <https://www.iea.org/reports/methane-tracker-2021/methane-and-climate-change>

¹³ **Note on the measure order:** the following tables of measures have been arranged by strategy; while the strategies are not listed in order of importance, the measures within them are arranged by importance in achieving emissions reduction goals, with the most important measures being at the top

TABLE 8. SUMMARY OF POLICY W-1 ACTIONS TO REDUCE CONSTRUCTION MATERIALS AND WASTE

ACTIONS	DESCRIPTION
W-1.1 Building Regulations for Deconstruction and Waste Management	Update the building regulations to require deconstruction surveys for single family home demolitions that allow 10 days for salvage and require waste management plans for renovations over \$50,000 in total job value.

TABLE 9. SUMMARY OF POLICY W-2 ACTIONS TO REDUCE ORGANICS IN THE WASTE STREAM

ACTIONS	DESCRIPTION
W-2.1 Organics Diversion	Work with franchised waste haulers and waste authorities to ensure the goals of SB 1383 the Short-lived Climate Pollutant Reduction law, are met by 2025.
W-2.2 Edible Food Recovery Program	Implement an Edible Food Recovery Program for unincorporated areas as required under SB 1383. Increase the coverage of the Edible Food Recovery Program for densely populated, unincorporated areas, such as North Fair Oaks, and further assist food recovery organizations to increase pickup and redistribution.
W-2.3 Recycling and Composting Outreach and Technical Assistance	Enhance recycling and composting outreach and technical assistance and investigate offering incentives to commercial and agricultural entities in unincorporated areas of San Mateo County.
W-2.4 Improvement Projects for Organic Waste Diversion	Reduce the amount of organics in the landfill by pursuing additional opportunities to repurpose organic materials, which may include creating additional sites to the Countywide community compost collaborative, exploring development of a composting facility on the coast, and exploring feasible capital improvement projects for reducing organics in the waste stream, such as organics extraction presses and anaerobic digesters.
W-2.5 Community Carbon Sequestration Training	Partner with agriculture-related organizations, public school and community college districts, local community-based organizations, and other stakeholders, to develop a home carbon sequestration and soil health education campaign for residents and training opportunities for landscape professionals and local government parks and recreation staff.
W-2.6 Local Garden Program	Develop a local garden program to facilitate the creation of compost and promote the use of compost at community and school gardens. Prioritize schools serving low-income communities.
W-2.7 Agricultural Waste Diversion	Partner with agriculture-related organizations, producers, and businesses to reduce and divert waste generated in the agriculture sector, including farms, ranches, and equestrian facilities through composting and biodigestion. ¹⁴

TABLE 10. SUMMARY OF POLICY W-3 ACTIONS TO REDUCE INORGANIC WASTE SENT TO LANDFILLS

ACTIONS	DESCRIPTION
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¹⁴ A biological process, also known as anaerobic digestion, through which organic matter decomposes in the absence of oxygen and, in this case, would occur in a controlled environment.

W-3.1	Business Outreach Promoting Reusables	Conduct outreach and engagement to inform businesses of applicable laws for reducing/regulating single-use product and shipping packaging and/or promoting reuse, such as food service ware, home meal delivery services, and other packaging.
W-3.2	Funding for Local Waste-Related Outreach	Expand opportunities to provide funding and technical assistance to non-profit organizations, schools, and other entities to implement projects relating to reuse, source reduction, recycling, and composting.
W-3.3	County Contract and Event Permit Updates	Ensure that all County contracts and event permits require all third-party vendors provide and utilize compostable and/or reusable food service items to serve 50 or more people and provide recycling and composting infrastructure.
W-3.4	Waste Reduction and Reuse Programs	Partner with public institutions, private businesses, and nonprofits (like thrift stores) to develop and implement programs that encourage waste reduction and reuse.
W-3.5	Extended Producer Responsibility Requirements for County Contracts	Require extended producer responsibility ¹⁵ (EPR) when an option to advance greater EPR exists. Scale these efforts by partnering with public school and community college districts to determine if a similar effort or policy would be feasible.
W-3.6	Public Outreach and Marketing	Continue to collaborate with other local governments (through the Bay Area Recycling Outreach Coalition, for example) to implement a regional outreach and marketing campaign.
W-3.7	Public Education and Civic Engagement	Expand educational offerings and resources for improving community resource conservation (addressing the “4Rs,” reduce, reuse, recycle, rot) through existing and new offerings. Explore development of a Youth Conservation Corps program that would provide local mentorship, volunteer, internship, and/or employment opportunities for youth and young adults in the resource conservation and solid waste reduction field.
W-3.8	Workforce Development in Solid Waste Reduction	Provide and promote accessible local workforce development opportunities related to solid waste programs. Create new partnerships and economic opportunities to provide maximum benefit in the form of employment opportunities for the local workforce, residents with barriers to employment, and communities most affected by climate change.

¹⁵ Extended producer responsibility is a “strategy to place a shared responsibility for end-of-life product management on producers, and other entities involved in the product chain, instead of the general public.” (Calrecycle, 2020)



WORKING LANDS

Rangeland and cropland, including publicly and privately managed lands, comprise a large portion of the land base in California and in San Mateo County. These working lands have significant potential for sequestering carbon from the atmosphere, thus serving as a climate mitigation strategy. Carbon sequestration is the natural process of plants taking in CO₂ from the atmosphere and through a biochemical interaction between the roots, the soil, and microorganisms, storing that CO₂ in the soil profile. Active management of working lands can enhance the rate of carbon sequestration in soils and vegetation, therefore carbon farming (i.e. the suite of practices that brings about more sequestration) has a critical role to play in helping San Mateo County develop resilience to climate change while simultaneously reducing atmospheric greenhouse gases driving climate change. Carbon farming and other related agricultural activities may be referred to as “climate beneficial” because of the capacity to draw carbon from the atmosphere and for the numerous co-benefits of carbon farming, including increased soil organic matter and soil water-holding capacity. Such activities include, but aren’t limited to compost application, cover cropping, hedgerow planting, and prescribed grazing. The following draft strategies and measures are designed to support local agricultural producers and enable carbon farming on the County’s working lands.

Office of Sustainability staff, in partnership with the Carbon Cycle Institute and the San Mateo Resource Conservation District (RCD) and with grant funding from the California Department of Conservation, assessed the potential for working lands in San Mateo County to sequester carbon, and the extent to which these lands and local producers can accelerate emissions reductions and help reach the County’s climate goals. Presented below in Figure 6 and Table 11 to Table 16 are measures designed to reduce emissions and sequester carbon in working lands.

To meet our climate goals, we will need to:



Sequester 39,000 MTCO₂e of carbon in soils and vegetation



Support ranchers and farmers to plan, implement, and scale climate beneficial practices on the County’s working lands



Increase resilience to climate change impacts; improve water quality and soil health; enhance and increase habitat for pollinators and wildlife

Figure 6. Working lands requirements for meeting overarching climate goal.

SUMMARY OF WORKING LANDS POLICY STRATEGIES

- Strategy L-1: Identify new financing to scale carbon farming
- Strategy L-2: Support technical assistance, education, and data collection efforts to scale climate beneficial agriculture
- Strategy L-3: Secure access to key implementation infrastructure to advance climate beneficial agriculture
- Strategy L-4: Address permitting barriers to implementing climate beneficial agricultural practices
- Strategy L-5: Ensure agricultural lands are preserved for agricultural production
- Strategy L-6: Support carbon sequestration and ecological restoration on natural lands

TABLE 11. SUMMARY OF POLICY L-1 ACTIONS TO IDENTIFY NEW FINANCING TO SCALE CARBON FARMING

ACTIONS		DESCRIPTION
L-1.1	Carbon Farming Investments	Implement a County funding program, such as Santa Clara County’s Agricultural Resilience Incentive, for farmers and ranchers to implement and maintain climate beneficial practices.
L-1.2	External Funding Programs for Carbon Farming	<ul style="list-style-type: none"> • Support the San Mateo Resource Conservation District (SMRCD) and other land partners to leverage private, and regional, state, and federal funding for producers’ implementation of climate beneficial agricultural practices. • Develop a program or mechanism for San Mateo County businesses, philanthropic institutions, and supportive community members to support local carbon farming projects.
L-1.3	Compost Procurement	Where feasible, County-procured compost through SB 1383 compliance should be made available to producers at a reduced cost or for free.
L-1.4	Cost Saving Methods	Explore opportunities for establishing a bulk purchasing program for cost savings, such as for cover crop seed.
L-1.5	Climate Beneficial Communications	Assess potential of a communication or labeling program to raise awareness of climate beneficial agricultural practices of San Mateo County producers, potentially as part of <i>As Fresh As It Gets</i> . ¹⁶ Assess potential of such program to increase revenue for producers.
L-1.6	Public Benefit Communications	Assess and report the estimated public benefits and cost savings provided by climate beneficial agricultural practices to the agricultural and larger San Mateo County communities.

¹⁶ <https://www.smccvb.com/fresh-as-it-gets/>

TABLE 12. SUMMARY OF POLICY L-2 ACTIONS TO SUPPORT TECHNICAL ASSISTANCE, EDUCATION, AND DATA COLLECTION EFFORTS TO SCALE CLIMATE BENEFICIAL AGRICULTURE

ACTIONS		DESCRIPTION
L-2.1	Technical Assistance Provider Support	Support the SMRCD land partners in providing technical assistance to agricultural producers to scale carbon farming and GHG emission reducing practices. Support adequate staffing for technical assistance providers to undertake outreach, planning, implementation, monitoring, and maintenance.
L-2.2	On-Farm Research and Demonstration	Support trials, research, and monitoring by the SMRCD and other land partners to refine local data on carbon sequestration and GHG emission reduction occurring from existing and new climate beneficial practices.
L-2.3	Educational Opportunities for Land Managers	Support the SMRCD and other land partners in providing educational opportunities to assist producers in evaluating and adopting climate beneficial agricultural practices.

TABLE 13. SUMMARY OF POLICY L-3 ACTIONS TO SECURE ACCESS TO KEY IMPLEMENTATION INFRASTRUCTURE TO ADVANCE CLIMATE BENEFICIAL AGRICULTURE

ACTIONS		DESCRIPTION
L-3.1	Carbon Farming Implementation Infrastructure Access	<ul style="list-style-type: none"> • Support development of key infrastructure, such as a bulk purchasing program for cost savings for carbon farming. • Investigate feasibility of equipment share or low-cost rental program to increase access to essential equipment to facilitate carbon farming practices, such as a compost spreader or no-till drill, and, if feasible, support and finance equipment purchasing, coordination and maintenance of such a program. • Improve and increase the availability of high quality and affordable local agricultural compost.

L-3.2	Climate Beneficial Practices that Reduce GHG Emissions	<ul style="list-style-type: none"> • Support work to improve irrigation efficiency and increase use of on-farm GHG emission reducing equipment and alternative energy, such as solar. • Fund chipping program to reduce annual burning of pruning waste. • Assist in the development of infrastructure that supports the local agricultural economy while reducing travel, such as development of agricultural services or markets in San Mateo County. • Support efforts that assist producers with agricultural waste reduction, reuse, and recycling. • Ensure that woody material removed for fuel load reduction projects be recycled into a beneficial use, such as compost or biochar. Investigate feasibility of procuring a mobile pyrolysis facility and establish shared funding mechanism for ongoing costs of repair and maintenance. • Partner with Pacific Gas & Electric (PG&E) and Peninsula Clean Energy (PCE) to assess the feasibility of establishing an incentive program that would help producers plan for and install solar panels and battery storage for on-farm operations. • Partner with PG&E and PCE to provide producers with on-farm energy audits to identify energy efficiency opportunities and connect them to existing county and statewide energy upgrade programs, including incentives, rebates, and financing.
L-3.3	Progress Tracking	Develop a platform for tracking and reporting on climate goals and on-farm benefits of climate beneficial agricultural projects.

TABLE 14. SUMMARY OF POLICY L-4 ACTIONS TO ADDRESS PERMITTING BARRIERS TO IMPLEMENTING CLIMATE BENEFICIAL AGRICULTURAL PRACTICES

ACTIONS	DESCRIPTION
L-4.1 Permit Barrier Identification and Minimization	<ul style="list-style-type: none"> • Assess local permitting and ordinances to identify barriers to efficient and effective planning and implementation of climate beneficial agricultural practices. • Participate in statewide Cutting Green Tape initiative. • Engage in efforts to reduce regulatory barriers to efficient and effective climate beneficial agricultural practices. • Align local regulations to statewide streamlining permitting efforts for on-farm composting and climate beneficial agricultural practices.

TABLE 15. SUMMARY OF POLICY L-5 ACTIONS TO ENSURE AGRICULTURAL LANDS ARE PRESERVED FOR AGRICULTURAL PRODUCTION

ACTIONS		DESCRIPTION
L-5.1	Agricultural Land Preservation	Support efforts to improve access, tenure, and ownership for next generation and new and beginning farmers and ranchers.

TABLE 16. SUMMARY OF POLICY L-6 ACTIONS TO SUPPORT CARBON SEQUESTRATION AND ECOLOGICAL RESTORATION ON NATURAL LANDS

ACTIONS		DESCRIPTION
L-6.1	Support Stewardship and Ecological Restoration on Natural Lands	<ul style="list-style-type: none"> • Explore opportunities to encourage and support ecological restoration efforts where feasible. • Explore opportunities to provide tribal access to land for cultural activities and events that are dedicated to tribal members as well as shared opportunities for members of the broader public to visit the land and learn about and tend native plants. Support development of accompanying place-based public education opportunities focused on local microclimates, indigenous plant communities, and land stewardship.
L-6.2	Carbon Sequestration on Natural Lands and Urban Green Space	Develop strategies through diverse stakeholder participation for carbon sequestration and climate adaptation on natural lands and urban green spaces.

LOOKING FORWARD

Achieving our climate goals will require dedication, time, and resources from County government and the broader San Mateo County community. Successful plan implementation will require ongoing creativity and adaptivity in response to changes in technologies, state and federal policies, budgets, grants and other funding opportunities, and community priorities. Effective implementation will also require creating meaningful and ongoing opportunities for community input as County staff and partners develop programs and projects and enforce policies that emerge from the plan. Soliciting and incorporating diverse perspectives will be a key aspect of meeting emissions reductions targets in an equitable and culturally relevant manner. The County must be strategic in sequencing, executing, and funding climate action to meet our targets in a manner that brings the whole community along and maintains our vision for a sustainable, prosperous future.



Phasing

Implementation of the plan will be divided into three phases:

Near-term (1-2 years)

Near-term implementation will focus on establishing a foundation for meeting the 2030 goal. This phase will involve establishing funding strategies and partnerships, establishing key policies to facilitate electrification and carbon sequestration, conducting education and outreach campaigns, establishing pilot projects that can be scaled up, and voluntary incentive measures that address top emissions sources.

Mid-term (2-5 years)

Mid-term solutions address measures needed to “close the gap” for meeting interim goals and to position the County for meeting long-term goals. Actions include broader regulatory requirements, if necessary, expanded infrastructure investments to support rapid and long-term energy transitions, and actions focused on lower priority emissions sources.

Long-term (5-10 years)

Long-term strategies are more comprehensive solutions that require long-term investment, careful planning, and broad coordination. They include actions that are dependent upon crucial foundational actions in the near- and mid-term phases.



Funding

The County will utilize existing County resources, grant, and other external funding sources to the extent possible in implementing this plan. Over the long term, it will be important to identify funds that are ensured rather than dependent on uncertain potential funding sources. Potential sources include the following:

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

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



Accountability & Collaboration

Key accountability and collaboration approaches for implementation of the CCAP are summarized below:

Progress Reporting

Plan progress reports will be developed and reviewed annually. GHG inventories will be updated every year.

Implementation Team

Office of Sustainability staff will work in collaboration with key implementing partners in other County departments including the Departments of Public Works and of Planning and Building, as well as external entities and organizations such as the San Mateo Community College District, the San Mateo Resource Conservation District, and others.

Partnerships

Much of the work needed to implement this Plan will necessarily be done in partnership with local, regional, and State entities like the San Francisco International Airport, California Air Resources Board, Metropolitan Transportation Commission, SamTrans, BART, CalTrain, and others.

Public Participation

The County will continue to engage the public through the summer of 2021 to solicit feedback on the final draft of the Plan. After completing Board adoption, the County will engage the public on climate action as specific measures and policies are developed and implemented.

Lead by Example

The County will lead by leveraging its resources in partnership with others and pursuing ways to meet its own climate goals that also bring co-benefits for the cities and towns within the County. The County has established a precedence in this strategy, which brought about the establishment of Peninsula Clean Energy and the Regionally Integrated Climate Action Planning Suite (RICAPS), among others.

Plan Updates

The plan will be updated every 5 years. However, given the pace of climate change and the rapidity of change needed to meet climate goals, progress on meeting the plan will be assessed every year and implementation efforts will be adjusted accordingly.

ADAPTATION

Even with considerable efforts to reduce greenhouse gas emissions, the County will continue to experience the increasing effects of climate in the coming years. By 2050, average temperatures will increase by 4.4°F and, by 2100, by an additional 1.2 °F. The County is currently on the path to see up to 2 feet of sea level rise by 2050 and more than 6 feet by 2100 unless global emissions are reduced dramatically and quickly.¹⁷ Precipitation in San Mateo County will continue to display annual variability; wetter years can become even wetter while drier years become even drier, creating more extreme conditions. This can result in both short and long-term impacts to facilities, homes, and people.

Communities with pre-existing social vulnerabilities have limited ability to absorb and adapt to major stresses like climate change. Social vulnerabilities include poverty, unemployment, lack of education, among others, which can lead to disparities in health outcomes and inequities in living conditions. Additional vulnerable populations include people of color, elderly and youth, the LGBTQ+ community, people with disabilities, people experiencing homelessness, people with limited English proficiency, migrants and outdoor workers exposed to extreme heat and wildfire smoke, and renters without flood and fire insurance or with limited control over their living environment. Climate change already is and will continue to exacerbate these social vulnerabilities.

This plan is designed to chart a course towards GHG emissions reduction to meet or exceed State goals. This is not a plan for how the County will adapt to the effects of climate change. A separate policy process addresses this need. The 2021 Local Hazard Mitigation Plan update, co-led by the Office of Emergency Services and the Office of Sustainability, is a comprehensive and regionally collaborative adaptation planning effort.

Current Adaptation Projects in the County

The Climate Ready San Mateo County Initiative, established in 2019, focuses on preparing San Mateo County for the variety of climate change impacts the County will continue to experience. In 2019, the Board adopted a Sea Level Rise Policy for County-owned facilities, and staff have been collaborating across County departments to implement the policy. The County has subsequently initiated the South Coast Vulnerability Assessment, which will assess what is at risk from sea level rise for the area south of Half Moon Bay to the County border, including Pescadero. The Climate Ready SMC also includes a Climate Collaborative, which brings together diverse stakeholders to work together to act on these issues, and which has a focus on ensuring inclusion of vulnerable populations. Collaborative held a series of convenings, launched an Extreme Heat Task Force and Housing and Climate Readiness Task Force, and completed a study on evaluating risks from climate change to transportation systems. Additional projects are underway and expected to be complete by 2023, including a Climate Resilience Strategy, Safety Element Update Template, Climate and Housing Toolkit and Adaptation Library, and an online Climate Impacts Viewer.

In addition, the County completed a Community Resilience Grant Program, which provided grants to cities and non-profit organizations to plan for protecting against sea level rise. The County has also helped create the new Flood and Sea Level Rise Resiliency District known as OneShoreline, which is currently supporting outreach and engagement efforts for the District.

Moving Forward

Over the past five years San Mateo County has been working with stakeholders across cities, non-profits, and businesses to take stock of the climate risks to people, infrastructure, and ecosystems. Several state requirements related to climate and hazard planning, including SB 379, Land use: general plan: safety element: climate adaptation, which requires local jurisdictions to update their Safety Element to address climate risks, as part of the Local Hazard Mitigation Plan Update. The next step in meeting these requirements, and in preparing the County's communities, infrastructure, and ecosystems for climate change is to develop a strategic plan that establishes coordinated adaptation goals, measures, and implementation actions. Inclusive community engagement is a key part of the County's adaptation planning efforts moving forward.

¹⁷ California's Fourth Climate Change Assessment: San Francisco Bay Area Region Report. (2019). <https://climateassessment.ca.gov/regions/>.