

2020 GOVERNMENT OPERATIONS CLIMATE ACTION PLAN: PATHWAY TO CARBON NEUTRALITY

Through the strong leadership of the San Mateo County Board of Supervisors, the 2020 update to the County of San Mateo's Government Operations Climate Action Plan (GOCAP) outlines priority actions to **achieve carbon neutrality in County operations by 2035**. Carbon neutrality means reducing GHG in County operations by 100% from the 2005 baseline, which was the first year the County completed a GHG emissions inventory. By reaching this goal, the County of San Mateo will demonstrate leadership in climate action, set precedent for other jurisdictions, and reflect the rate of action needed to mitigate the harmful impacts of climate change that the County is already experiencing. These impacts include rising temperatures, heatwaves, wildfires and hazardous air quality, extreme storms, sea level rise, and coastal erosion. Furthermore, climate impacts are most acutely felt by children, older adults, those with pre-existing physical and mental conditions, communities of color, and residents with unstable economic or housing situations.

The GOCAP generates a pathway to make deep reductions in direct emissions generated from sources such as natural gas in buildings and petroleum in transportation. Remaining emissions can be captured and stored in County lands, through carbon sequestration strategies. Establishing a bold carbon neutrality goal will not only bring economic, environmental, and societal benefits to the County of San Mateo but will also improve the efficiency of County operations and enhance the quality of service provided to County residents and businesses. The GOCAP supports the County's efforts to manage its own GHG emissions and is a call-to-action to cities, community institutions, and businesses to take an active role in the transition to a low-carbon future and clean economy.

Highlights of climate actions taken since the first GOCAP was adopted in 2012:



Renewable Electricity

Purchased 100% renewable electricity for all County buildings.



Lighting Efficiency

Upgraded streetlights, traffic signals, and pedestrian signals to LED which use significantly less energy.



Electric Vehicle Chargers

Installed 13 electric vehicle charging stations totaling 26 charging stalls at County Facilities.



Solar Photovoltaic

Commissioned four solar systems at County Center Parking Structure 1, East Palo Alto Government Center, San Mateo Medical Center, and the Crime Lab.



Energy Efficiency

Energy efficiency increased per square foot by 20% in County facilities.



Waste Diversion Rates

Achieved 76% waste diversion for waste generated at County facilities.



Zero-Emissions Vehicles

4 EVs and 4 plug-in hybrids added to the fleet.



Alternate Commute Participation

As of 2020, 17% of employees (1,247) participated in Commute Alternative Program.



New Commute Incentives

Piloted a commuter shuttle and initiated an Emergency ride home program. Launched a bicycle fleet for employees to use throughout their workday.

2020 PLAN AT-A-GLANCE

Focus Areas

The GOCAP includes prioritized actions for the County to take in four focus areas including: **energy and water, transportation, solid waste and materials management, and carbon sequestration**. These actions are informed by current scientific understanding of emissions reductions needed to avoid the catastrophic impacts of climate change and creates a strategic roadmap for County operations to achieve carbon neutrality by 2035, ten years before the State's 2045 mandate.

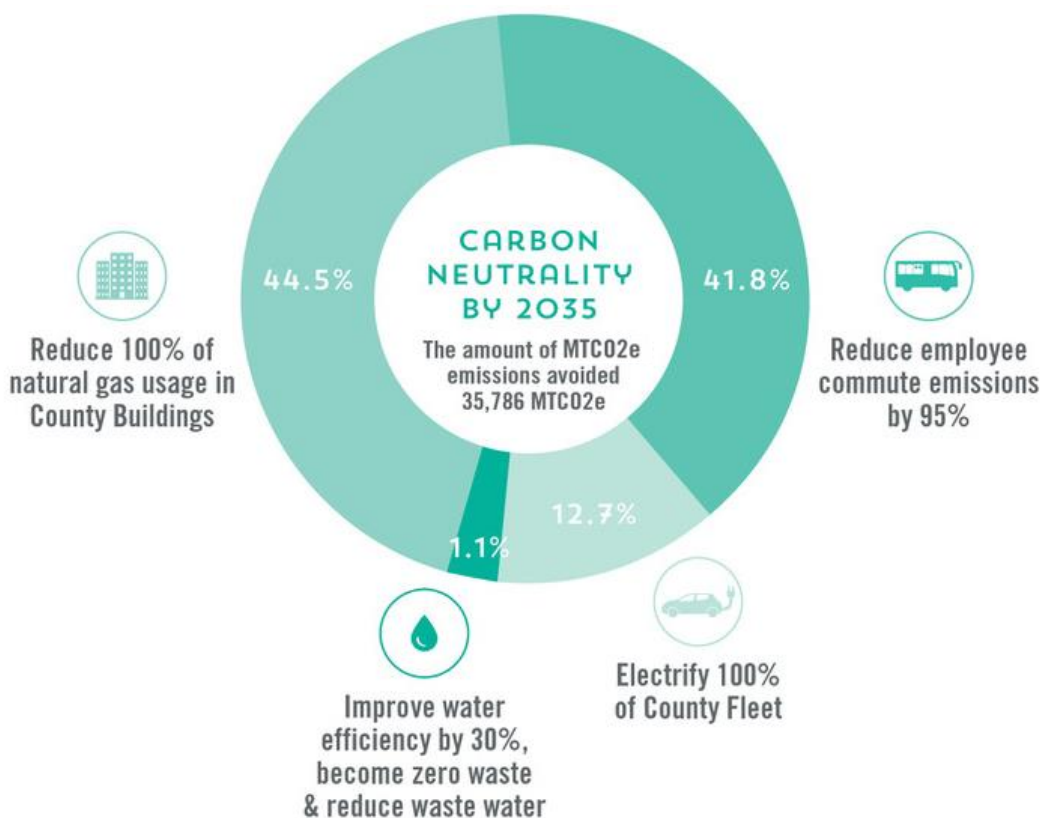
Prioritized Climate Actions

County staff evaluated and selected GOCAP actions based on GHG emission reduction potential, return on investment, and feasibility. The actions included in this report are critical to reducing the County's carbon footprint and are intended to guide future planning across County operations. Each focus area has goals, objectives, and supporting actions. The goals state the quantitative targets for emissions reductions, the objectives provide measurable steps for achieving goals, and the actions include concrete tasks needed to achieve the objectives. The actions in the tables below are listed in order of priority to implement. Furthermore, GOCAP actions will be implemented in a phased approach, depending on feasibility, funding, and available technology, over the next 15 years. The effort of all County employees and County departments are needed to achieve this climate action goal.

Pathway to Carbon Neutrality

Figure 1 shows a pie chart representing the potential percent decrease in emissions produced by each key objective. After implementation of each strategy, 14% of emissions will remain and will need to be mitigated through carbon sequestration in order to reach carbon neutrality.

Figure 1. Summary of County of San Mateo government operations GHG emissions sources and key objectives to reach carbon neutrality by 2035.





FOCUS AREA 1: ENERGY & WATER

Buildings are the single largest contributor to GHG emissions from the County's operations, accounting for 44.5% of all emissions. These emissions stem primarily from the use of natural gas in County buildings. Transitioning away from natural gas in buildings requires all-electric new construction and electric replacements for existing equipment at the end of its useful life. Presented below are the climate objectives and actions in Focus Area 1 that are designed to reduce emissions from new and existing buildings.

OBJECTIVES	2030 GOAL	2035 GOAL
1 Electrify County-owned building stock.	80% of existing building electrified	100% of existing buildings electrified
2 Increase energy efficiency and maintain use of renewable energy.	50% reduction in energy emissions compared to 2005	100% reduction compared to 2005
3 Reduce water consumption.	15% reduction compared to 2005	30% reduction compared to 2005

OBJECTIVE 1: ELECTRIFY COUNTY-OWNED BUILDING STOCK

ACTIONS	DESCRIPTION
1.1 Convene a Facilities Electrification Workgroup.	Form a facilities electrification workgroup with key County departments to collaborate on and inform building electrification strategies.
1.2 Plan for the Electrification of Existing Buildings.	Conduct a review on all County buildings to identify, prioritize, and plan for energy efficiency and electrification projects. Conduct an inventory of current natural gas consuming equipment and develop an electrification plan to phase out gas equipment. Exemptions allowed under certain circumstances such as safety, lack of electric alternatives, and cost.
1.3 Prohibit New Natural Gas Infrastructure.	Identify alternatives to natural gas equipment to ensure that no new natural gas infrastructure will be installed in County facilities. Exemptions allowed under certain circumstances such as safety, lack of electric alternatives, and cost.
1.4 Update the Municipal Green Building Policy for New Buildings.	Update current policy to require all new municipal buildings to be built as all electric. Ensure that new development includes battery storage and solar. If not feasible to add during construction, design buildings to support the addition of solar and battery storage in the future, where practical.
1.5 Phase-out Natural Gas Cogeneration.	Create a plan to replace existing natural gas heat and power cogeneration facilities with electric equipment. Existing facilities with cogeneration include the Youth Services Center, Maguire Jail, and the San Mateo Medical Center.

OBJECTIVE 2: INCREASE ENERGY EFFICIENCY AND MAINTAIN USE OF RENEWABLE ENERGY

	ACTION	DESCRIPTION
2.1	Maintain Renewable Energy Procurement.	Continue to purchase 100% renewable electricity for all County facilities.
2.2	Standardize Energy Management Software.	Standardize energy management software across existing facilities. Ensure that when new equipment is installed it is compatible with existing energy software.
2.3	Install Solar and Battery Storage.	Assess all new and existing buildings for solar and battery storage potential, install where feasible.
2.4	Plan for a Microgrid.	Assess the County's emergency center and medical facilities for microgrid feasibility to ensure continuity of operations while using all-electric technologies, on-site solar and battery storage.
2.5	Explore Green Lease Agreements.	Reduce energy usage at County-leased properties through green lease agreements, which seeks to decrease emissions and increase energy and water efficiency.
2.6	Empower Employee Sustainability Champions.	Solicit representation from each County department to serve as ambassadors in leading climate action campaigns such as reducing energy use through behavior changes.
2.7	Evaluate Back Up Power Options.	Assess feasibility for solar and storage when backup power is needed for a building. Test renewable diesel in existing generators, where possible.

OBJECTIVE 3: REDUCE WATER CONSUMPTION

	ACTIONS	DESCRIPTION
3.1	Reduce Water Use in Landscaping.	Reduce outdoor water use while reducing stormwater pollution through green infrastructure, drought-resistant plants, and xeriscaping.
3.2	Install Smart Water Meters.	Install smart water meters in County buildings to track indoor usage in real time and detect leaks.
3.3	Upgrade to High Efficiency Water Fixtures.	Retrofit existing water fixtures with high efficiency fixtures.



Example of water saving action through green infrastructure at County Center in Redwood City



Solar array over parking at a County facility



FOCUS AREA 2: TRANSPORTATION

Transportation emissions stem from the use of gasoline in employee commutes (41.8%) and the County's vehicle fleet (12.7%). Transitioning away from gasoline in transportation will require the adoption of zero-emissions vehicles across the County's fleet of vehicles and forward-thinking initiatives to envision the future of work for County employees. Presented below are the climate objectives and actions in Focus Area 2 that are designed to reduce emissions from employee commute and the County's vehicle fleet.

	OBJECTIVES	2030 GOAL	2035 GOAL
1	Reduce emissions associated with employee commutes.	80% reduction in employee commute emissions	95% reduction in employee commute emissions
2	Purchase zero-emissions vehicles for all County light- and mid-duty vehicles and reduce the use of petroleum in mid and heavy-duty vehicles.	100% of County motor pool light- to mid-sized vehicles are zero-emissions and 80% of light- to mid-sized vehicles across County fleets are zero-emissions	100% of all County light- to mid-duty vehicles are electric

OBJECTIVE 1: REDUCE EMISSIONS ASSOCIATED WITH COUNTY EMPLOYEE COMMUTES

	ACTIONS	DESCRIPTION
1.1	Redesign Employee Commute Program known as "Shift".	Continue commute alternatives program to promote and incentivize sustainable transportation options. Develop a robust teleworking program, informed by learnings from COVID-19, for all County departments. Provide incentives for employees who commute to use transit, carpool, bike, walk or drive an electric vehicle.
1.2	Provide Flexible Workspaces.	Provide open workspaces and hoteling options in County facilities for County employees who telework and do not need a designated desk. Allow employees to work out of offices closest to their home when they do need to work from a County office to further support flexible telework and shorter commutes.
1.3	Create an Incentive and/or a Fee Structure for Parking at County Worksites.	Automate the process for providing County employees a daily incentive for teleworking, biking, walking, carpooling, and driving an electric vehicle to work. Explore establishing a parking fee structure for employee parking at County facilities.
1.4	Increase Non-motorized Transportation.	Purchase electric bicycles for County motor pool fleet for County employees to use for work-related business, provide instructions for reaching County facilities on bike, foot, or public transportation and increase bicycle racks and storage at County facilities.

OBJECTIVE 2: PURCHASE ZERO-EMISSIONS VEHICLES FOR ALL COUNTY LIGHT- AND MID-DUTY VEHICLES AND REDUCE THE USE OF PETROLEUM IN MID- AND HEAVY-DUTY VEHICLES.

ACTIONS	DESCRIPTION
2.1 Conduct a Zero-Emissions Vehicle Adoption Analysis.	Take inventory and conduct an analysis of current vehicle fleet to determine zero-emissions vehicle feasibility. Analysis to include EV charging infrastructure and equipment necessary for emergency events. Develop an approach to transition to zero-emissions vehicles over time, and purchase hybrids where zero-emissions vehicles are not possible.
2.2 Establish a County Department Fleet Working Group.	Convene all departments that manage a vehicle fleet to discuss electric options for their departmental fleet.
2.3 Phase-in Electric Vehicles into County Motor Pool and Departmental Fleets.	Start replacing expiring County motor pool light-duty vehicles with EV models where possible.
2.4 Install Electric Vehicle Charging Infrastructure.	Install EV charging infrastructure across County owned and County occupied facilities for motor pool vehicles and personal vehicle charging.
2.5 Phase-in Hybrid Vehicles for Mid- to Heavy-duty Vehicles.	Start replacing expiring mid- to heavy-duty vehicles and trucks with hybrid models. Consider plug-in hybrids or EVs when possible.
2.6 Adopt a Zero-Emissions Vehicle First Policy.	Adopt a policy that would require all new light- to mid-duty vehicles purchased for the County motor pool and departmental fleets to be zero-emissions vehicles (including electric and hydrogen fuel cell) unless technological or lifecycle cost issues are demonstrated.
2.7 Fuel with Alternative Fuels.	Assess feasibility of switching to renewable diesel or hydrogen in diesel fleet vehicles and generators as a transition fuel.
2.8 Plan for Diesel Free by 2033.	Switch all medium-and heavy-duty diesel vehicles to a diesel-free fuel source by 2033 in accordance with the County's 2018 Diesel Free Resolution.
2.9 Reduce Vehicle Idling.	Expand and enforce anti-idling policies on all County fleet and departmental vehicles. Allow exemption for public safety.



County employees sharing their excitement about participating in the Shift program



FOCUS AREA 3: SOLID WASTE & MATERIAL MANAGEMENT

Waste produced by County operations is sent to a landfill that decomposes and produces methane, which is a GHG that is 28 times more potent than carbon dioxide. Presented below are the climate objectives and actions in Focus Area 3 that are designed to prevent materials from entering the landfill through source reduction and waste diversion actions such as reducing, reusing, composting, and recycling.

	OBJECTIVES	2030 GOAL	2035 GOAL
1	Achieve zero waste at all facilities operated by the County.	Reduce emissions from waste by 80% compared to 2005 levels	Reduce emissions from waste by 100% compared to 2005 levels

OBJECTIVE 1. ACHIEVE ZERO WASTE AT ALL FACILITIES OPERATED BY THE COUNTY

	ACTIONS	DESCRIPTION
1.1	Certify County Departments as Green Businesses.	Support all County Departments in getting certified under the Green Business Program, where feasible.
1.2	Adopt a Sustainable Purchasing Policy.	Develop and implement a sustainable purchasing policy that mandates procurement of goods and services that minimizes waste, reduces greenhouse gas emissions, and supports local businesses.
1.3	Reduce Paper Use.	Adopt a policy and train employees to reduce the use of printer paper.
1.4	Divert Surplus Property from Waste.	Develop a policy to ensure surplus property is reused or donated at the percentages below, based on the number of items collected annually in each category: furniture: 15%; electronics: 15%; vehicles: 15%; medical equipment: 5%. Properly recycle surplus property that can not be reused.
1.5	Remove Disposable Food Serviceware.	Adopt an internal County policy to eliminate the use or sale of single use disposable food serviceware, that is not compostable or recyclable, at any County-owned or operated facility.
1.6	Analyze the County's Waste Stream and Improve Collection and Services.	Conduct a waste audit to determine what waste from County facilities is going to the landfill and how it can be diverted. Implement compost and recycling collection services in all County-owned and leased facilities.
1.7	Reduce Waste from Public Spaces.	Reduce amount of waste that goes to a landfill generated at County-owned and operated public space, including roads and parks. This includes strategies to divert waste into compost and recycling and analyze source reduction strategies.
1.8	Incorporate More Local Food Options.	Contract with local food providers to increase percentage of local food served at on-site food service locations.
1.9	Conduct Employee Training and Outreach.	Run online and in-person outreach and behavior change campaigns to encourage waste diversion among County employees and contractors.



FOCUS AREA 4: CARBON SEQUESTRATION

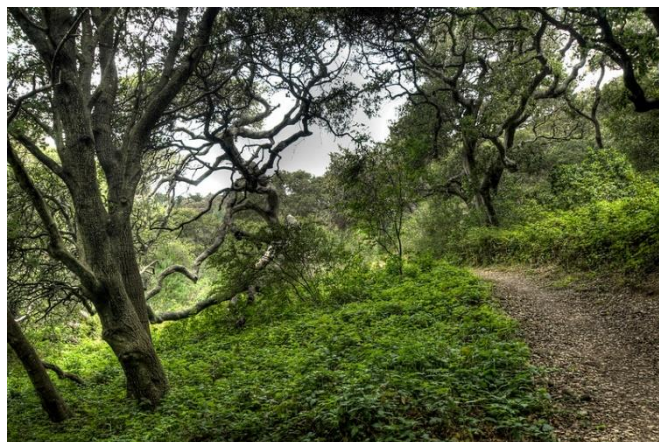
The percent of carbon sequestration needed to offset emissions may vary based on the County's progress towards achieving carbon neutrality. If the County achieves the emission reduction strategies outlined in this plan, the County will likely need to offset 14% of emissions that remain in the County's operations to reach carbon neutrality. However, if the County does not successfully implement all emissions reduction strategies, the percentage needed for carbon sequestration will be higher.

Presented below are the climate objectives and actions in Focus Area 4 that are designed to sequester carbon and remove it from the atmosphere.

	OBJECTIVES	2030 GOAL	2035 GOAL
1	Offset emissions through carbon sequestration.	Carbon sequestration plan completed	Offset 14% of emissions

OBJECTIVE 1. OFFSET EMISSIONS THROUGH CARBON SEQUESTRATION

	ACTIONS	DESCRIPTION
1.1	Analyze Carbon Sequestration Strategies for County Parks and Land.	Undertake a carbon sequestration plan to understand how much carbon can be stored in Parks' land. Implement actions outlined in carbon sequestration plan.
1.2	Replace Synthetic Fertilizers with Compost.	Eliminate the use of synthetic fertilizers in County landscaping and maintenance activities. Replace with compost to sequester carbon and reduce GHG emissions associated with of the creation of synthetic fertilizers.



The De Anza Trail at Junipero Serra County Park

LOOKING AHEAD TO IMPLEMENTATION

The GOCAP provides an overarching, strategic framework for the County of San Mateo to achieve the goal of carbon neutrality by 2035. While developing and publishing this plan is an important step, it's even more critical that this plan remains a living document, to be updated and adapted as new technology becomes available, as policies progress, and to reassess the carbon neutrality goal for opportunities to accelerate progress. Actions within this report will be implemented in a phased approach and the County will start by developing an implementation strategy for key GOCAP actions for the next two years. The implementation strategy will include further analysis of critical projects, establish project timelines, and estimate associated cost. The County will take the following critical next steps once this plan is formally adopted by the County of San Mateo Board of Supervisors:



Initiate a Municipal Building Portfolio Review

Conduct a study to understand the timeline and cost for replacing and/or early retirement of natural gas equipment and develop an electrification plan for the County-owned building portfolio.



Redesign the Shift Program to Reduce Employee Commute Emissions

Develop a robust teleworking program for all County departments. Provide incentives for employees who commute to use transit, carpool, bike, walk or drive an electric vehicle. Evaluate parking fee programs.



Perform County Fleet Inventory & Analysis

Transition procurement of light- to mid-duty vehicles for the County fleet to zero-emissions vehicles.



Work with Departments to Quantify Costs

Determine the cost of implementing the GOCAP with key departments. Identify funding sources for priority actions where there are increased costs.

For more information on the County of San Mateo's climate action work please visit the County of San Mateo's Office of Sustainability website at www.smcsustainability.org/climate-ready and read the Government Operations Climate Action Plan: Supplemental Findings and 2017 Greenhouse Gas Emissions Inventory.