



SUMMARY REPORT

Agenda Date: 8/29/2023

To: Board of Supervisors, Sonoma County
Department or Agency Name(s): County Administrator
Staff Name and Phone Number: Barbara Lee, (707) 565-2510
Vote Requirement: Majority
Supervisorial District(s): Countywide

Title:
Climate Action and Resiliency Workshop

Recommended Action:

- A) Receive a status update on implementation of the Climate Action and Resiliency Pillar of the Strategic Plan, and provide policy direction as appropriate;
- B) Receive and approve the County of Sonoma 2021 Municipal Greenhouse Gas Inventory and Report;
- C) Receive an overview of foundational studies and provide policy direction as appropriate on of the development of the County of Sonoma Climate Resilience Master Action Plan

Executive Summary:

In March of 2021 your Board approved 'Sonoma Countys Five-Year Strategic Plan <<https://socostrategicplan.org/>> which includes the Climate Action and Resiliency Pillar. Over the last two years, County departments and agencies have taken important steps implementing this Pillar.

Staff is preparing a Climate Resilience Master Action Plan (MAP) to lay out the implementation measures, costs, and benefits to achieve your Board's goal. Your Board's policy input today will shape the potential emission reduction pathways staff prepare for the MAP. The MAP will build on plans and actions already in place and adds four foundational elements: a Greenhouse Gas (GHG) Inventory and Report, a Zero Waste Audit and Report, a Carbon Sequestration Study, and a Master Energy Plan. Consideration of the Inventory Report is part of today's workshop; the other elements will be presented to your Board this fall. The development of the MAP also includes outreach and engagement with partners and stakeholders within and across Sonoma County. To include the Board's direction from today's workshop, the MAP will be presented to your Board for policy direction and approval consideration in the coming year.

The Municipal GHG Inventory and Report was prepared by outside consultants and includes a baseline municipal GHG inventory for emissions from the County's operations in 2021, with back-casting and business-as-usual forecasting, as well as a wedge analysis characterizing the emissions reductions needed to achieve carbon neutrality by 2030. By approving this inventory and report, your Board will clearly establish the 2021 baseline conditions of 31,712 metric tons of CO2 equivalent emissions (MTCO2e), and anticipated inventory changes due to population changes, state and federal regulations, and other demographic and sector predictions. Baseline establishment is needed to measure progress towards carbon neutrality.

The next step towards a Climate Resilience MAP is to prepare potential pathways to carbon neutrality, zero

waste and resilience. Your Board's policy input at the current stage will shape the potential pathways that staff prepares this fall.

The purpose of this workshop is to share with your Board the work done, and the foundational elements contemplated for the development of the Climate Resilience MAP, and to receive your policy guidance so staff can begin preparing the MAP. Before developing the detailed MAP, staff will prepare potential pathways to reduce emissions for your input this winter. With that input, staff will develop a single pathway for the detailed MAP.

The agenda for this workshop was developed by the Climate Resilience Workshop Planning Ad Hoc. The agenda is included in Attachment 1.

Discussion:

Your Board approved 'Sonoma County's Five-Year Strategic Plan in March 2021 <<https://sonoma-county.legistar.com/LegislationDetail.aspx?ID=4806176&GUID=FB32D563-DD86-415E-AED4-F65BCB56F8E8&Options=&Search=>> to provide the context to inform policies and projects that are prioritized through 2026. The Climate Action and Resiliency Pillar of the Plan provides a focus on climate action and resiliency to mobilize efforts towards mitigating climate change.

The Climate Action and Resiliency Pillar has five strategic goals, each with supporting objectives for implementation.

- Goal 1: Continue to invest in **wildfire preparedness and resiliency** strategies.
- Goal 2: Invest in the **community to enhance resiliency and become carbon neutral** by 2030.
- Goal 3: Make all **County facilities carbon free, zero waste and resilient**.
- Goal 4: Maximize sustainability and emissions reductions in all **County Fleet vehicles**.
- Goal 5: Maximize opportunities for mitigation of climate change and adaptation through **land conservation work and land use policies**.

Update on Pillar Implementation:

Since the adoption of the Strategic Plan, and with leadership from your Board, staff has made important progress on these goals and their objectives.

Goal 1 - Wildfire Preparedness & Resiliency: Staff from the Agricultural Preservation and Open Space District (Ag+OS), CAO-Climate Action and Resiliency, Permit Sonoma, Sonoma Water, and the UC Cooperative Extension (UCCE) have advanced wildfire preparedness and resiliency in Sonoma County. Staff has coordinated development of planning documents, tools, and tracking, deployment of funding for vegetation management and structure hardening, financing for structure hardening, a risk reduction and insurance pilot, and outreach and education. For details, please see Attachment 2.

Goal 2 - Community Resiliency & Carbon Neutrality:

In 2023, your Board awarded \$941,760 in Climate Resilience Funds to purchase deployable solar-powered charging stations with battery storage that can support emergency responders during events when power is unavailable. When not being used to support emergency response, these charging stations will be deployed at places like Andy's Unity Park in Santa Rosa. Staff also sought congressional appropriation for this project and

Congressman Mike Thompson secured \$710,000 for the project; the funds have not yet been made available. Your Board also awarded \$100,000 to initiate a public-private partnership to deploy EV charging stations in Park'n'Ride lots. In addition, the County is partnering with the Regional Climate Protection Authority (RCPA) and several cities in the county seeking grant funding to complete a regional microgrid assessment and plan. To date, the Sonoma County Energy Independence Program (SCEIP) has financed about \$0.5 million in energy upgrades to multifamily residential properties, with up to \$3 million in potential new projects. For details, please see Attachment 3.

Goal 3 - County Facilities Carbon Neutral, Zero Waste & Resilient: In 2021, the County engaged the Pacific Gas and Electric Company (PG&E) Sustainable Solutions Turnkey (SST) program to evaluate 85 County buildings and identify energy efficiency and resiliency upgrades. The energy audits will result in a Master Energy Plan that will come to your Board by this winter. In 2022, staff reserved incentives for 11 no-cost heat pump water heaters and installation through the PG&E Local Government Partnership. In 2023, your Board approved a space standard of 170 square feet per person which is more energy efficient and less carbon intensive. Staff is partnering with Zero Waste Sonoma on landfill diversion programs for construction and operations, and in 2023 your Board approved a contract for a Zero Waste Audit and Characterization Study to establish a baseline of current waste levels and conditions (see discussion below). In August of 2023, your Board approved \$3.5 million in energy upgrades at the Santa Rosa Memorial Veterans Building. For details, please see Attachment 4.

Goal 4 - County Fleet Sustainability & Emissions Reductions: As July 1, 2023, 78 of the County's 908 light duty vehicles have been converted to zero-emissions (8.6% of total), and 16 out-of-service charging ports at County facilities had been replaced and upgraded. Extended lead times for EV charging hardware have been a challenge for most of FY 22-23. There are currently three all-electric buses in the county's 49-bus fleet, and Sonoma County Transit has placed orders for 10 new electric buses to replace natural gas-powered buses. Using Climate Resilience Funds and Strategic Plan Funds awarded by your Board, new EV charging infrastructure will be installed in the coming year at four Regional Park locations, the Sheriff's Office, and the Information Services Department. In addition, the County launched its [Online Trip Tracker](https://sonomacounty.ca.gov/administrative-support-and-fiscal-services/human-resources/divisions-and-units/benefits/employee-benefits/other-employee-benefits/clean-commute/online-trip-tracker) <<https://sonomacounty.ca.gov/administrative-support-and-fiscal-services/human-resources/divisions-and-units/benefits/employee-benefits/other-employee-benefits/clean-commute/online-trip-tracker>> as a platform to measure employee commute trips made by car, carpool, transit, active transportation, or avoided with telework. Since its inception, County employees have logged 138,711 trips into the Online Trip Tracker and saved 711 metric tons of CO2. In January 2023, the County launched the Clean Commute Incentive Program using Strategic Plan Round 1 funding (\$150,000). For details, please see Attachment 5. please see Attachment 5.

Goal 5 - Climate Mitigation & Adaptation in County Policies & Plans: Since 2021, your Board has approved significant policies, plans, and strategies to mitigate climate change and advance adaptation through land conservation and land use policies. These include: the Ag+OS Vital Lands Initiative (2021); the Sonoma Water Climate Adaptation Plan (2021); the Sonoma County Climate Resilient Lands Strategy (2022); the Sonoma Water Energy and Climate Resiliency Policy (2023); the Regional Parks Climate Adaptation and Resilience Plan is in development; and a county-wide Carbon Inventory and Sequestration Potential Study will be completed in 2023. In addition, in 2022 your Board awarded \$500,000 for a county-wide compost and carbon sequestration project, and recently accepted a \$10 million grant to fund multi-agency Carbon Farming project. For details, please see Attachment 6.

County of Sonoma Municipal Greenhouse Gas Inventory:

The County retained Cascadia Consulting Group to prepare an inventory of GHG emissions associated with County operations in 2017, 2019, and 2021, and business-as-usual forecast of County emissions in 2030, consider the impact of planned federal and state actions on that forecast, and evaluate the impact of feasible County actions to reduce emissions by 2030. A copy of the Municipal GHG Inventory Report can be found in Attachment 7. A Fact Sheet on the GHG Inventory Results is provided in English in Attachment 8, and in Spanish in Attachment 9.

County operations produced 50,635 metric tons of carbon dioxide equivalent (MTCO₂e) in 2017. Data regarding total emissions show a decrease 37% from 2017 to 2021, to 31,712 MTCO₂e due to changing operations, including decreased natural gas and propane consumption, and increased employee telework. Figure 1, below shows the County's GHG Emissions by source for 2017, 2019, and 2021.

Figure 1: Municipal GHG Emissions by Source for 2017, 2019, and 2021



Many factors can affect operational emissions.

- Energy emissions decreased 43% from 2017 to 2021, driven in part by the decommissioning of the Sonoma County Fuel Cell at the end of 2020.
- Transportation emissions decreased 18% from 2017 to 2021, influenced by the COVID-19 pandemic, which began disrupting County operations in March 2020.
- Solid waste emissions decreased 49% from 2017 to 2021.
- Employee commute emissions decreased 25% from 2017 to 2021, due to more employees teleworking because of the COVID-19 pandemic.

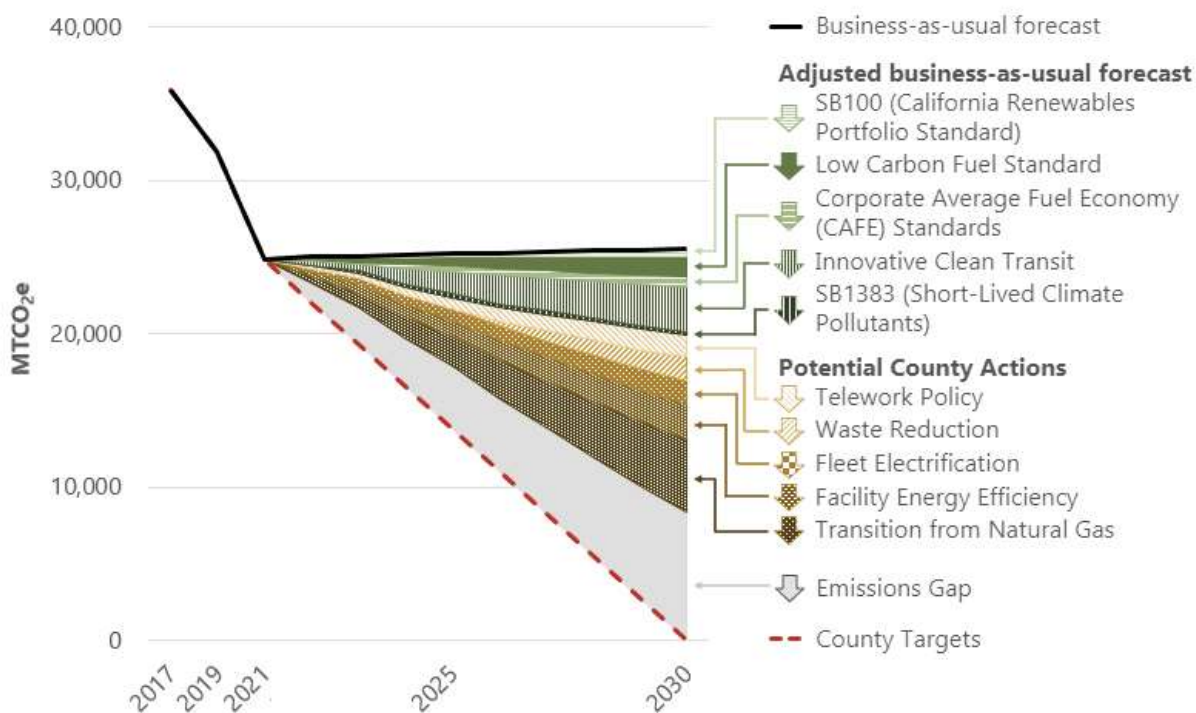
In the County of Sonoma, solid waste represents a higher than usual proportion of total emissions; for local governments that do not own and operate landfills, emissions from solid waste are usually a small proportion of total emissions. The solid waste emissions reported in the Inventory include emissions from seven closed landfills, as well as emissions associated with the waste generated by County facilities; the inventory does NOT include emissions from the Central Landfill because although owned by the County it is operated by Republic

Services, and therefore not covered under the Local Government Operations Protocol.

The GHG Inventory and Report includes a wedge analysis—a representation of potential future GHG emissions based on different scenarios. This wedge analysis (see Figure 2, below) focuses on emissions produced by operations that the County has the most control over, such as energy consumption, transportation, solid waste generation and employee commuting - it excludes emissions from closed landfills. The “business-as-usual” forecast in this analysis shows the County’s projected emissions growth if all operations remain unchanged from 2021 except projected employee and population growth. If no federal, state or local climate action is taken, the County’s emissions (excluding landfills) are projected to increase 3% by 2030.

The *adjusted* business-as-usual scenario projects decreases in emissions expected from adopted federal and state policies. With decreases from federal and state climate policies and regulations, emissions are expected to decrease 20% by 2030. Each “potential County actions” wedge illustrates the forecasted impact of relevant climate action initiatives that the County could pursue. Figure 2, below, shows the wedge analysis excluding methane from landfills.

Figure 2: Forecasted County GHG Emissions Through 2030, Excluding Landfills



When considering the estimated collective impact of federal and state policies and regulations and potential County climate action implementation, remaining County emissions (excluding methane from landfills) will largely consist of:

- Employee commute (35% of remaining emissions).
- Electricity consumption (25% of remaining emissions).
- On-road vehicle fleet (23% of remaining emissions).

The Inventory Report also provided a set of recommendations to reduce emissions, and estimated the emissions reduction impact these actions would have on the County's Inventory. If the County implements high-level strategies to reduce emissions from some of its largest emission sources, emissions are expected to decrease 66% by 2030. These actions include improving facility energy efficiency, retrofitting buildings to transition buildings from natural gas to electricity or renewable energy sources, continuing to electrify the County's vehicle fleet, achieving zero waste by 2030 and modifying the County's telework policy.

There are 17 high-level recommendations, and they are aligned with the goals and objectives of the Climate Action and Resiliency Pillar. The actions with the greatest estimated emissions reductions include:

- Electrify County buildings (ideally using onsite solar or Sonoma Clean Power's Evergreen program as the source of electricity). This would account for 25-30% of total emissions, the County has a high degree of control over these emissions and reducing them would have indoor and outdoor air quality benefits. I.e., SR Veterans Building Solar Project.
- Continue to collect landfill gas as feasible at the Healdsburg landfill and transition to a granular activated carbon system to reduce emissions prior to discharge. This would account for 22-29% of total emissions, however there are more complex implementation issues.
- Electrify the on-road municipal transportation fleet (9-13% of total emissions), the off-road vehicles and equipment (1-2% of emissions), and the transit fleet (9-12% of emissions). The County has a high degree of control over these emissions and reducing them would have co-benefits for air quality and fuel savings.
- Implement a waste audit and reduce waste. This would account for about 6% of total emissions and the County has a high degree of control over these emissions.

For details about the methods used in generating the Inventory, the emissions associated with each of the sources in the County's municipal operations, the KPIs for tracking emissions over time, and the complete recommendations for reducing emissions, please see the full Inventory Report (Attachment 7). As part of this item, staff recommends your Board approve the 2021 Municipal Greenhouse Gas Inventory and Report. The inventory for 2021 (the year your Board approved the Strategic Plan) will be the baseline against which we measure future emissions reduction progress.

Cascadia is also preparing a multi-factor analysis of the emission reduction actions recommended in the Inventory Report. This analysis will be included in the Climate Resilience MAP pathways staff present to your Board along with the cost, timeframe and feasibility of implementing the various emissions reductions strategies.

Status of Other Foundational Studies and Plans:

Zero Waste Audit and Characterization Study: The County engaged SCS Engineers for a Zero Waste Audit and Characterization Study to establish a baseline understanding of current municipal waste levels and conditions. The study will quantify the types and amounts of waste disposed from County operations in all waste streams. Because the waste characterization component is being conducted over less than a full year period, it will rely on the historic data collected through the inventory process to project annual waste totals. The study will include recommendations for prioritized actions to reduce waste and will provide the County and its partners with critical information needed to achieve zero waste at all County facilities.

Progress to date: The consultants have prepared a draft audit and study. The team working with the consultants and reviewing the draft report includes representatives from Sonoma Public Infrastructure and Zero Waste Sonoma. The study synthesizes information about waste collection service at County facilities, recent collection tonnages, and information about the facilities from which the waste was collected, including facility size, number of employees, and other data. These data yield the percentage of total County waste attributed to each type of facility generating the waste. The facility types include: the airport, animal shelter, corp yard/maintenance/warehouse, detention, office, recreation, and Veterans Memorial Buildings. The number of waste streams sampled per facility type is proportional to the percentage of total County waste attributed to that facility type. A total of 18 samples were collected at County facilities in accordance with ASTM Standard Test Method for Determination of the Composition of Unprocessed Municipal Solid Waste - Designation D 5231-92.

Preliminary indications are that the County generates about 100 tons of waste per week, of which about 60% is sent to the landfill, roughly one third is recycled, and less than 5% is composted. About two thirds of the waste being sent to the landfill may be divertible to recycling, compostable, or potentially divertible. The final study report will be submitted to your Board in September and will serve as the foundation for waste reduction strategies in the pathways staff presents to your Board for the Climate Resilience MAP.

Carbon Inventory and Sequestration Study Potential: The County engaged outside consultants to produce a study of current and potential carbon sequestration that includes a quantitative estimate of the existing above - and below-ground carbon stored in the county's land base and an analysis of how this has changed in the last decade. The Study evaluates the stability of carbon stored in the ecosystem, and estimates of how different scenarios, such as active land restoration, potential land use changes, and wild and prescribed fires, would affect carbon sequestration storage and stability in the county. The evaluation addresses incorporated and unincorporated lands, with a dedicated discussion of County-owned lands. Results will be presented to your Board in the Fall, and will inform conservation planning, land management, and land use policy aimed at achieving carbon neutrality.

Progress to date: The consultants convened subject matter experts from County departments and agencies and external partners with substantial expertise in carbon sequestration in natural and working lands to aggregate specialized knowledge of Sonoma County land systems. The study has so far produced a comprehensive review of carbon inventories across Sonoma County and an interactive GIS map and data library. Subject matter experts from Ag+OS, CARD, Permit Sonoma, Regional Parks, and Sonoma Water reviewed GIS data from two different study platforms and provided input on reconciling across the data sets to develop a meaningful map of current County carbon stocks. The consultants will prepare the final inventory and map of carbon stocks; they will make recommendations about how to further refine the inventory over time, and how to sustainably build carbon stocks through optimized sequestration. The final report will be presented to your Board later this Fall. County staff will use the inventory, map(s) and recommendations as the platform to engage with stakeholders and develop candidate strategies to increase carbon sequestration. In particular, staff plans to seek engagement from local tribes, governmental and non-governmental partners, and communities, with a focus on engagement with groups whose voices and perspectives have not always been heard. This engagement will inform the incorporation of carbon sequestration strategies into the alternative Climate Resilience MAP pathways staff will present to your Board this winter.

Master Energy Plan: The County is using the PG&E SST program through to perform Investment Grade audits of energy use at County buildings and identify equipment and other retrofits that would improve energy efficiency and resiliency. The SST program identifies and prioritizes energy efficiency, generation, and storage opportunities, and water conservation measures for medium and large customers, including local governments; the program also offers funding alternatives, and streamlined processes for project implementation. Examples of upgrades include lighting, HVAC, controls, renewable energy, batteries, microgrids, EV chargers, water efficiency, and other measures. SST financing options include zero interest utility on-bill financing, low-interest loans, available rebates, incentives, tax credits, to leverage funds already earmarked for these types of capital improvements. Different financing options are available for different projects based on a defined set of criteria. The results of these audits will be incorporated into a Master Energy Plan that will identify categories of improvements across groups of facilities, maximizing energy and cost savings. It will provide baseline emissions, potential emission savings, costs, funding options, cost savings, and payback periods.

The Master Energy Plan will be presented to your Board by this winter. With policy input from your Board, the improvements in the plan will be prioritized for implementation and this prioritization will guide the incorporation of building energy strategies into the alternative Climate Resilience MAP pathways.

Outreach and Engagement: The County engaged outside consultants to design and lead outreach and engagement for the development of the Climate Resilience MAP. The engagement started in July and is ongoing. It includes surveys of internal and external partners as well as the community at large, one-on-one interviews and targeted focus-group discussion. The consultant will summarize and provide key learnings from the engagement. The County will host a Community Town Hall on climate resilience this fall to hear from community members their concerns about climate change and their priorities for County action. This Town Hall will serve as a follow-up to the [Town Hall convened in Spring of 2021 <https://www.youtube.com/watch?v=b9wq8bMfvIQ>](https://www.youtube.com/watch?v=b9wq8bMfvIQ).

In addition, County staff will engage local tribes on potential strategies for the Climate Resilience MAP. During tribal engagement on the Climate Resilient Lands Strategy tribal representatives expressed an interest in ongoing dialogue on its implementation, as well as a broader dialogue about how the County's community-facing Climate Action and Resilience goals and objectives may touch tribal lands and people. In December of 2022, your Board endorsed a potential approach to that ongoing engagement recommended by the Climate Ad Hoc, recognizing it to be a starting point for discussion with our tribal partners. Staff has extended an invitation to tribal leaders to discuss how the engagement might best be structured.

Staff will also engage with governmental and non-governmental partners and groups whose voices and perspectives have not always been heard to ensure their concerns and ideas are reflected in the Climate Resilience MAP pathways staff present to your Board.

Strategic Plan:

This item directly supports the County's Five-year Strategic Plan and is aligned with the following pillar, goal, and objective.

Pillar: Climate Action and Resiliency

Goal: All

Objective: All

Racial Equity:

Was this item identified as an opportunity to apply the Racial Equity Toolkit?

Yes

This workshop serves as the starting point for developing a Climate Resilience Master Action Plan. The plan itself will be evaluated using the Racial Equity Toolkit, and the Toolkit questions are being used to guide the development process.

Prior Board Actions:

March 2, 2021, Board approval of the 5-Year Strategic Plan

FISCAL SUMMARY

Narrative Explanation of Fiscal Impacts:

There are not fiscal impacts or requests associated with this item. Staff will return to the Board with cost estimates for implementing various options during the December draft MAP presentation.

Narrative Explanation of Staffing Impacts (If Required):

None

Attachments:

1. Workshop Agenda
2. Status Update on CAR Goal 1-Wildfire Preparedness
3. Status Update on CAR Goal 2-Community Resilience
4. Status Update on CAR Goal 3-County Facilities
5. Status Update on CAR Goal 4-County Fleet
6. Status Update on CAR Goal 5-Land Policies and Projects
7. County of Sonoma Greenhouse Gas Inventory and Report
8. Fact Sheet (English) on County of Sonoma Greenhouse Gas Inventory Results
9. Fact Sheet (Spanish) on County of Sonoma Greenhouse Gas Inventory Results
10. Presentation Part 1 - Update on Climate Action and Resiliency Pillar Goals
11. Presentation Part 2 - Developing a Climate Resilience Master Action Plan

Related Items "On File" with the Clerk of the Board:

None