ATTACHMENT 1

SACRAMENTO COUNTY

CLIMATE ACTION PLAN

AUGUST 2022

Prepared for: Sacramento County

1 INTRODUCTION

1.1 CLIMATE ACTION PLAN PURPOSE AND COMPONENTS

This Climate Action Plan (CAP) details specific measures that will be implemented in Sacramento County (County) by 2030 to reduce greenhouse gas (GHG) emissions from communitywide activities and government operations. It also includes an adaptation plan that recommends actions to reduce the community's vulnerability to the anticipated impacts of climate change.

This CAP has been developed in response to mitigation measures contained in the County's General Plan EIR[1], the County's adoption of a Climate Emergency Resolution in December 2020[2], and State legislation including Assembly Bill (AB) 32, Senate Bill (SB) 32, and SB 743 as well as Executive Orders S-3-05 and B-55-18. The strategies and measures contained in this CAP complement a wide range of policies, plans, and programs that have been adopted by the County, State, and regional agencies to protect communities from hazards and activities contributing to GHG emissions. This CAP is organized into a main CAP document that provides general information about the County's approach and actionable strategies followed by seven appendices containing more information on the analyses used to inform the strategies and measures.

MAIN CAP DOCUMENT

Section 1: Introduction

Section 2: Greenhouse Gas Reduction Strategy (Community and Government Operations)

Section 3: Climate Change Adaptation Strategy

Section 4: Implementation and Monitoring Strategy

Section 5: References

APPENDICES

Appendix A: Climate Change Planning Background – Provides background information on climate change planning and key plans, policies, and regulations at the State level.

Appendix B: Vulnerability Assessment – An assessment of climate change vulnerabilities, used to inform the adaptation strategies and actions included in the CAP.

Appendix C: Applicable General Plan Policies – Contains a matrix of policies in the County's adopted 2030 General Plan which support climate action.

Appendix D: Public and Stakeholder Engagement – Provides an overview of the County's efforts to seek public and stakeholder input on the development of the CAP.

Appendix E: GHG Inventory, Forecasting and Targets – Provides detail on the evaluation of historic and forecast GHG emissions communitywide and from government operations.

[1] Sacramento County General Plan Update Final Environmental Impact Report (2010), Mitigation Measures CC-1 and CC-2

[2] Resolution of the Board of Supervisors of Sacramento County Declaring a Climate Emergency, December 2020

Appendix F: Additional Options Considered for the CAP – Provides a discussion of strategy options and a list of CAP measures that were considered for inclusion, but excluded at this stage in the County's climate action planning process, and the reasoning behind the exclusion.

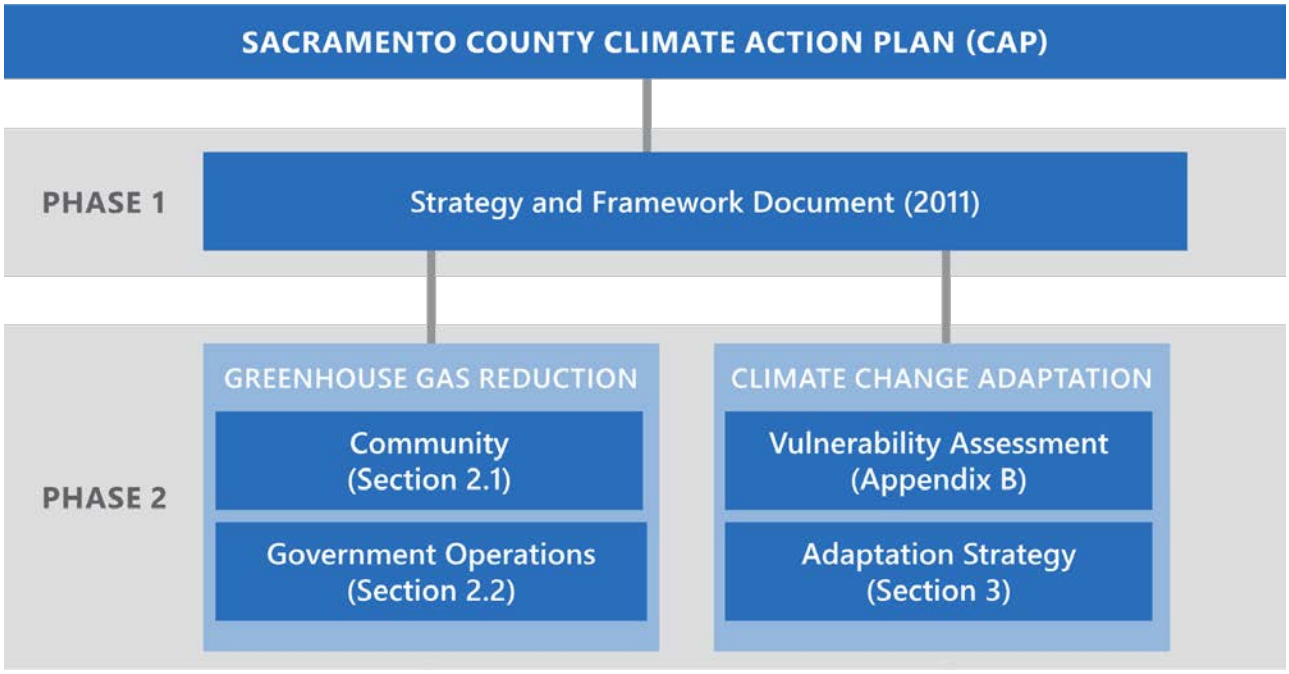
Appendix G: Cost Assessment for GHG Reduction Measures – An evaluation of costs for measure implementation from the perspective of overall measure implementation.

Appendix H: Glossary Terms and Acronyms - A glossary of terms and acronyms used throughout the CAP and appendices.

Appendix I: CAP Consistency Review Checklist - A step-by-step worksheet for development projects to demonstrate compliance with the CAP.

This CAP combines several components prepared by the County in phases into a single document, as illustrated in Figure 1. In Phase 1, the County prepared a Strategy and Framework to guide future planning actions in support of General Plan Policy LU-115. For Phase 2 the County performed assessments of forecast GHG emissions (Appendix E, Section E.2), and quantified reductions (Appendix E, Section E.4), climate change vulnerabilities (Appendix C), GHG reduction measures with timelines (Section 2), and economic analyses (Appendix G). Both phases were guided by public and stakeholder input (Appendix D) and considered the latest climate change science, incorporated into State climate policies and regulations (Appendix A). The result is a set of climate action strategies and measures detailed in this CAP (Sections 2 and 3) that support policies in the adopted General Plan while avoiding redundancy (Appendix C) and infeasibility based on social, technical, and economic factors (Appendix F); and will be monitored and adjusted, if necessary, to ensure long-term performance (Section 4). These described components are included in the CAP so that it may serve as the County's qualified "plan for the reduction of GHG emissions," in accordance with criteria identified in Section 15183.5 of the California Environmental Quality Act (CEQA) Guidelines. This would allow the CAP to facilitate streamlining of GHG emissions analyses for individual development projects that comply with the requirements in the CAP by utilizing the CAP Consistency Review Checklist (Appendix I). However, as shown in the Checklist, the CAP does not propose to streamline the GHG emissions analysis required by CEQA for projects that propose to expand the Urban Policy Area (UPA) or Urban Services Boundary (USB).

Figure 1 Sacramento County Communitywide CAP Components



Source: Sacramento County 2021.

1.2 BASELINE AND FORECAST GREENHOUSE GAS EMISSIONS

The County prepared GHG inventories for community and government operations as detailed in Appendix E. These results are categorized by sector for a baseline year of 2015. Using population, employment, and housing data, the results from the 2015 baseline year were forecast to 2030 for consistency with the target year for this CAP, which is aligned with the County's General Plan and California's 2017 Climate Change Scoping Plan. The effects of Federal and State legislation and regional polices aimed at reducing GHG emissions were included in the forecast. Table 1 provides results of the baseline and forecast GHG emissions for community and government operations. Table 2 provides a list of policies, legislation, and regulations adopted by agencies outside of the County that affect local GHG emissions compared to the County's 2015 baseline.

Table 1: Sacramento County Baseline and Forecast GHG Emissions by Sector

Sector	2015 Baseline GHG Emissions (MT CO_2e/year)	2030 Forecast GHG Emissions (MT CO_2e/year)[1]
Community GHG Emissions		
Energy - Residential	1,086,580	493,311
Energy - Commercial	843,168	300,450
Vehicles - On-Road	1,695,127	1,463,349
Vehicles - Off-Road	196,769	253,857
Solid Waste	352,909	280,694
Agriculture	254,899	251,102
High-GWP Gases	251,085	245,175
Wastewater	27,253	19,248
Water-Related	15,222	2,526
Total Community GHG Emissions	**4,723,011**	**3,309,712**
Government Operations GHG Emissions		
Employee Commute	38,290	31,818
Vehicle Fleet	29,591	30,808
Buildings and Facilities	28,247	23,736
Airports (buildings and facilities)	18,310	15,920
Water-Related	4,665	3,498
Streetlights and Traffic Signals	3,729	2,796
Wastewater	565	597
Total Government Operations GHG Emissions	**123,397**	**109,172**

Notes: GHG = greenhouse gas, MT CO_2e = metric tons of carbon dioxide equivalents, GWP = global warming potential.

[1] Includes reductions identified in Table 2.

Source: Ascent Environmental 2022.

Table 2: Legislation or Regional Policies Resulting in County GHG Emissions Reductions by 2030

Policy	Description	GHG Emissions Reductions by 2030 (MT CO_2e)
Federal and State Vehicle Efficiency Standards	Federal and State agencies have set tailpipe emissions standards and fuel efficiency standards for medium-and heavy-duty engines and vehicles.	532,953
California Building Energy Efficiency Standards	Requires all new buildings in California to comply with energy efficiency standards established by California Energy Commission.	291,105
California Renewables Portfolio Standards	Requires energy utility providers, including Pacific Gas and Electric Company, to procure 33% of electricity from renewable sources by 2020, 50% renewable by 2026, 60% renewable by 2030, and 100% zero-carbon by 2045.	683,236
SMUD 2030 Clean Energy Vision and 2030 Zero Carbon Plan	Plan adopted in April 2021 outlining SMUD's strategy for region-wide electricity generation to be zero carbon by 2030.	659,862
Assembly Bill 341	Required California to achieve a 75% solid waste diversion target by 2020.	135,149
Federal Significant New Alternatives Policy	The EPA has established bans on refrigerants and refrigerant blends that contain ozone-depleting substances.	50,686
	Total	2,352,991

Notes: GHG = greenhouse gas, MT CO_2e = metric tons of carbon dioxide equivalents, EPA = U.S. Environmental Protection Agency, SMUD = Sacramento Municipal Utility District.

Source: Ascent Environmental 2022.

1.3 GREENHOUSE GAS REDUCTION TARGETS FOR 2030

To serve as the County's qualified plan for the reduction of GHGs, the CAP target must be aligned with the State's 2017 Climate Change Scoping Plan. Based on the forecast GHG emissions and population projections, the County is expected to have an emissions rate of 4.95 metric tons of carbon dioxide equivalents (MT CO_2e) per capita in 2030. This is slightly above the County's locally adjusted emissions target of 4.8 MT CO_2e per capita by 2030, which was developed in proportion to the State's target (i.e., 6 MT CO_2e per capita by 2030), consistent with recommendations provided to local governments by the California Air Resources Board (CARB) in the 2017 Climate Change Scoping Plan[3]. This indicates that the County needs to implement local GHG emissions reduction measures to meet a target in 2030 aligned with State legislation and show progress toward meeting longer term State goals for GHG reduction under applicable Executive Orders[4]. See Appendix E for more detail on target setting.

Sacramento County's goal as stated in the County's Climate Emergency Declaration is to ultimately achieve carbon neutrality by 2030. The GHG reduction measures contained in Section 2 of this CAP will allow for reductions to be achieved beyond the County's 4.95 MT CO_2e per capita forecast and the 4.8 MT CO_2e per capita target recommended by CARB. The quantified GHG reduction measures serve two purposes related to targets. First, they are essential for putting the County on a path toward meeting a 2030 carbon neutrality goal, established under the Board of Supervisors approved Climate Emergency Resolution, passed in

[3] https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf?_ Pages 99-100

[4] 80% reduction in Statewide GHG emissions by 2050 under Executive Order S-3-05 and Statewide carbon neutrality by 2045 under Executive Order B-55-18

December 2020. Second, they serve as contingencies for any external GHG reducing policies described in Table 2 that are not achieving the reductions anticipated.

The carbon neutrality goal was passed after significant progress had already been made on climate planning activities for the County aimed at alignment with State legislated targets for 2030 under SB 32. The County goal was also established in advance of State guidance on local planning to achieve carbon neutrality, which is anticipated in 2022 through an update to CARB's Climate Change Scoping Plan[5]. Thus, the County's approach in this CAP is to 1) maintain momentum and get reductions started sooner rather than later, and 2) outline the steps the County will begin to undertake in order to achieve carbon neutrality by 2030, as described below.

The Climate Emergency Resolution adopted by the County Board of Supervisors on December 16, 2020, establishes the County's goal to reduce GHG emissions and achieve carbon neutrality by 2030 and seeks to address the climate emergency through the eight actions described below.

1. Urgent and immediate mobilization of public and private resources to develop and implement a climate and sustainability plan that identifies and integrates current and future actions necessary to achieve an equitable, sustainable, and resilient economy and transition to a countywide carbon neutrality footprint by 2030;
2. Build on existing climate action commitments and taking significant steps to sustain and accelerate short term communitywide carbon elimination, and all efforts and actions necessary to eliminate emissions by 2030, recognizing that such a goal will only be achieved through regional collaboration between multiple partners;
3. Explain within Communitywide CAP the County's approach to reduce GHG emissions in order to achieve carbon neutrality by 2030, building on recommendations and analysis from community partners, and suggested mitigation measures from climate experts, urban and regional planners, community members, and economists. Development and implementation of the plan shall be guided by science, data, best practices, and equity concerns;
4. Evaluate the resources necessary to achieve carbon neutrality by 2030, and the emergency actions required to eliminate emissions by 2030. Where existing funding or resources do not support the level of action required, County staff shall identify gaps and provide recommendations to the County Executive and Board of Supervisors;
5. Establish a permanent Climate Emergency Mobilization Task Force composed of climate experts including but not limited to representatives of the scientific community and academia to oversee the development and implementation of a climate emergency response plan (CERP) utilized by all departments within the County of Sacramento, and each department shall assign a point person to provide regular updates to the Task Force and the Board of Supervisors concerning departmental progress in reducing emissions;
6. Support farmers during the climate emergency, including support in necessary conservation and regenerative practices that will reduce emissions and improve resilience to extreme weather events;
7. Affirm the community's need to understand, participate and support all actions and initiatives the County adopts in response to the climate emergency. The County, therefore, commits to support outreach, information, and education for County residents and staff on the urgent need to reduce GHG emissions, and the policies and strategies necessary to advance sustainability and resilience.

[5] Scoping Plan Meetings & Workshops | California Air Resources Board

Implementation of the County's climate efforts shall include the engagement of community-based and grassroots organizations and inclusive economic development partners, with a focus on low-income and disadvantaged communities, youth, communities of color, and environmental justice; and

8. Continue to support and enhance local climate mitigation and adaptation efforts, and the work of local agencies and partners, including the Sacramento Municipal Utility District (SMUD), the Sacramento Metropolitan Air Quality Management District (SMAQMD), the Sacramento Area Council of Governments (SACOG), and other regional agencies and associations as well as the region's environmental and social justice member organizations.

The GHG forecasting indicates that the County needs to implement local GHG emissions reduction measures to meet the adjusted 2030 target aligned with the Scoping Plan. The strategies and measures contained in Section 2.2 and 2.3 of this CAP will result in emissions reductions above and beyond the County's 2030 target and make progress toward the 2030 carbon neutrality goal described in the Climate Emergency Resolution. The total emissions reductions achieved through these measures and the remaining emissions gap to achieve carbon neutrality are shown in Table 3 and Figure 2 below.

Table 3: Summary of Forecast Emissions, Targets, Emissions Reductions, and Remaining Emissions Gap

GHG Reduction Measure Type	GHG Emissions in 2030 (MT CO_2e)
Forecast GHG Emissions without Legislation or Regional Policies Resulting in County GHG Emissions Reductions	
Community	5,662,704
Government Operations	163,651
GHG Emissions Reduction Target	
Community	3,205,398
Government Operations	73,348
Reductions from Legislation and Regional Policies [1]	
Community	(2,352,991)
Government Operations	(54,479)
Forecast GHG Emissions with Legislation and Regional Policies Resulting in County GHG Emissions Reductions[2]	
Community	3,309,712
Government Operations	109,172
Quantified GHG Reductions with CAP Implementation[3]	
Community	(482,513)
Government Operations	(21,040)
Gap to Reach Locally Adjusted GHG Emissions Reduction Target	
Community	(378,199)
Government Operations	14,784
Gap to Reach Carbon Neutrality by 2030	
Community	2,827,199
Government Operations	88,132

Notes: GHG = greenhouse gas, MT CO_2e = metric tons of carbon dioxide equivalents.

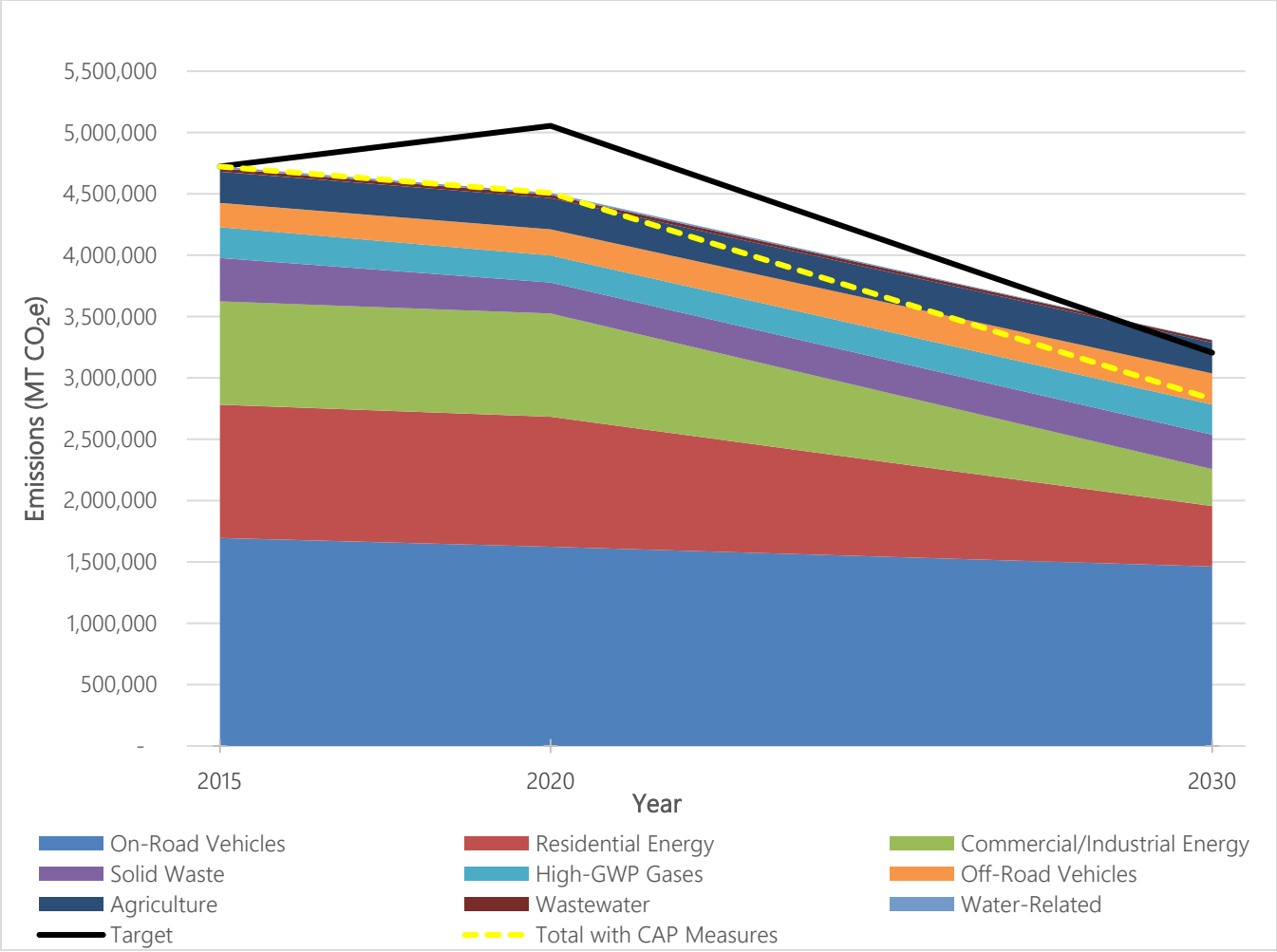
[1] Refer to Table 2.

[2] Refer to Table 1.

[3] Refer to Tables 4 and 6.

Source: Ascent Environmental 2022.

Figure 2 Summary of Community Forecast Emissions, Emissions Reductions, and Remaining Emissions Gap



While this version of the CAP does not meet the carbon neutrality goal through quantified measures, it does provide the flexibility for the plan to change over time to take additional steps that will meet the goals of the Climate Emergency Resolution. Specifically, the County commits to the following steps:

- Meet or exceed the Statewide target identified above by proceeding with GHG reduction and carbon sequestration measures defined in Section 2 this CAP.
- The County's Sustainability Manager will form the Climate Emergency Mobilization Task Force as specified in the Climate Emergency Resolution.
- Review forthcoming updates to the State's Climate Change Scoping Plan[6] (2022 Scoping Plan) and Natural and Working Lands Climate Smart Strategy[7]. These plans will be the State's roadmap to achieve carbon neutrality consistent with adopted executive orders and will provide necessary guidance to local governments on feasible GHG reduction and carbon sequestration measures.

[6] Executive Order B-55-18 to Achieve Carbon Neutrality, Order #3, "CARB shall work with relevant State agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal."

[7] Executive Order N-82-20, Order #6. Within one year of 10/7/2020 order adoption selected State agencies "shall develop a Natural and Working Lands Climate Smart Strategy that serves as a framework to advances the State's carbon neutrality goal and builds climate resilience [sic]."

- Develop the CERP and submit it to the Board of Supervisors within 1 year of CAP adoption. The CERP will set a communitywide carbon neutrality target for 2030 and evaluate the feasibility of additional County and communitywide actions for GHG reduction supplemental to those indicated in Section 2 of the CAP. These actions would be aimed at closing the Countywide emissions gap in Table 3 to achieve carbon neutrality by 2030. Actions that should be evaluated for feasibility in the CERP would include but not be limited to: prohibiting issuance of business licenses to business related to fossil fuels; requiring all-electric retrofits at point-of sale; implementing toll roads; and other measures that were previously dismissed in Appendix F.2. If GHG reduction toward carbon neutrality has not occurred, the County would prohibit the issuance of building permits for projects which exceed the GHG threshold of 2.0 MT CO_2e in 2026 (Table F.1, Appendix F). See Appendix F for a more detailed discussion.
- Initiate a comprehensive update to the General Plan that includes land use and transportation policies that further promote infill development and vehicle miles traveled (VMT) reduction beyond the goals, policies, and implementation measures already included in the 2030 General Plan. The Land Use Element includes an Urban Growth Accommodation Strategy (Land Use Element, pages 26-37) that contains many existing objectives and policies that promote high-quality infill development within the existing urban area.
- Update the CAP's GHG inventory and forecasting to reflect changes associated with the documents described above.
- Update the CAP with targets for Countywide carbon neutrality by 2030, and/or net zero targets for specific emissions sectors as described in the strategy options contained in Appendix F and new GHG reduction strategies to incorporate local actions recommended by the State in the 2022 Scoping Plan and Natural and Working Lands Climate Smart Strategy.

1.4 EXISTING COUNTY ACTIONS

1.4.1 Sacramento County General Plan of 2005-2030

This CAP was developed in the context of the existing General Plan's goals, objectives, and policies. Many of the General Plan's policies also serve to advance climate change mitigation and build Countywide resiliency. Infill is highlighted as a priority in multiple General Plan elements, including the Land Use, Housing, Economic Development, and Circulation elements. Appendix C identifies all the policies that relate to GHG reduction and adaptation and support CAP measures. Key GHG reduction, adaptation, and infill prioritization policies and implementation measures are also listed below.

LAND USE ELEMENT

- LU-3. It is the intent of the County to focus investment of public resources on revitalization efforts within existing communities, especially within commercial corridors, while also allowing planning and development to occur within strategic new growth areas.
- LU-4. The County shall give priority to residential development on vacant or underutilized sites within existing urban areas that have infrastructure capacity available.
- LU-6. Provide for the development of vacant or underutilized portions of commercial projects and industrial-office parks with medium or high-density residential uses or mixed-use development where appropriate, such as near existing or planned transit service.

- Implementation Measure B (p. 28). Monitor the location and ratio of infill and reuse development and changes in holding capacity resulting from rezones or development with other uses. Establish an incentive program for owners of properties designated for infill and owners of property or property managers of large commercial areas which contain excessive parking to convert their surface parking to structured parking and accommodate higher density and intensity development that allows for special consideration in application processing. Report annually on progress towards attaining objectives for residential infill, rezones to higher densities, build-out of planned communities, and residential development.
- Implementation Measure F (p. 28). Develop a strategy to incentivize priority development of residential vacant or underutilized sites within urban areas that have infrastructure available.
- LU-11. It is the intent of the County to comprehensively plan for the revitalization of the targeted commercial corridors and invest the resources necessary to achieve the following: stimulate private investment; encourage development of vacant and underutilized parcels; support reuse and/or rehabilitation of abandoned or blighted buildings; encourage rezoning of excess industrial and commercial lands to allow for medium and high density residential or mixed use projects, and; avoid non transit supportive uses, such as industrial uses, low density residential, and uses that would necessitate large parking lots fronting on the street.
- Implementation Measure B (p. 34). Explore offering incentives or developing a "fast track" system that will give priority to development applications that are consistent with adopted corridor plans.
- LU-23. Providing compact, mixed use developments shall be an integral part of all master planning efforts for new growth areas and commercial corridors.
- LU-68. Give the highest priority for public funding to projects that facilitate infill, reuse, redevelopment and rehabilitation, mixed-use development, and that will result in per person vehicle miles traveled lower than the County average, and the lowest priority for projects that do not comply with public facilities Master Plan phasing sequences.
- LU-90. Focus investment of County resources in commercial corridors to facilitate improvements to streetscapes, sidewalks, landscaping, undergrounding of utilities, and other infrastructure and public amenities to encourage and stimulate private investment.
- LU-101. Support conversion of excess, vacant or underperforming commercial and industrial properties to residential uses or mixed use developments.

AIR QUALITY ELEMENT

- AQ-1. New development shall be designed to promote pedestrian/bicycle access and circulation to encourage community residents to use alternative modes of transportation to conserve air quality and minimize direct and indirect emission of air contaminants.
- AQ-2. Support Regional Transit's efforts to secure adequate funding so that transit is a viable transportation alternative. Development shall pay its fair share of the cost of transit facilities required to serve the project.
- AQ-6. Provide incentives for the use of transportation alternatives, including a program for the provision of financial incentives for builders that construct ownership housing within a quarter mile of existing and proposed light rail stations.

- AQ-8. Promote mixed-use development and provide for increased development intensity along existing and proposed transit corridors to reduce the length and frequency of vehicle trips.
- AQ-17. Promote optimal air quality benefits through energy conservation measures in new development.
- AQ-20. Promote Cool Community strategies to cool the urban heat island, reduce energy use and ozone formation, and maximize air quality benefits by encouraging four main strategies including, but not limited to: plant trees, selective use of vegetation for landscaping, install cool roofing, and install cool pavements.

CIRCULATION ELEMENT

- CI-5. Land use and transportation planning and development should be cohesive, mutually supportive, and complement the objective of reducing per capita vehicle miles travelled (VMT). The standards shown in Table CI-1 shall be used as thresholds of significance for all projects subject to CEQA. Where the VMT level standards of Table CI-1 are predicted to be exceeded, all feasible mitigation measures shall be included to reduce projected VMT levels.
- CI-19. Collaborate with transit service providers to provide transit services within the County that are responsive to existing and future transit demand.
- CI-20. Promote transit services in appropriate commercial corridors and where population and employment densities are sufficient or could be increased to support those transit services.
- CI-21. Collaborate with neighboring jurisdictions and other agencies to achieve land use patterns and densities in areas planned for development that support transit services, preserve adequate rights-of-way, and enhance transit services in the designated transit corridors.
- CI-22. Collaborate with the Sacramento Area Council of Governments and transit service providers to pursue all available sources of funding for transit services when consistent with General Plan policies and long-term funding capabilities.
- CI-29. The County shall work with transit service providers to establish and implement development guidelines to maximize the ability of new development and redevelopment to support planned transit services. New development and redevelopment shall have an orientation to travel patterns that are conducive to transit service. This will include concentration of development in centers and along linear corridors such that trip origins and destinations are concentrated near transit services.
- CI-32. Develop a comprehensive, safe, convenient and accessible bicycle and pedestrian system that serves and connects the County's employment, commercial, recreational, educational, social services, housing and other transportation modes.
- CI-67. When feasible, incorporate lighter colored (higher albedo) materials and surfaces, such as lighter-colored pavements, and encourage the creation of tree canopy to reduce the built environment's absorption of heat to reduce the urban "heat island" effect

ENERGY ELEMENT

- EN-6. Actively support the efforts of the Regional Transit District to expand and upgrade service and attract an increasing percentage of travel.

- EN-32. Develop and implement a countywide water resources management plan which is based on conservation of energy and water resources.

1.4.2 Infill Projects

Prioritization of high-quality infill development can assist Sacramento County's GHG reduction goals. Sacramento County has worked on several programs designed to encourage infill development. These programs have been completed, are in progress, or are soon to start. They include but are not limited to:

- Fair Oaks Boulevard Corridor Plan. The County adopted the Fair Oaks Boulevard Corridor Plan in October 2011. This plan includes policies with the overall goal to provide the tools and incentives to implement a vision plan that will facilitate the development of a pedestrian-oriented, mixed-use town center for the Carmichael community. The plan was prepared to guide the revitalization and enhancement of Fair Oaks Boulevard, between Oak Avenue and Marshall Avenue, and Manzanita Avenue between the Boulevard and Winding Way. Following plan adoption, Sacramento County has invested over $31 million in streetscape and landscape placemaking opportunities to create a vibrant, pedestrian-friendly corridor.
- North Watt Avenue Corridor Plan. The County adopted the North Watt Avenue Corridor Plan in August 2012 as a Special Planning Area (SPA). This plan is a comprehensive guide to the implementation of the community's vision for a vibrant, economically healthy corridor north of Interstate 80 to Antelope Road, which will enhance the quality of life in North Highlands. The plan proposes to concentrate development at three transit-oriented, mixed-use district centers (Elkhorn, North Highlands Town Center, and Triangle Gateway) with land densities and intensities sufficient to support regional transit.
- Fulton Avenue Special Planning Area. The County adopted the Fulton Avenue SPA in February 2011. The plan is in response to the changing needs of the community and the decline in auto sales along the corridor. It is intended to accelerate the competitiveness of the Fulton Avenue corridor by providing additional land uses by-right and allowing flexibility in the development standards for all properties. The plan included properties within the Fulton Avenue Property Based Improvement District (PBID) between Auburn Boulevard and Arden Way.
- Folsom Boulevard Complete Street Master Plan. The County was awarded a grant from Caltrans to prepare a plan for Folsom Boulevard from Watt Avenue to Bradshaw Road and Hazel Avenue to the City of Folsom. The Master Plan was adopted in April 2016.
- Watt Avenue Complete Streets Project. The County was awarded $826,000 from SACOG to prepare design and construction documents for Phase 1 between Orange Grove Avenue and Roseville Road. The Project Report for this phase was completed in April 2021.
- Fair Oaks Boulevard Complete Street Master Plan. The County was awarded a grant from SACOG to study and implement pedestrian crossing improvements along Fair Oaks Boulevard. The Master Plan designated Fair Oaks Boulevard from Howe Avenue to Munroe Street, and Fulton Avenue from Fair Oaks Boulevard to Sierra Boulevard as Smart Growth Streets. The Master Plan was adopted in December 2017.
- Arden Way Corridor. In 2017, Smart Growth America conducted a rapid assessment of the Arden Way corridor from Watt Avenue to Howe. The analysis focused on revitalizing Arden Way as well as providing recommendations for revitalizing the broader Arden-Arcade area.

- Re-Envision West Arden-Arcade Plan. Building off of the Smart Growth America effort for Arden Way, the County was awarded a $1 million grant from SACOG for the design and environmental work for complete streets improvements along Arden Way, and a $400,000 grant from Caltrans to evaluate multi-modal transportation improvements, including safety improvements across a variety of travel modes, changes in land use or other regulations to attract community level economic development, and community identification and place-making. Following extensive public outreach, the Plan was adopted in February 2022.
- Re-Imagine North Watt Avenue Corridor Plan. The County was awarded a $486,000 grant from Caltrans to improve safety for all users, connect transit, reduce pollution and VMT, and provide opportunities for revitalization. The proposed project will re-imagine North Watt Avenue as a multimodal, sustainable, and safe corridor to better serve jobs, housing, redevelopment opportunities, and disadvantaged community members. As a complementary effort, Sacramento County is participating in a SACOG and Urban Land Institute effort to identify any barriers to infill development in the North Watt Avenue Corridor.
- Commercial Center Re-Use Brochure. This brochure, prepared by the Office of Economic Development, highlights the various ways existing vacant or underutilized commercial centers could be re-purposed.
- Kosmont Report. An assessment was prepared for infill development constraints on twenty-one specific sites, accounting for local markets and economic factors. Six of the sites were chosen for additional analysis and site-specific recommendations. The final report recommended seven revitalization tools for the County to consider for accelerating reinvestment. The Kosmont report was presented to the Board of Supervisors in December 2018.
- Green Means Go. SACOG's pilot program is intended to lower GHG emissions by incentivizing infill development. SACOG staff are developing guidelines for the $38 million secured from the State. Green Means Go will provide the County the opportunity to financially support non-transportation infrastructure in the County's five Green Zones. The Green Zones were adopted in November 2020. Sacramento County will be applying for funding to help facilitate infill development in the County's Green Zones.
- Infill Program Update. In 2021, HCD awarded the County a Local Early Action Planning (LEAP) grant for the preparation and adoption of planning documents and process improvements that accelerate housing production. One component of the LEAP Grant was to restart the County's Infill Program. The updated Infill Program is scheduled go to the Board of Supervisors in 2023.
- Stockton Boulevard Special Planning Area Ordinance Update. In 2021, SACOG awarded the County with a Regional Early Action Planning (REAP) grant of $300,000. The County will collaborate with the City of Sacramento's effort and update the Stockton Boulevard SPA to reflect the community input and build neighborhood capacity within the portion of the Stockton Boulevard corridor in the County's jurisdiction. The joint goal of the City and County is to work collaboratively to develop plans that create a vibrant urban corridor with consistent land uses and density across jurisdictional boundaries.
- SB-2 Permanent Local Housing Assistance. The County was awarded $625,000 to fund a Countywide rezone program to facilitate housing supply and affordability; amendments to the General Plan, Zoning Code, and Design Guidelines in order to streamline housing production; and preparation of an SB-2 Funding Plan to become eligible to receive future SB-2 funds for housing development.

  - SB-2 Amendments. The County amended its Development Code and General Plan with the objective of increasing housing production. These amendments were adopted by the Board of Supervisors on August 9, 2022.
  - Rezone Program. The County will complete the multifamily rezone program to add sites to the Vacant Land Inventory in the urban portion of the County for multifamily and potentially affordable housing. The Board of Supervisors initiated the rezone program in October 2021.
- Infill Fee. The County has assessed infill fees as part of two master plans' development agreements. The infill fee will be paid on a per dwelling unit equivalent basis. The Infill Fee shall be used by the County only for the purposes of facilitating infill development or redevelopment in the urban, unincorporated portion of the County in locations targeted for infill development or redevelopment, including but not limited to the Green Zones, commercial corridors, environmental justice communities, and other locations within one-half mile of existing transit. Activities that may facilitate infill development or redevelopment include but are not limited to: design assistance; fee deferrals; application fee waivers; staff support for Property Business Improvement District formation and capacity building; water, sewer, and other necessary infrastructure upgrades; electric vehicle charging facilities and other mobility hub infrastructure; and code amendments that may be necessary for conversion of existing commercial or office buildings to residential uses.

Other actions the County has taken that support the reduction of GHG emissions and to prepare the community for the anticipated effects of climate change include:

- Sacramento County's publication of Transportation Analysis Guidelines in September 2020[8], establishing VMT as the metric for evaluating potential environmental impacts from transportation in new development projects pursuant to Senate Bill 743.
- County led update to the Sacramento County Local Hazard Mitigation Plan (LHMP)[9], in coordination with incorporated cities, reclamation districts, and other special districts.
- Sacramento County's adoption in December 2020 of GHG significance thresholds for evaluating potential climate change impacts of new projects subject to CEQA.
- Sacramento County's declaration of a climate emergency in December 2020.

1.5 EXISTING REGIONAL ACTIONS

This CAP is also developed in the context of the work of local agencies and partners that supports the County's efforts to reduce GHG emissions and prepare the community for the anticipated effects of climate change. These include, but are not limited to:

- SACOG adoption of a region-wide Sustainable Communities Strategy in 2019, which provides policies and implementation actions for GHG reductions in the on-road transportation sector, consistent with Statewide targets set by CARB. Prioritization of high-quality infill development can support the County's GHG reduction goals and also furthers implementation of the 2040 Metropolitan Transportation Plan/Sustainable Communities Strategy.

[8] https://sacdot.saccounty.net/Documents/A%20to%20Z%20Folder/Traffic%20Analysis/Transportation%20Analysis%20Guidelines%2009.10.20.pdf

[9] https://waterresources.saccounty.net/stormready/Documents/LHMP%202020/Public%20Outreach%20FlyerF.pdf

- SMAQMD guidance to lead agencies, updated in April 2020, on reducing GHG emissions from new land development projects through best management practices and an Urban Heat Island mitigation project assessing vulnerability and solutions specifically to heat-related climate change impacts.
- SMUD operation of energy efficiency programs for County residents with performance tracked by reduction of carbon emissions[10] and adoption of a climate resolution which aims to transition all electricity delivered to customers in Sacramento County to GHG-free sources by 2030[11].
- Sacramento Regional Transit District (SacRT) initiatives which include providing County residents access to microtransit, electric busses, and expanded light rail service[12].

2 GREENHOUSE GAS REDUCTION STRATEGY

This section outlines specific GHG reduction measures to be implemented within Sacramento County. These include quantified and nonquantified measures. The following sustainability planning strategies were considered when developing the measures.

- Clean Energy: Focuses on providing clean and affordable sources of energy for the County by increasing the use of renewables.
- Low and Zero Emissions Vehicles and Equipment: Support electrification and alternative fuels in on- and off-road vehicles and equipment, as well as fuel efficiency measures that would reduce the amount of gasoline and diesel fuel consumed.
- Green Buildings: Reduce commercial and residential building energy and water consumption, and incorporate design features that reduce or eliminate the need for fossil fuels.
- Natural and Working Lands: Sequester carbon dioxide from the atmosphere by focusing on habitat preservation, increasing urban forest and connected open space, and carbon farming.
- Reduced Driving and Alternative Transportation Modes: Reduce emissions-generating activities by promoting public transit, and alternative modes of transportation such as biking and walking, carpooling, and transit-oriented development.

The detailed GHG reduction measure analyses in Sections 2.1 and 2.2 contain the following information for each measure.

- Measure: A description of the program, policy, or project the County will implement that will reduce GHG emissions.
- Implementation: Specific actions the County will take to achieve the described measure objective.
- Implementing County Department: The County department(s) responsible for implementation (acronyms identified below). Also includes information on external partners that could potentially collaborate for measure implementation, if applicable.
  - Agricultural Commissioner = Office of the Agricultural Commissioner;
  - BAC = Building Assistance Center;

[10] https://www.smud.org/en/Corporate/About-us/News-and-Media/2020/2020/SMUD-first-in-US-to-change-efficiency-metric-to-avoided-carbon
[11] https://www.smud.org/en/Corporate/About-us/News-and-Media/2020/2020/SMUD-Board-of-Directors-adopts-climate-emergency-declaration
[12] https://www.sacrt.com/apps/sacrt-initiatives/

- BP&I = Building Permits and Inspection;
- CEO = County Executive Office;
- Chief of Fleets = Chief of Fleet Management Division and Parking Enterprise;
- County Engineering = Engineering Department;
- DGS = Department of General Services;
- DHS = Department of Health Services;
- DPS = Department of Personnel Services;
- DTech = Department of Technology;
- DWMR = Department of Waste Management and Recycling;
- DWR = Department of Water Resources;
- ED = Economic Development;
- EMD = Environmental Management Department;
- PER = Planning and Environmental Review;
- PIO = Public Information Office;
- RP = Regional Parks;
- SACDOT = Department of Transportation;
- SacOES = Office of Emergency Services
- SCAS = Sacramento County Airport System; and
- SCWA = Sacramento County Water Agency; and
- SM = Sustainability Manager.

- **Timeframe:** When the measure will be implemented, categorized as near term (2020-2023), midterm (2024-2026), and long term (2027-2030).
- **GHG Reduction Potential**: Estimated MT CO_2e reduced in 2030, if measure is quantified. See Appendix E, Table E-6 for modeling assumptions. Measures unable to be estimated indicated as "Not Quantified".
- **Sector:** Describes which emissions sector from the GHG Inventory to which the measure applies.
- **Target Indicator:** Describes metrics that can be used to monitor progress toward goal achievement.

2.1 COMMUNITY GREENHOUSE GAS REDUCTION MEASURES

The total estimated GHG emission reduction from all quantifiable community measures is 482,513 MT CO_2e in 2030 (see Table 4). Some community measures have not been quantified at this time due to lack of data, detailed information, and quantification methods, as well as uncertainties surrounding implementation and technology advancements.

Table 4: Summary of Community GHG Reduction Measures

Measure Number	Measure Name	GHG Emissions Sector	GHG Reductions (MT CO_2e/year) in 2030
GHG-01	Promote and Increase Carbon Farming	Agriculture	146,934
GHG-02	Maintain and Enhance Urban Forest	Agriculture	1,681
GHG-03	Support Urban-Rural Agricultural Connections	Agriculture	Not Quantified
GHG-04	Increase Energy Efficiency and Electrification of Existing Commercial/Nonresidential Buildings and Facilities	Energy - Commercial	12,465
GHG-05	Increase Energy Efficiency and Electrification of New Commercial/Nonresidential Buildings and Facilities	Energy - Commercial	3,936
GHG-06	Increase Energy Efficiency and Electrification of Existing Residential Buildings	Energy - Residential	140,819
GHG-07	Eliminate Fossil Fuel Consumption in New Residential Buildings	Energy - Residential	48,587
GHG-08	Require Tier 4 Final or Cleaner Construction Equipment	Vehicles - Off-Road	6,370
GHG-09	Establish Program to Trade in Fossil Fuel–Powered Landscaping Equipment for Electric Equipment	Vehicles - Off-Road	Not Quantified
GHG-10	Implement Electric Vehicle Infrastructure Program	Vehicles - On-Road	33,572
GHG-11	Reduce Emissions from New Residential and Office/Business Professional Development Vehicle Miles Traveled	Vehicles - On-Road	22,037
GHG-12	Update Transportation System Management Plan for Nonresidential Projects	Vehicles - On-Road	15,570
GHG-13	Revise Parking Standards for Nonresidential Development	Vehicles - On-Road	4,634
GHG-14	Improve Transit Access	Vehicles - On-Road	1,854
GHG-15	Improve Pedestrian Network and Facilities	Vehicles - On-Road	1,390
GHG-16	Implement Traffic Calming Measures	Vehicles - On-Road	927
GHG-17	Improve Bicycle Network and Facilities	Vehicles - On-Road	348
GHG-18	Improve Fuel Efficiency Standards	Vehicles - On-Road	Not Quantified
GHG-19	Establish EV Parking Code	Vehicles - On-Road	Not Quantified
GHG-20	Establish Safe Routes to School	Vehicles - On-Road	Not Quantified
GHG-21	Update Community and Corridor Plans	Vehicles - On-Road	Not Quantified
GHG-22	Connect Key Destinations	Vehicles - On-Road	Not Quantified
GHG-23	Incentivize Infill Development	Vehicles - On-Road	Not Quantified
GHG-24	Increase Organic Waste Diversion	Solid Waste	39,186
GHG-25	Convert to Electric Irrigation Pumps	Water	2,204
GHG-26	Implement South Sacramento Habitat Conservation Plan	Agriculture	Not Quantified
GHG-27	Provide Shared Electric Vehicles at Affordable Housing Projects	Vehicles – On-Road	Not Quantified
GHG-28	Reduce or Eliminate Emissions in Agricultural Equipment	Agriculture	Not Quantified
GHG-29	Encourage Use of Electric or Sustainably Fueled Construction Equipment	Vehicles – Off-Road	Not Quantified
GHG-30	Explore Pathway for Carbon Capture and Sequestration	Multiple	Not Quantified
GHG-31	Participate in Infill Programs		Not Quantified

Measure Number	Measure Name	GHG Emissions Sector	GHG Reductions (MT CO_2e/year) in 2030
Total GHG Reduction from Quantified Measures			482,513

Notes: GHG = greenhouse gas; MT CO_2e = metric tons of carbon dioxide equivalents.

Source: Ascent Environmental 2022.

When new development projects need to provide additional GHG reductions, the community measures that have not been quantified, or other new measures that become available, may be utilized. The project applicants who wish to utilize community measures for which GHG reductions have not been quantified must submit documentation containing quantification for the selected community measures for their projects, subject to review and verification by the County or a qualified third party selected by the County.

MEASURE GHG-01: PROMOTE AND INCREASE CARBON FARMING

Measure: The County will work with local farmers, ranchers, and land managers, as well as resource conservation districts and other partners (e.g., Carbon Cycle Institute), to promote and increase carbon sequestration on agricultural lands through the development of carbon farming plans.

Implementation: Develop a program by 2024 that, through targeted outreach and peer-to-peer learning, provides carbon sequestration education and resources to relevant stakeholders (e.g., farmers, ranchers, and land managers). The program will focus on educating stakeholders about the co-benefits of implementing carbon sequestration practices and the variety of financial and technical resources that are available to assist farmers and ranchers in implementation. This program may be coordinated with industry groups and nonprofits, such as the California Association of Resource Conservation Districts. Funding and implementation resources that could support the program include but are not limited to the following:

- The California Department of Food and Agriculture's (CDFA's) California's Healthy Soils Program (HSP) promotes the development of healthy soils and soil organic matter that can increase carbon sequestration and reduce GHG emissions. The HSP provides financial and technical assistance for implementation of projects that serve to achieve these goals, including compost application and tillage management.
- CDFA's Alternative Manure Management Program provides funding to reduce GHG emissions through the implementation of manure management best practices.
- The Strategic Growth Council's (SGC's) Sustainable Agricultural Lands Conservation Program protects critical agricultural lands from conversion to more GHG-intensive residential uses by facilitating conservation easements and strategy plans. SCG's Technical Assistance Program supports communities, particularly the State's most disadvantaged communities, that apply for California Climate Investments funding.
- Zero Foodprint's Restore CA Program provides funding to farmers and ranchers for implementing healthy soils projects that improve carbon sequestration, including grazing management, compost application, and tillage management.
- The University of California Agriculture and Natural Resources' Sustainable Agriculture & Food Systems Small Grants Program provides funding to farmers and ranchers, as well as local and State governments, for environmentally regenerative approaches to producing crops and livestock, including soil health improvements and crop diversification.

- The U.S. Natural Resources Conservation Service offers several financial and technical assistance programs to agricultural producers to help manage natural resources in a sustainable manner. The Conservation Stewardship Program educates farmers on the benefits of conservation and sustainable agriculture practices and assists with the development of plans to improve agricultural productivity. The Environmental Quality Incentives Program assists agricultural producers in addressing natural resource concerns and delivering environmental benefits through projects such as crop rotation, prescribed grazing, and manure management. The Regional Conservation Partnership Program focuses on innovative conservation objectives, such as cover crop adoption to improve soil health.

Implementing County Departments: SM and Agricultural Commissioner

Timeframe: Midterm

GHG Reduction Potential: 146,934 MT CO_2e per year by 2030

Sector: Agriculture

Target Indicator: Implementation of a variety of carbon farming techniques and practices on agricultural land in Sacramento County, including:

- application of compost instead of synthetic fertilizer to 22,000 acres of cropland by 2026 and 44,344 acres of cropland by 2030;
- grazing management to improve irrigated pasture conditions applied to 2,500 acres by 2026 and 4,965 acres by 2030;
- decrease in fallow frequency or addition of perennial crops to rotations applied to 13,000 acres by 2026 and 27,515 acres by 2030; and
- tillage reduced, eliminated, or changed to strip tilling on 2,000 acres by 2026 and 4,557 acres by 2030.

MEASURE GHG-02: MAINTAIN AND ENHANCE URBAN FOREST

Measure: The County will maintain and enhance the urban forest to provide shading that improves energy conservation in adjacent dwellings and reduces the urban heat island effect (UHIE).

Implementation: Partner with the Sacramento Tree Foundation to use existing programs such as NeighborWoods and NATURE to increase the tree canopy, including in redeveloping areas. Planting of drought-tolerant tree species will be strongly encouraged. Priority planting locations shall be in the County's Environmental Justice Communities identified in the Environmental Justice Element. Ensure that trees required to be planted through the Zoning Code are properly maintained to maximize tree health and ensure longevity in order to realize the benefits of urban trees. Forge partnerships with community cooperatives to organize tree-planting and maintenance events.

In addition, new development projects that have incorporated all feasible on-site GHG mitigation may be permitted to contribute financially to this program subject to quantification of the costs per MT CO_2e. This quantification shall be submitted by applicants for review and verification by the County or a qualified third party selected by the County.

Implementing County Departments: BP&I, PER, and RP

Timeframe: Near term

GHG Reduction Potential: 1,681 MT CO_2e per year by 2030

Co-benefit

This measure supports adaptation measures Temp-07 and Temp-08.

Sector: Agriculture

Target Indicator: Tracking of projects where the County has participated in preserving or adding to the urban forest, setting goals for 20,000 new trees by 2026 and 47,498 new trees by 2030.

MEASURE GHG-03: SUPPORT URBAN-RURAL AGRICULTURAL CONNECTIONS

Measure: The County will support the Food Systems Assessment and Food Action Plan described in the Environmental Justice Element by promoting Farm-to-Fork concepts. The County will also support local food hubs to help connect farmers and food entrepreneurs with regional markets and institutional buyers, such as schools, hospitals, and food banks, to provide access to locally grown products and improve the resiliency of the regional food system through strengthening local supply chains.

Implementation: Publish on the County website a directory of local providers of Community-Supported Agriculture and food delivery services. Publish information on local Farm-to-Fork events, such as the annual Farm-to-Form Festival and County restaurants and farms participating in Farm-to-Fork weeks. During the preparation and implementation of the Food Systems Assessment and Food Action Plan, potential locations for food hubs will be identified through outreach with local farmers, representatives of regional markets and institutional buyers, and food entrepreneurs.

Implementing County Departments: SM and PIO

Timeframe: Long term

GHG Reduction Potential: Not quantified

Sector: Agriculture

Target Indicator: Publication of described information on County website.

MEASURE GHG-04: INCREASE ENERGY EFFICIENCY AND ELECTRIFICATION OF EXISTING COMMERCIAL/NONRESIDENTIAL BUILDINGS AND FACILITIES

Measure: The County will require existing commercial/nonresidential buildings to increase energy efficiency and electrify existing water and space heating equipment that currently use natural gas. The County will develop a program aimed at assisting local utilities with implementing commercial energy efficiency and electrification programs to achieve reductions in energy consumption. The building permit requirements for electrification of water and space heating equipment will be applicable based on the below timelines:

- building permit applications filed on or after January 1, 2023, or 6 months after the availability of a cost-effectiveness study prepared by the California Statewide Codes and Standards Reach Codes Team (Statewide Reach Codes Team), whichever is later, for buildings that are three stories or less;
- building permit applications filed on or after January 1, 2026, or 6 months after the availability of a cost-effectiveness study prepared by the Statewide Reach Codes Team, whichever is later, for buildings that are four stories or more; and

- limited exemptions for specific uses, available only for building permits filed on or before December 31, 2025, provided that the associated GHG emissions are offset through an accredited local carbon offset program:
  - a limited exemption for manufacturing process loads within a manufacturing or industrial facility[13] and
  - a limited exemption for essential medical facilities, such as hospitals that may require natural gas.

If the technology to install all-electric water and/or space heating equipment for manufacturing or industrial facilities or essential medical facilities is not feasible and available by July 1, 2025, the Board of Supervisors may consider extending the limited exemption until the technology is feasible and available.

Implementation: Adopt energy efficiency and electrification ordinances no later than December 2022, or 6 months after the availability of a cost-effectiveness study prepared by the Statewide Reach Codes Team, or feasibility analysis, whichever is later, to require California Green Building Standards Code (CALGreen) Tier 1 energy efficiency compliance and electric space and water heating equipment for nonresidential additions or alterations equal to or greater than $200,000 building permit valuation or equal to or greater than 1,000 square feet.

To support nonresidential electrification, the County shall review its existing permitting processes for nonresidential building owners seeking to replace gas water and space heating equipment with electric equipment, as well as capping gas meters, and modify as needed to reduce complexity, cost, and processing time for any required permits. This may include exploring provisions to focus any required inspections related to electrification solely on those areas affected by the requested permit.

An outreach program will be developed that provides education strategies that enable commercial energy conservation and gas-to-electric conversions in nonresidential buildings for space and water heating. Develop online videos and educational materials on energy efficiency and building electrification (including trainings, fact sheets, and/or information on available incentives) targeted toward building owners and tenants that are hosted on the County's website or linked to SMUD and Pacific Gas and Electric Company (PG&E) web interfaces. In addition to education, video tutorials can explain to business owners how to enroll in real-time energy use monitoring tools to track energy use compared to historic levels and within the community through the EnergyStar™ Portfolio Manager, or other tools offered by third-party providers. The educational materials will also be provided as part of routine regulatory processes, such as applying for or renewing licenses or permits and undergoing health and safety inspections, and through the Business Environmental Resource Center.

In addition, new development projects that have incorporated all feasible on-site GHG mitigation may be permitted to fund energy efficiency and electrification retrofits of existing buildings subject to quantification of the costs per MT CO_2e. This quantification shall be submitted by applicants for review and verification by the County or a qualified third party selected by the County.

Implementing County Departments: SM, PER, and BP&I via the BAC with PIO support

Timeframe: Long term

[13] A "manufacturing or industrial facility" is a building with the occupancy classification as defined in the California Building Code, Chapter 3, Section 306, Group F or Section 313, Group L. Group F refers to the use of a building or structure, or a portion thereof, for assembling, disassembling, fabricating, finishing, manufacturing, packaging, repair, or processing operations that are not classified as a Group H hazardous or Group S storage occupancy. Group L refers to a room building or area where the use and storage of hazardous materials are used for testing, analysis, instruction, research, or development activities.

GHG Reduction Potential: 12,465 MT CO_2e per year by 2030

Co-benefit

This measure supports adaptation measures Temp-07 and Temp-08.

Sector: Energy - Commercial

Target Indicator: Development of an outreach program and partnership with local utilities on an electrification and energy efficiency retrofit program. Assumed participation of 5 percent for energy efficiency upgrades, 5 percent for energy conservation, and 15 percent for electrification by 2026, and 10 percent for energy efficiency upgrades, 10 percent for energy conservation, and 30 percent for electrification by 2030 for a total reduction of 2,400,000 therms.

MEASURE GHG-05: INCREASE ENERGY EFFICIENCY AND ELECTRIFICATION OF NEW COMMERCIAL/NONRESIDENTIAL BUILDINGS OR FACILITIES

Measure: The County will develop a reach code requiring new commercial and nonresidential buildings obtaining building permits to meet the following requirements:

- building permit applications filed on or after January 1, 2023, or 6 months after the availability of a cost-effectiveness study prepared by the Statewide Reach Codes Team, whichever is later, for newly constructed buildings that are three stories or less to be all-electric buildings;
- building permit applications filed on or after January 1, 2026, or 6 months after the availability of a cost-effectiveness study prepared by the Statewide Reach Codes Team, whichever is later, for newly constructed buildings that are four stories or more to be all-electric buildings; and
- limited exemptions for specific uses, available only for building permits filed on or before December 31, 2025, provided that the associated GHG emissions are offset through an accredited local carbon offset program:
  - a limited exemption for food establishments for cooking equipment only;
  - a limited exemption for manufacturing process loads within a manufacturing or industrial facility[14];
  - a limited exemption for essential medical facilities, such as hospitals that may require natural gas;
  - a limited exemption for regulated affordable housing when virtual net energy metering is not available, for water heating only; and
  - if the technology to require construction of an all-electric building for ground floor food service establishments, manufacturing or industrial facilities, essential medical facilities, or regulated affordable housing is not feasible and available by July 1, 2025, the Board of Supervisors may consider extending the limited exemption until the technology is feasible and available.

Implementation: Prepare an ordinance for review by the Board of Supervisors. The cost-effectiveness studies and feasibility analyses should include at a minimum consideration of supply chain availability of parts, prices of component parts, and projects for which natural gas lines have already been constructed

[14] A "manufacturing or industrial facility" is a building with the occupancy classification as defined in the California Building Code, Chapter 3, Section 306, Group F or Section 313, Group L. Group F refers to the use of a building or structure, or a portion thereof, for assembling, disassembling, fabricating, finishing, manufacturing, packaging, repair, or processing operations that are not classified as a Group H hazardous or Group S storage occupancy. Group L refers to a room building or area where the use and storage of hazardous materials are used for testing, analysis, instruction, research, or development activities.

onsite or approved in improvement plans. The County will periodically re-assess and update reach codes in response to updates to the building code.

Implementing County Departments: SM and BP&I

Timeframe: Near term. Adopt an ordinance no later than December 2022, or 6 months after the availability of a cost-effectiveness study prepared by the Statewide Reach Codes Team, whichever is later.

GHG Reduction Potential: 3,936 MT CO_2e per year by 2030

Co-benefit

This measure supports adaptation measures Temp-07 and Temp-08. It provides an additional co-benefit for air quality related to reductions in oxides of nitrogen, particulate matter, and ozone precursors as a result of reductions in natural gas combustion.

Sector: Energy - Commercial

Target Indicator: Adoption of ordinance and enforcement on commercial buildings obtaining permits thereafter. Target set for 230,000 therms of natural gas and 20,000 MWh of electricity consumption to be avoided by 2026 and 470,000 therms and 40,000 MWh of electricity to be avoided by 2030.

MEASURE GHG-06: INCREASE ENERGY EFFICIENCY AND ELECTRIFICATION OF EXISTING RESIDENTIAL BUILDINGS

Measure: The County will adopt an electrification requirement for mixed-fuel single-family and multifamily homes subject to cost-effectiveness studies prepared by the Statewide Reach Codes Team:

- The upgrade or replacement of natural gas appliances or HVAC and/or water heating equipment will be required to be an electrically powered equivalent. This could occur at the end of the current natural gas appliance's life cycle, or at the point of appliance replacement if earlier than the end of its life cycle.
- Permits for additions or alterations to single-family and multifamily residential structures that increase the building's conditioned area will be required to meet CALGreen Tier 2 energy efficiency standards for the increased conditioned area.
- Permits for additions or alterations to single-family and multifamily residential structures that increase the building's conditioned area but do not include HVAC and/or water heating equipment will be required to upgrade an electrical panel or branch circuit to support these electric appliances in the future.

This requirement will be effective per the following timelines:

- building permit applications filed on or after January 1, 2023, or 6 months after the availability of a cost-effectiveness study prepared by the Statewide Reach Codes Team, whichever is later, for buildings that are three stories or less, and
- building permit applications filed on or after January 1, 2026, or 6 months after the availability of a cost-effectiveness study prepared by the Statewide Reach Codes Team, whichever is later, for buildings that are four stories or more.

To support residential electrification, the County shall review its existing permitting processes for residential building owners seeking to replace gas home appliances with electric appliances, as well as

capping gas meters, and modify as needed to reduce complexity, cost, and processing time for any required permits. This may include exploring provisions to focus any required inspections related to electrification solely on those areas affected by the requested permit.

The County will partner with SMUD to develop an incentive program that reduces costs associated with any necessary electrical panel and/or branch circuit upgrades to support additional electric appliances. In addition, the County will assist local utilities and organizations such as Rebuilding Together Sacramento and Community Resource Project with increasing participation in residential retrofit programs in the County's environmental justice communities to achieve a reduction in overall energy consumption.

To support utilities on residential energy efficiency, the County will develop and implement a program that provides education on strategies that promote energy savings in residential buildings. Videos featuring energy savings tips will be recorded and hosted on the County's website, and a marketing campaign will be developed to advertise the availability of this information. Marketing and educational materials will include all applicable incentives and rebates from SMUD or other utilities. A video will also be created that shows residents how to monitor their energy use through SMUD and PG&E web interfaces or share their energy use with third parties for more detailed analytics on energy use. An information sheet will also be published on the County's CAP portal, described in Section 4, on methods that can be used to retrofit buildings for energy efficiency, including upgrading to EnergyStar™-certified appliances, more efficient HVAC systems, weatherization, and comprehensive whole home retrofitting.

Implementation: The County Building Permits and Inspection Division will require documentation at the time of building permit application for replacement of water heaters, HVAC systems, and other appliances requiring a permit. The information requested should include a serial number for the new electric appliance, where purchased, and contact information for the contractor who performed the installation. Eligible upgrades may include heat pump water heaters, induction cooktops, heat pump space heaters, electrical panel and branch circuit upgrades, or permanent removal of a natural gas fireplace.

An outreach program will be developed that provides education strategies that enable residential energy conservation and gas-to-electric conversions in residential buildings for space and water heating. This outreach program will include partnership with existing organizations, such as the Sacramento Association of Realtors, to provide information on benefits of energy conservation and incentives for electrification.

In addition, new development projects that have incorporated all feasible on-site GHG mitigation may be permitted to fund energy efficiency and electrification retrofits of existing buildings subject to quantification of the costs per MT CO_2e. This quantification shall be submitted by applicants for review and verification by the County or a qualified third party selected by the County.

Implementing County Departments: SM, PER, and BP&I via the BAC with PIO support

Timeframe: Midterm

GHG Reduction Potential: 140,819 MT CO_2e per year by 2030

Sector: Energy – Residential

Target Indicator: Development of an outreach program and partnership with local utilities on an electrification and energy efficiency retrofit program. Participation targets for existing residences: 10 percent for energy-efficiency upgrades by 2030; 15 percent for energy conservation by 2030; and 30 percent for electrification by 2030. Target set for 13,000,000 therms of natural gas and 20,000 MWh of electricity consumption to be avoided by 2026 and 26,200,000 therms and 39,000 MWh of electricity to be avoided by 2030.

MEASURE GHG-07: ELIMINATE FOSSIL FUEL CONSUMPTION IN NEW RESIDENTIAL BUILDINGS

Measure: The County will require prewiring for all-electric appliances and equipment in all mixed-fuel new single-family dwellings and multi-family buildings constructed prior to January 1, 2023, effective upon adoption of this CAP. The County also will require all new residential construction in the County to be all-electric per the following requirements subject to cost-effectiveness studies prepared by the Statewide Reach Codes Team:

- building permit applications filed on or after January 1, 2023, or 6 months after the availability of a cost-effectiveness study prepared by the Statewide Reach Codes Team, whichever is later, for newly constructed residential buildings that are three stories or less to be all-electric buildings; and
- building permit applications filed on or after January 1, 2026, or 6 months after the availability of a cost-effectiveness study prepared by the Statewide Reach Codes Team, whichever is later, for newly constructed residential buildings that are four stories or more to be all-electric buildings.

Implementation: Develop and adopt an energy reach code no later than December 2022, or 6 months after the availability of a cost-effectiveness study prepared by the Statewide Reach Codes Team, whichever is later, requiring all new single-family and low-rise and mid-rise multi-family residential buildings obtaining building permits, to be designed as all-electric buildings. Development of the energy reach code will include cost-effectiveness studies and feasibility analyses that should include at a minimum consideration of supply chain availability of parts, prices of component parts, and previously approved projects for which natural gas lines may already be constructed. Detailed feasibility criteria will be developed during development of the energy reach code. In addition, the County will periodically re-assess and update reach codes in response to updates to the building code.

Examples of draft criteria for when residential buildings will not be subject to the all-electric requirement are described below:

- Projects in progress
  - New subdivisions or planned unit development that has existing natural gas infrastructure that is already substantially built on the date of adoption of the reach code.
  - Architectural master plans for the subdivision that have been submitted to the County for design review prior to the date of adoption of the reach code.
- Cost feasibility: Where a project applicant can reasonably demonstrate that the cost of providing an all-electric home would add 50 percent to the cost of the like-sized component parts above the costs of installing natural gas appliances, including available incentives and the cost of natural gas infrastructure.
- Supply chain feasibility: Where a project applicant can reasonably demonstrate that all-electric parts, including additional transformers required to carry additional electrical capacity, required for home sale cannot be acquired from a manufacturer within 120 days.
- Affordable housing: A limited exemption for regulated affordable housing when virtual net energy metering is not available, for water heating only.

In addition, new development projects that have incorporated all feasible on-site GHG mitigation may be permitted to contribute financially toward the electrification programs for existing buildings in Measures GHG-04 and GHG-06 subject to quantification of the costs per MT CO_2e.

Implementing County Departments: SM and BP&I

Timeframe: Midterm

GHG Reduction Potential: 48,587 MT CO_2e per year by 2030

Sector: Energy - Residential

Target Indicator: Adoption of a reach code no later than December 2022, or 6 months after the availability of a cost-effectiveness study prepared by the Statewide Reach Codes Team, whichever is later. Target set for having 23,000 dwelling units all-electric by 2030.

MEASURE GHG-08: REQUIRE TIER 4 FINAL OR CLEANER CONSTRUCTION EQUIPMENT

Measure: The County will require U.S. Environmental Protection Agency (EPA)-rated Tier 4 final diesel engines or cleaner electric-powered, hybrid, or alternatively fueled construction equipment in new construction projects, unless the applicant can reasonably demonstrate that specific equipment is infeasible or regional supply unavailable. If infeasible or unavailable, the contractor will demonstrate how the proposed equipment will achieve similar GHG emissions to Tier 4 final engines, which will be verified by SMAQMD.

Contractors who demonstrate that they meet CARB's Off-Road Diesel Regulations as a small fleet can qualify for a waiver from this requirement. The County will partner with SMAQMD to provide contractors designated as small fleets information on applicable incentives or grants for equipment upgrades.

Project applicants will include Tier 4 final engines or cleaner electric-powered, hybrid, or alternatively fueled construction equipment in construction lists prior to receiving work authorization for valid grading permits or improvement plans.

Implementation: Review equipment planned for use in construction during the project application.

Implementing County Departments: PER and BP&I

Timeframe: Near term

GHG Reduction Potential: 6,370 MT CO_2e per year by 2030

Sector: Off-Road Vehicles

Target Indicator: 40 percent of diesel-fueled construction equipment achieve Tier 4 final-rated diesel engines or cleaner by 2026 and 100 percent by 2030.

MEASURE GHG-09: ESTABLISH PROGRAM TO TRADE IN FOSSIL FUEL–POWERED LANDSCAPING EQUIPMENT FOR ELECTRIC EQUIPMENT

Measure: The County will work with SMAQMD to establish an incentive program to trade in fossil fuel–powered landscaping equipment for electric versions.

Implementation: Create a drop-off point for fossil fuel–powered landscaping equipment at the North Area Recovery Station Household Hazardous Waste Facility and other appropriate County-operated facilities. The County may explore partnering with other agencies to expand the number of drop-off points throughout the County.

Implementing County Departments: DWMR and SM

Timeframe: Near term

GHG Reduction Potential: Not quantified

Sector: Vehicles - Off-Road

Target Indicator: Track the number of vouchers issued for the exchange of fossil fuel–powered lawnmowers, leaf blowers, and weed trimmers. Aim to have 1,000 pieces of landscaping equipment traded in by 2026.

MEASURE GHG-10: IMPLEMENT ELECTRIC VEHICLE INFRASTRUCTURE PROGRAM

Measure: The County will implement the Sacramento Area Plug-In Electric Vehicle Collaborative's Electric Vehicle Readiness and Infrastructure Plan to increase the electric vehicle (EV) network capacity through infrastructure, fleet changes, funding mechanisms, utility coordination, and education. As specified in the Electric Vehicle Readiness and Infrastructure Plan, priority areas for installing EV chargers include those which are accessible to visitors at the Sacramento International Airport.

The County will support updates to the Sacramento Area Plug-In Electric Vehicle Collaborative's Electric Vehicle Readiness and Infrastructure Plan as more information is available and in response to emerging trends, which may result in changes to the target indicator. This would include working together with other jurisdictions and public fleets in the region to increase the availability of EV charging for public fleets, including the County's fleet (see GOV-FL-01 and GOV-AR-01).

Implementation: Install EV chargers throughout the community working with third-party EV installers and operators. Prepare educational materials, which may include pamphlets and video tutorials, and conduct educational workshops, to inform residents and businesses about EVs and the expanded EV infrastructure. Education materials and workshops will include culturally compatible outreach to underserved and disadvantaged communities, which will create a positive EV adoption impact for disadvantaged communities. In addition, new development projects that have incorporated all feasible on-site GHG mitigation may be permitted to contribute financially to this program subject to quantification of the costs per MT CO_2e. This quantification shall be submitted by applicants for review and verification by the County or a qualified third party selected by the County.

Implementing County Department: SM, Chief of Fleets, DWMR, SCAS

Timeframe: Long term

GHG Reduction Potential: 33,572 MT CO_2e per year by 2030

Sector: Vehicles - On-Road

Target Indicator: 1,000 chargers (95 percent Level 2 and 5 percent DC Fast Charge) installed by 2025 and 2,500 installed by 2030.

MEASURE GHG-11: REDUCE EMISSIONS FROM NEW RESIDENTIAL AND OFFICE/BUSINESS PROFESSIONAL DEVELOPMENT VEHICLE MILES TRAVELED

Measure: The County will achieve a 15 percent reduction in daily VMT compared to the regional average as specified in Sacramento County's Transportation Analysis Guidelines for all new residential and office/business professional development in the County, consistent with Policy CI-5 of the Circulation Element. Where the target reduction is infeasible for individual projects as determined through the CEQA process, participation in a VMT mitigation program shall be required to offset VMT impacts.

Implementation: New proposed residential and office/business professional development projects must demonstrate that project daily VMT per service population is equal to or below the established VMT thresholds established for the applicable land use designation identified in Table CI-1 of the Circulation Element. Projects that do not meet these VMT thresholds will be required to implement all feasible mitigation measures to ensure that the VMT targets are met. Detailed feasibility criteria will be developed and will include appropriate economic considerations. The following actions related to the development and implementation of mitigation measures would be undertaken:

- Ensure that all feasible on-site VMT mitigation measures are prioritized and implemented prior to the development of off-site mitigation measures.
- Develop and adopt a VMT mitigation program (e.g., VMT mitigation fee, bank, or exchange) to offset project-level and cumulative unmitigated VMT impacts from projects with funding allocated toward VMT improvement projects or equivalent GHG emission reduction projects in the County. VMT improvement and VMT reduction activities include but are not limited to bike share, microtransit first/last mile accessibility solutions, microtransit/on-demand rideshare (such as SacRT's SmaRT Ride), and participation in a Transportation Management Association.

Implementing County Departments: PER and SACDOT

Timeframe: Near term

GHG Reduction Potential: 22,037 MT CO_2e per year by 2030

Sector: Vehicles - On-Road

Target Indicator: 15percent reduction in VMT from forecast new residential and office/business professional development by 2030.

MEASURE GHG-12: UPDATE TRANSPORTATION SYSTEM MANAGEMENT PLAN FOR NONRESIDENTIAL PROJECTS

Measure: The County will review and update Section 5.9.6.F of the Zoning Code, which requires a Transportation System Management (TSM) Plan for qualifying projects, as specified in Section 5.9.6.F of the Zoning Code, to ensure that the ordinance is comprehensive, enforceable, and consistent with the GHG reduction target.

Implementation: The updated TSM Plan requirements will define the minimum trip generation requirements for new nonresidential development projects and include a monitoring and reporting mechanism to demonstrate ongoing compliance and ensure enforcement. Considerations when reviewing and updating the TSM Plan requirements should include:

- project types and sizes required to implement a TSM Plan;

- development of a preferred/most effective set of TSM measures for developers to choose from;
- development of monitoring and reporting requirements that developers or property owners would be responsible for submitting to the County on an annual basis; and
- identification of County division responsible for reviewing annual progress reporting of individual projects.

Additionally, the TSM Plans shall be sent to SacRT for review and comment prior to approval.

Implementing County Departments: SM, PER, and SACDOT

Timeframe: Near term

GHG Reduction Potential: 15,570 MT CO_2e per year by 2030

Sector: Vehicles - On-Road

Target Indicator: Update the Zoning Code to include described TSM Plan requirements by December 2023.

MEASURE GHG-13: REVISE PARKING STANDARDS FOR NONRESIDENTIAL DEVELOPMENT

Measure: The County will study and revise the current parking standards for new nonresidential development through changes to the Sacramento County Zoning Code. This measure will consist of the County implementation of reduced minimum parking standards and shared parking requirements. Reducing minimum parking standards allows developers to provide the amount of parking they deem appropriate based on market demand rather than requiring universal parking standards that disregard local data, as well as the scale, use, and location of the proposed development. Minimizing parking standards reduces construction costs, shifts development growth patterns, and encourages the use of alternative modes of transportation, thus reducing VMT. Shared parking is a parking management tool that allows parking facilities to be used more efficiently by sharing spaces with more than one user. Most parking spaces are used only part-time, and a significant portion of many parking facilities are underutilized.

Implementation: The process for updating the parking standards could include the following actions:

- study minimum parking requirements based on local data (demand),
- develop new parking standards based on the local parking demand study and in coordination with SacRT based on transit availability, and
- integrate new parking standards into the Sacramento County Zoning Code.

The inclusion of mutually supportive parking management strategies is recommended for effective implementation and to mitigate potential parking spillover into surrounding areas. These include the following actions:

- unbundle parking for new developments,
- require residential area parking permits, and
- implement on-street parking regulations.

Additionally, the County will update the Zoning Ordinance to require shared parking facilities for uses in new nonresidential development that have staggered parking demands at different times of the day and allow for transit use of off-street parking areas.

Implementing County Department: PER

Timeframe: Near term

GHG Reduction Potential: 4,634 MT CO_2e per year by 2030

Sector: Vehicles - On-Road

Target Indicator: Parking standards updated by end of 2023

MEASURE GHG-14: IMPROVE TRANSIT ACCESS

Measure: The County will support and work with SacRT, Transportation Management Associations, and other transit providers to address identified gaps in public transit networks through implementation of the policies in the Circulation Element that seek to help by "promoting transit services, assuring that users are provided with adequate transportation choices, addressing user needs, developing convenient transfers between transportation systems, and ensuring adequate funding for the transit network."[15]

Implementation: The County could implement this measure through the following actions:

- Include SacRT, or other appropriate transit providers, in the pre-application process for new projects in order to identify transit needs.
- Provide and improve connections to transit stations by identifying, prioritizing, and seeking funding to plan and construct roadways, bikeways, and pedestrian improvements within a half-mile of existing and planned transit stations.
- Work with SacRT to expand the local transit network by adding or modifying existing transit service to enhance the service in areas with the greatest need.
- Work with SacRT to reduce transit-passenger travel time by providing reduced headways and increased speed and reliability along the most heavily traveled transit routes within the County.
    - This could include installation of bus-only lanes and/or coordination of signal prioritization along major thoroughfares, and working with transit agencies and neighboring jurisdictions to plan and install full bus rapid transit infrastructure along priority corridors.
- Explore a potential partnership with SacRT when developing the VMT mitigation program (e.g., VMT mitigation fee, bank, or exchange), which would prioritize mitigation occurring within the County, and could provide a new funding mechanism for these improvements.
- Track changes in future travel patterns, vehicle ownership trends, and evolutions in transit service models (such as on-demand microtransit) to maximize transit use and reduce VMT from light-duty vehicles.

Implementing County Departments: PER and SACDOT

Timeframe: Long term

GHG Reduction Potential: 1,854 MT CO_2e per year by 2030

Sector: Vehicles - On-Road

Target Indicator: Completion of all actions described in implementation section no later than 2026.

[15] Sacramento County. 2011. Sacramento County General Plan of 2005-2030.

MEASURE GHG-15: IMPROVE PEDESTRIAN NETWORK AND FACILITIES

Measure: The County will update the Pedestrian Master Plan and will implement projects and programs identified in the Pedestrian Master Plan to reduce barriers to walking and increase mobility for all users of the roadways.

Implementation: Update the Pedestrian Master Plan, or adopt a replacement, such as the in-progress Active Transportation Plan, to:

- identify all gaps in the pedestrian network throughout the County;
- identify barriers and constraints to pedestrian mobility in the County;
- develop a methodology for prioritizing future pedestrian improvements that could be based on pedestrian demand and deficiency;
- develop a pedestrian capital improvement program;
- reference the VMT mitigation program in GHG-11 (e.g., VMT mitigation fee, bank, or exchange), which could provide a new funding mechanism for these improvements; and
- develop a complete streets policy and implementation program consistent with the SACOG Policy to Practice Cycle to enhance pedestrian mobility.

Work on updating the Pedestrian Master Plan, or replacement, should be coordinated with SacRT to ensure that the County's pedestrian network supports transit.

Implementing County Departments: SM and SACDOT

Timeframe: Midterm

GHG Reduction Potential: 1,390 MT CO_2e per year by 2030

Sector: Vehicles - On-Road

Target Indicator: 50 percent of projects identified in the Pedestrian Master Plan (or Active Transportation Plan when adopted) built out by 2026 and 75 percent built out by 2030.

MEASURE GHG-16: IMPLEMENT TRAFFIC CALMING MEASURES

Measure: The County will implement traffic calming measures to decrease traffic volumes and speeds and increase biking and walking trips by residents.

Traffic calming measures, such as marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts or mini circles, on-street parking, planter strips with street trees, and bulb-outs, have been shown to divert traffic from local streets and decrease vehicle speeds when present. In turn, those who would otherwise be deterred by high traffic volumes and speeds on local roads are more likely to walk and bike to destinations. Through traffic calming measure requirements for new roadway development and the inclusion of traffic calming features on existing roadways and intersections, the County can encourage residents to take more trips by active transportation modes such as biking and walking.

Implementation: The County could implement this measure through the following actions:

- Develop a complete streets policy and implementation program that is consistent with the SACOG Policy to Practice Cycle and that incorporates traffic calming measures.

- Review and potentially update County development standards for new roadways and existing roadway improvements to include traffic calming measures.
- Install a variety of traffic calming measures on streets and intersections, prioritizing measures proven to promote trips by active transportation modes.
- Include traffic calming measures in, and fund them with, a potential VMT mitigation program described in GHG-11 (e.g., VMT mitigation fee, bank, or exchange).

Implementing County Department: SACDOT

Timeframe: Long term

GHG Reduction Potential: 927 MT CO_2e per year by 2030

Sector: Vehicles - On-Road

Target Indicator: 10 percent of arterials, collectors, and intersections within existing urbanized areas improved by 2026 and 25 percent of arterials, collectors, and intersections improved by 2030.

MEASURE GHG-17: IMPROVE BICYCLE NETWORK AND FACILITIES

Measure: The County will improve the bicycle network to provide for safe and convenient bicycle travel through implementation of the Bicycle Master Plan (or the in-progress Active Transportation Plan) and the improvement of bicycle infrastructure.

Implementation: The County could implement this measure through the following actions:

- Implement projects and programs in the Bicycle Master Plan, or related in-progress plans, such as the Active Transportation Plan, to reduce barriers to biking and increase mobility for all users of the roadways.
- Update the Zoning Code and/or Design Guidelines to ensure the preferred siting of both short-term and long-term employee bicycle parking to encourage bicycle use at commercial, multi-family, industrial, or institutional uses.
- Participate in multi-jurisdictional bike share programs (e.g., JUMP) with SACOG, Sacramento, West Sacramento, Woodland, and Davis.
- Implement a VMT mitigation program (e.g., VMT mitigation fee, bank, or exchange) described under GHG-11 to provide a new funding mechanism for these improvements. Additionally, development of a complete streets policy and implementation program consistent with the SACOG Policy to Practice Cycle would enhance bicycle mobility and safety within the County.

Implementing County Departments: SACDOT and PER

Timeframe: Long term

GHG Reduction Potential: 348 MT CO_2e per year by 2030

Sector: Vehicles - On-Road

Target Indicator: Improve an additional 30 percent of the projects listed in Appendix G of the County's adopted Bicycle Master Plan[16] following CAP adoption by 2030. Include goal in the in-progress Active Transportation Plan.

[16] https://sacdot.saccounty.net/Documents/A%20to%20Z%20Folder/Bikeways/AdoptedSacCountyBMP_04.27.11.pdf

MEASURE GHG-18: IMPROVE FUEL EFFICIENCY STANDARDS

Measure: The County will include language in its adopted legislative platform to encourage new or revised Federal or State legislation to promote the manufacturing, availability, and purchase of more fuel-efficient vehicles.

Implementation: Include language meeting the intent of this measure in the 2022 update to the Federal and State legislative priorities document.[17]

Implementing County Departments: CEO and Legislative Analyst

Timeframe: Near term

GHG Reduction Potential: Not quantified

Sector: Vehicles - On-Road

Target Indicator: Include this as part of the legislative platform for all annual updates to the document until 2030.

MEASURE GHG-19: ESTABLISH EV PARKING CODE

Measure: The County will amend the building code and development standards to require EV charging capability in multi-family residential and commercial projects that exceeds Tier 2 Standards contained in CALGreen, subject to cost-effectiveness studies, if available.

Implementation: For multi-family residential projects, require that 100 percent of parking spaces are EV Ready[18]. For commercial projects, require that a specific proportion of total required parking spaces support future EVSE charging, consistent with the 2022 CALGreen Tier 2 (Section A5.106.5.3.2) code. The measures shall also include signage requirements in the building code for EV charging facilities for both wayfinding and parking restrictions. The County will periodically re-assess and update reach codes in response to updates to the building code.

Implementing County Departments: PER and BP&I

Timeframe: Near term

GHG Reduction Potential: Not quantified

Sector: Vehicles - On-Road

Target Indicator: Amendment of building code and development standards to require EVSE installations at multi-family and commercial projects no later than 2023. This code amendment can occur concurrently with the reach codes for building energy specified in GHG-05 and GHG-07.

MEASURE GHG-20: ESTABLISH SAFE ROUTES TO SCHOOL

Measure: The County will improve walking and bicycling safety and access to and from schools in the County.

---

17 https://legadv.saccounty.net/Documents/FederalandStatePriorities.PDF

18 "EV Ready" is defined as a parking space that is pre-wired with a dedicated 208/240 branch circuit installed in the wall that originates at the electrical service panel or sub-panel with a 40-ampere minimum overcurrent protection device and terminates into a cabinet, box, or enclosure, in a manner approved by the building official.

Implementation: Implement the CAN Goes to School Program and work with local organizations, such as Civic Thread (formerly WALKSacramento), to improve the safety of children traveling to school by walking, biking, or riding in a vehicle. Additionally, the County will include analysis of safe routes to school within the Active Transportation Plan and will factor it in to the prioritization of improvements in that plan. Safe Routes to School projects may be eligible for funds from the VMT mitigation program in GHG-11.

Implementing County Department: SACDOT

Timeframe: Near term

GHG Reduction Potential: Not quantified

Sector: Vehicles - On-Road

Target Indicator: Participation in CAN Goes to School Program and update of the Active Transportation Plan to include safe routes to school.

MEASURE GHG-21: UPDATE COMMUNITY AND CORRIDOR PLANS

Measure: The County will update community plans and corridor plans in urban areas to support infill development, transit-oriented development, and mixed-use development projects.

Implementation: Ensure that a balanced approach to housing, jobs/economic development, services, and infrastructure needs are incorporated into community and corridor plans. The plan updates would achieve mixed-use and transit-oriented development within existing population centers. Updates would include:

- defining core areas within the plan areas that would include affordable housing units and mixed-use development with possible mechanisms to increase density;
- including "complete streets" with sidewalk and bike lane improvements; and
- including information on public amenities and community services in the core area, which could include parks, libraries, schools, or community centers.

To help streamline the development application and review process, staff may recommend incorporating the revised community and corridor plans into the General Plan as part of a comprehensive update.

Implementing County Department: PER

Timeframe: Midterm

GHG Reduction Potential: Not quantified

Sector: Vehicles - On-Road

Target Indicator: Update of all community and corridor plans in urban areas by 2030 to include the features described in the implementation section.

MEASURE GHG-22: CONNECT KEY DESTINATIONS

Measure: The County will promote better connections by all travel modes between residential neighborhoods and key commercial, cultural, recreational, and other community-supportive destinations for all travel modes through Policies CI-3 and CI-4 of the Circulation Element and associated implementation measures. This measure is connected to GHG-15 and GHG-17.

Implementation: When plans for development projects are submitted by applicants for review, evaluate whether residential neighborhoods can access commercial, cultural, recreational, and other community-supportive destinations by bicycle, walking, or using public transportation.

Implementing County Departments: PER, SACDOT, and RP

Timeframe: Long term

GHG Reduction Potential: Not quantified

Sector: Vehicles - On-Road

Target Indicator: Development of a geographic information system (GIS)-based scoring system no later than 2025 to screen new development applications for accessibility to amenities. The scoring system will set a minimum point total for compliance, which will be the sum of points assigned to community-supportive destinations (e.g., community centers, religious land uses, schools, grocery stores, parks) within a certain range using the following transportation modes:

- walking: one-quarter-mile walk from proposed residential development via continuous and direct pedestrian connections;
- bicycling: one-half-mile bike ride from proposed residential development, via continuous and direct bicycle connections (multi-use paths, on-street bike lanes); and
- driving: within a 5-minute drive from proposed residential development.

MEASURE GHG-23: INCENTIVIZE INFILL DEVELOPMENT

Measure: The County will explore funding options to facilitate and incentivize high-quality infill development in the County that is likely to result in reduced VMT and air pollutant and GHG emissions in the County.

Implementation: The County has several approved and pending master plans (Table 5) in locations that are/were outside of the UPA and/or USB. These master plans contribute to increased VMT and associated GHG emissions.

Sacramento County will explore an appropriate nexus to require the projects listed in Table 5, and any future master plans yet to be initiated, to pay an Infill Fee. The Infill Fee shall not be paid for any unit constructed on any parcel dedicated to the Sacramento Housing and Redevelopment Agency pursuant to an applicable Affordable Housing Strategy. In the absence of an approved nexus study, the County shall continue to advocate for master plans to include the Infill Fee as part of their proposed project.

Table 5: Master Plans in Sacramento County

	Master Plan Name	Status
1.	Vineyard Springs Comprehensive Plan	Approved
2.	North Vineyard Station Specific Plan	Approved
3.	Florin-Vineyard Community Plan	Approved
4.	Elverta Specific Plan	Approved
5.	NewBridge Specific Plan	Approved
6.	Jackson Township Specific Plan	Pending
7.	West Jackson Highway Specific Plan	Pending
8.	Mather South Community Master Plan	Approved

	Master Plan Name	Status
9.	Natomas Vision Area	Multiple (pending 10 and 11)
10.	Grandpark Specific Plan	Pending
11.	Upper Westside Specific Plan	Pending
12.	Rancho Murieta	Approved, portions pending

Source: Sacramento County Planning and Environmental Review.

Implementing County Departments: PER, ED, and County Engineering

Timeframe: Long term

GHG Reduction Potential: Not quantified

Sector: Vehicles - On-Road

Target Indicator: Increase in infill housing production and number of infill projects that have received assistance in Sacramento County's Green Zones, commercial corridors identified in the 2030 General Plan Land Use Element, environmental justice communities as identified in the Environmental Justice Element, and other locations within one-half mile of existing transit.

MEASURE GHG-24: INCREASE ORGANIC WASTE DIVERSION

Measure: The County will divert 75 percent of organic waste deposited into landfills from both commercial and residential sources by 2025, up from 2015 rates of 56 and 52 percent, respectively.

Implementation: Increase local capacity for composting and processing of organic wastes. The County will also amend the Zoning Code to clarify and streamline the permitting process for operations conducting landfill diversion or that support the use of diverted organic waste. Examples include but are not limited to green waste and other organic material diversion from landfills and land application of compostable materials on agricultural land, landscaped areas in parks, and urban gardens.

Implementing County Departments: DWMR and PER

Timeframe: Midterm

GHG Reduction Potential: 39,186 MT CO_2e per year by 2030

Co-benefit

This measure supports GHG reduction measure GHG-01.

Sector: Solid Waste

Target Indicator: Full compliance with AB 1826 and SB 1383.

MEASURE GHG-25: CONVERT TO ELECTRIC IRRIGATION PUMPS

Measure: The County will work with SMAQMD and SMUD or provide incentives through existing programs, such as CARB's FARMER program, to convert stationary diesel- or gas-powered irrigation pumps to electric pumps that are either connected to the grid or use off-grid alternative/renewable energy sources, such as solar. The County will work with resource conservation districts and groundwater sustainability agencies on outreach for incentives.

Implementation: Modeling assumes that there are approximately 100 fossil fuel–powered irrigation pumps operating in Sacramento County. All pumps would be converted to electric pumps with zero emissions under this measure.

Implementing County Departments: EMD

Timeframe: Midterm

GHG Reduction Potential: 2,204 MT CO_2e per year by 2030

Sector: Agriculture

Target Indicator: Track progress using SMAQMD permit data on stationary source emissions from irrigation pumps. Aim to convert at least 20 percent of fossil fuel–powered pumps by 2026 and 40 percent by 2030.

MEASURE GHG-26: IMPLEMENT SOUTH SACRAMENTO HABITAT CONSERVATION PLAN

Measure: The County will implement the South Sacramento Habitat Conservation Plan (SSHCP) to preserve 6,351 acres of land.

Implementation: Calculate the carbon sequestration values associated with acres of land located within the County that are preserved as part of the SSHCP. This information will be added to future updates to the Countywide GHG emissions inventory.

Implementing County Department: SM

Timeframe: Long term

GHG Reduction Potential: Not quantified

Sector: Agriculture

Target Indicator: Publication of information in GHG inventory 2 years from CAP adoption, consistent with the implementation and monitoring strategy described in Section 4 of this CAP.

MEASURE GHG-27: PROVIDE SHARED ELECTRIC VEHICLES AT AFFORDABLE HOUSING PROJECTS

Measure: The County will work with regional partners to provide EV ride sharing at all new affordable housing developments.

Implementation: Update Countywide design guidelines to include requirements for affordable housing projects to include designated sites for shared EVs with EV charging. Such sites would include parking zones labeled for shared EVs with signage indicating "Shared Car Zone." Potential agencies to collaborate with include SACOG, the Sacramento Housing and Redevelopment Agency, and SMAQMD.

Implementing County Departments: PER and SM

Timeframe: Near term

GHG Reduction Potential: Not quantified

Sector: Vehicles - On-Road

Target Indicator: Update to design guidelines to include the described requirements no later than December 2023.

MEASURE GHG-28: REDUCE OR ELIMINATE EMISSIONS IN AGRICULTURAL EQUIPMENT

Measure: The County will advocate to require higher-efficiency EPA-rated Tier 4 final or cleaner agricultural equipment to be used in Sacramento County and seek opportunities to coordinate the distribution of incentives for replacing fossil consumption in agricultural equipment with alternative fuels or electrically powered equivalents.

Implementation: Send a formal letter request to SMAQMD recommending an update to Rule 215 Agricultural Permit Requirements (last updated in 2010) to require any diesel-powered agricultural off-road equipment to be EPA-rated Tier 4 final models or cleaner by 2030, as feasible. Participate in SMAQMD workshops associated with updates to rules and regulations pertaining to emissions associated with agricultural equipment.

Update the County's Federal and State Legislative Priorities report to include seeking Federal and State assistance with grants that can be used to incentivize the replacement of gas- and gas- or diesel-powered agricultural equipment with electric or sustainably fueled equivalents. Potential agencies to collaborate with include SMAQMD, SMUD, resource conservation districts, the U.S. Department of Agriculture, CARB, and EPA.

Implementing County Departments: Agricultural Commissioner, SM, and CEO

Timeframe: Midterm

GHG Reduction Potential: Not quantified

Sectors: Agriculture and Vehicles - Off-Road

Target Indicator: Publication of documents described in the implementation section within the specified timeframes. Participation of County staff at public and interagency SMAQMD meetings relevant to the adoption of revised rules for agricultural sector emissions. Formal letter request to SMAQMD by March 2023. Workshop attendance as needed. Federal and State assistance for agricultural grants to be included in the 2023 update to the annual Federal and State Legislative Priorities report.

MEASURE GHG-29: ENCOURAGE USE OF ELECTRIC OR SUSTAINABLY FUELED CONSTRUCTION EQUIPMENT

Measure: The County will encourage new development projects to use electrically powered or sustainably fueled construction equipment wherever feasible.

Implementation: In the CALGreen ordinance prepared for Board of Supervisors review under GHG-05, include language that requires submitted documentation for applicable construction projects to include information on the use of electric or sustainably fueled construction equipment under the Innovative Concepts and Local Environmental Conditions provisions contained in Section A4.306.1 of CALGreen.

Implementing County Department: BP&I

Timeframe: Near term, concurrent with Board of Supervisors' consideration of CALGreen Tier 1 reach code under GHG-05; no later than December 2022 or 6 months after the availability of a cost-effectiveness study (if available), whichever is later.

GHG Reduction Potential: Not quantified

Sector: Vehicles - Off-Road

Target Indicator: 5 percent of construction equipment converted to electric or renewable diesel by 2025 and 10 percent of construction equipment converted to electric or renewable diesel by 2030.

MEASURE GHG-30: EXPLORE PATHWAY FOR CARBON CAPTURE AND SEQUESTRATION

Measure: The County will initiate an effort to explore a potential amendment to the Zoning Code to include a permitting pathway for carbon capture and sequestration projects.

Implementation: Identify, through the Zoning Code amendment evaluation process, the appropriate permitting pathway and hearing body for carbon capture and sequestration projects, and include research on any potential safety and environmental impact concerns associated with various technology solutions. In addition, identify any appropriate permitting pathway (if necessary) for composting and other agricultural sequestration practices identified in GHG-01.

Implementing County Department: PER

Timeframe: Near term

GHG Reduction Potential: Not quantified

Sector: Multiple

Target Indicator: Research is complete and recommendation of next steps are determined.

MEASURE GHG-31: PARTICIPATE IN INFILL PROGRAMS

Measure: The County will participate in SACOG's Civic Lab, Green Means Go, or other regional efforts to tackle issues affecting land use and transportation.

Implementation: The County will continue to engage with SACOG in regional planning efforts to increase infill and reduce VMT. Efforts will be focused on the County's identified Green Zones. The County will consider policy changes within these areas that promote efficient infill, such as changes to parking standards. The County will also apply for funding to help facilitate infill development.

Implementing County Department: PER, SACDOT

Timeframe: Near term

GHG Reduction Potential: Not quantified

Sector: Vehicles - On-Road

Target Indicator: Participate in SACOG's regional efforts with the underlying goal of increasing housing opportunities within the established Green Zones or other identified infill areas in the unincorporated County.

2.2 GOVERNMENT OPERATIONS GREENHOUSE GAS REDUCTION MEASURES

The total estimated GHG emission reduction from all quantifiable internal operations measures is 21,040 MT CO_2e in 2030. Table 6 provides a summary of each of the measures in this section.

Table 6: Summary of Government Operations GHG Reduction Measures

Measure Number	Measure Name	GHG Reductions (MT CO_2e/year) in 2030
GOV-EC-01	Establish Employee Transportation Program	Not Quantified
GOV-EC-02	Expand Transit Subsidy Program	2,500
GOV-EC-03	Determine Feasibility of Employee Shuttle System	Not Quantified
GOV-EC-04	Expand Secure Bicycle Storage Facilities	Not Quantified
GOV-EC-05	Provide Carpool-at-Work Incentives	Not Quantified
GOV-FL-01	Expand Fleet Conversion Program	2,851
GOV-FL-02	Use Renewable CNG for On- and Off-Road Fleets	4,334
GOV-FL-03	Use Renewable Diesel for On- and Off-Road Fleets	4,975
GOV-BE-01	Develop and Adopt Green Building Policy	5,668
GOV-BE-02	Use Solar Power for County Buildings	Not Quantified
GOV-BE-03	Provide Employee Green Building Training	Not Quantified
GOV-BE-04	Electrify Municipal Buildings	Not Quantified
GOV-AR-01	Replace Airport Fleet	713
GOV-WA-01	Develop Water Efficiency Policy	0
GOV-WA-02	Conduct Landscape Irrigation Audit	Not Quantified
GOV-WA-03	Use Water-Efficient Equipment	Not Quantified
GOV-ST-01	Convert Streetlights	0
Total GHG Reductions from Quantified Measures		**21,040**

Notes: GHG = greenhouse gas, MT CO_2e = metric tons of carbon dioxide equivalents.

Source: Ascent Environmental 2022.

MEASURE GOV-EC-01: ESTABLISH EMPLOYEE TRANSPORTATION PROGRAM

Measure: The County will establish a program to reduce transportation-related GHG emissions from employees commuting.

Implementation:

- Establish a post-COVID work-from-home program with a goal of a County-wide average of 30 percent of staff days worked to be conducted remotely. Because of the need for employees in some positions to always be physically present, those positions that can exceed 30 percent should be encouraged to do so to achieve the 30 percent County-wide average.
- Allow all full-time staff, including managers, to opt-in to alternative work schedules (e.g., 9/80, 4/10, and flextime) to reduce VMT.
- Identify improvements to the program based on the feedback from the 2010 employee commute survey.

- Assign a staff position under the Chief of Fleets (or County Executive Office) to establish and operate a County Employee Transportation Demand Management Program.
- Promote and encourage employee participation in regional and national bike-to-work days/months.
- Create an incentive program for zero-emission commuters. Provide incentives to employees who regularly walk, bike, or drive EVs with a goal of 10 percent participation.
- Waive parking fees for employees driving EVs at all County facilities, as feasible.
- Prepare educational materials to inform County employees about the County's incentives to reduce transportation related GHG emissions, as well as the State of California Green Fleet Employee Pricing Program, which is open to State and local government employees.

Implementing County Departments: SM and Chief of Fleets

Timeframe: Near term

GHG Reduction Potential: Not quantified

Sector: Vehicles - On-Road

Target Indicator: Establishment of a program that includes the described implementation objectives.

MEASURE GOV-EC-02: EXPAND TRANSIT SUBSIDY PROGRAM

Measure: The County will increase participation in the transit subsidy program for County employees.

Implementation: Increase awareness and expand the incentives for applying to the program.

Implementing County Departments: SM and Chief of Fleets

Timeframe: Near term

GHG Reduction Potential: 2,500 MT CO_2e per year by 2030

Sector: Vehicles - On-Road

Target Indicator: 10 percent participation in the transit subsidy program by 2030.

MEASURE GOV-EC-03: DETERMINE FEASIBILITY OF EMPLOYEE SHUTTLE SYSTEM

Measure: The County will conduct a study of travel patterns by County employees to determine the feasibility of a shuttle system that would bring employees from major transit stations to County offices. The County may collaborate with other major employers in the region to promote ridership.

Implementation: Prepare a study of potential shuttle routes.

Implementing County Department: SM

Timeframe: Midterm

GHG Reduction Potential: Not quantified

Sector: Vehicles - On-Road

Target Indicator: Preparation of a study.

MEASURE GOV-EC-04: EXPAND SECURE BICYCLE STORAGE FACILITIES

Measure: The County will site both short-term and long-term bicycle parking in convenient and secure locations at all County buildings to better encourage commuting via bicycle.

Implementation: Add employee bicycle parking at buildings where it does not currently exist.

Implementing County Departments: SM and DGS

Timeframe: Midterm

GHG Reduction Potential: Not quantified

Sector: Vehicles - On-Road

Target Indicator: Additional number of secure bicycle parking spaces added.

MEASURE GOV-EC-05: PROVIDE CARPOOL-AT-WORK INCENTIVES

Measure: The County will encourage in-person trips by County staff on official business to be conducted by carpool or public transit.

Implementation: Provide carpool-at-work incentives (incentives to encourage employees in all departments to carpool between County offices and off-site meetings and field activities). Reimburse County employees for taking public transit for approved business travel.

Implementing County Departments: SM and DPS

Timeframe: Midterm

GHG Reduction Potential: Not quantified

Sector: Vehicles - On-Road

Target Indicator: Monthly employee logging of carpool and public transit use.

MEASURE GOV-FL-01: EXPAND FLEET CONVERSION PROGRAM

Measure: The County will require all vehicles purchased or leased to be powered by the most sustainable renewable or low-carbon fuels available and practical at the time of purchase. This includes renewable electricity, hydrogen fuel cells, and/or other GHG-reducing hybrid technologies. Exceptions may be granted for law enforcement pursuit vehicles and other unique duty circumstances with the approval of the County Executive or designee. In addition, the County will increase designated EV parking spaces and charging and/or fueling infrastructure required to support 100 percent conversion of the County's fleet to zero emission vehicles (ZEVs) by 2035.

Additionally, the County will transition to ZEVs powered by electricity or fuel cells, or other advanced technologies to be developed through partnerships with SMUD and equipment manufacturers.

Implementation:

The County could implement this measure through the following actions:

- Update the County's light-duty and heavy-duty fleet acquisition policies.
- Allow employees to be reimbursed for charging County-owned or leased vehicles overnight at home, similar to how gasoline-powered VMT are reimbursed.

- Increase the County's fueling and charging infrastructure through efforts such as the following:
  - Partner with other agencies, including SacRT, to locate new fueling and EV charging stations throughout the County for multi-agency fleet use. This may include working to update the Sacramento Area Plug-In Electric Vehicle Collaborative's Electric Vehicle Readiness and Infrastructure Plan (see Measure GHG-10).
  - Seek grant funding to pay for infrastructure upgrades or EV charging stations in County-owned parking lots (for use by employees, as well as visitors where appropriate).
  - Install EV chargers at County facilities available for employee and visitor use.

Implementing County Department: Chief of Fleets

Timeframe: Long term

GHG Reduction Potential: 2,851 MT CO_2e

Sector: Vehicles - On-Road

Target Indicator: Level 2 EV chargers installed by 2035 at County-owned parking lots to support 100 percent conversion of the County's fleet to ZEVs; and new fleet purchases of ZEVs at 25 percent of total acquisitions by 2024, 50 percent of total acquisitions by 2028, 75 percent of total acquisitions by 2033, and 100 percent of total acquisitions by 2035 and thereafter.

MEASURE GOV-FL-02: USE RENEWABLE CNG FOR ON- AND OFF-ROAD FLEETS

Measure: The County will replace traditional compressed natural gas (CNG) fuel with renewable CNG in all County-owned natural gas–powered vehicles.

Implementation: Establish a procurement policy that requires fueling with renewable CNG.

Implementing County Department: Chief of Fleets

Timeframe: Near term

GHG Reduction Potential: 4,334 MT CO_2e per year by 2030

Sectors: Vehicles - On-Road and Vehicles - Off-Road

Target Indicator: Purchase of 1 million gallons of renewable CNG by 2030.

MEASURE GOV-FL-03: USE RENEWABLE DIESEL FOR ON- AND OFF-ROAD FLEETS

Measure: The County will replace traditional diesel fuel with renewable diesel for all fleet vehicles.

Implementation: Establish a procurement policy that sets a goal for renewable diesel purchases and informs County vehicle operators where renewable diesel can be found within the County.

Implementing County Department: Chief of Fleets

Timeframe: Near term

GHG Reduction Potential: 4,975 MT CO_2e per year by 2030

Sectors: Vehicles - On-Road and Vehicles - Off-Road

Target Indicator: 100 percent of diesel purchased annually for on-road and off-road vehicles will be renewable diesel by 2030 (estimated to be 487,267 gallons purchased).

MEASURE GOV-BE-01: DEVELOP AND ADOPT GREEN BUILDING POLICY

Measure: The County will develop and adopt an internal Green Building Policy

Implementation: Develop and adopt a policy that sets a 30 percent energy reduction target for all existing County buildings compared to current benchmarking. As part of this policy, the County will also design all new County-owned and -operated buildings and additions to exceed the energy performance of the current California Energy Code by 10 percent, consistent with CALGreen Tier 1 energy standards established in Section A5.203.1 of the code.

Implementing County Departments: DGS and BP&I

Timeframe: Midterm

GHG Reduction Potential: 5,668 MT CO_2e per year by 2030

Sector: Building Energy

Target Indicator: Adoption of the Green Building Policy by December 2022 and 30 percent energy use reduction in County-owned and operated buildings by 2030.

MEASURE GOV-BE-02: USE SOLAR POWER FOR COUNTY BUILDINGS

Measure: The County will offset 100 percent of its building electricity use with renewable energy.

Implementation: Install on-site renewable energy systems or participate in SMUD's commercial SolarShares and/or Greenergy programs.

Implementing County Department: DGS

Timeframe: Near term

GHG Reduction Potential: None by 2030 because carbon-neutral electricity would be available from the grid. GHG reductions could be realized in advance of the 2030 CAP target date.

Sector: Building Energy

Target Indicator: 100 percent of County building electricity use procured from renewable sources by 2030.

MEASURE GOV-BE-03: PROVIDE EMPLOYEE GREEN BUILDING TRAINING

Measure: The County will provide training for County employees on green building codes.

Implementation: Support employees in Planning and Environmental Review and Building Permits and Inspection (including the Planning Director and Chief Building Official) in receiving training on the review and enforcement of CALGreen standards, including the Tier 1 and Tier 2 reach codes. At a minimum, training will be required for all employees responsible for reviewing and approving plans and permits, as well as building inspection supervisors. Certain employees will also be required to be certified according to the International Code Council's CALGreen certification programs or other equivalent programs. Cross-training and certification in other Energy Code–related programs, such as the Leadership in Energy and

Environmental Design Accredited Professionals program, California Building Officials Training Institute, and utility or State-sponsored energy efficiency education programs, will also be encouraged.

Implementing County Departments: PER and BP&I

Timeframe: Near term

GHG Reduction Potential: Not quantified

Sector: Building Energy

Target Indicator: County staff attendance at training events and accreditation of third-party green building programs.

MEASURE GOV-BE-04: ELECTRIFY MUNICIPAL BUILDINGS

Measure: The County will develop and implement a plan to electrify County-owned facilities and disconnect them from gas service. The County will ensure that all new construction or major renovation projects involving County-owned facilities are all-electric. All County facilities will be supplied with 100-percent renewable power by 2025.

Implementation: Include in the Green Building Policy under GOV-BE-01 a policy that new County facilities and major renovations constructed be all-electric, in addition to the overall energy reduction standards set under that policy. Include in the next update to the County's Capital Improvement Plan County Buildings and Capital Construction Standards a County building decarbonization program that seeks to phase out natural gas from three County buildings by 2027 and an additional three by 2030.

Implementing County Department: DGS

Timeframe: Long term

GHG Reduction Potential: Not quantified

Sector: Building Energy

Target Indicator: Adoption of a green building policy to contain all-electric requirements by December 2022. Update to Capital Improvement Plan upon next update to identify all-electric retrofitting opportunities in existing County-owned buildings. Retrofits to buildings conducted: three buildings by 2027 and six by 2030.

MEASURE GOV-AR-01: REPLACE AIRPORT FLEET

Measure: The County will reduce the consumption of fossil fuels in the County-owned vehicle fleet at the Sacramento International and Executive Airports.

Implementation: Convert the airport vehicle fleet to vehicles, trucks, and equipment powered by sustainable low-carbon fuels, electricity, fuel cells, and/or other technologies as they become financially feasible. Partner with Chief of Fleets and other agencies, including SacRT, to locate new fueling and EV charging stations at airports for multi-agency fleet use. This may include working to update the Sacramento Area Plug-In Electric Vehicle Collaborative's Electric Vehicle Readiness and Infrastructure Plan (see Measure GHG-10).

Implementing County Department: SCAS

Timeframe: Long term

GHG Reduction Potential: 713 MT CO_2e per year by 2030

Sector: Vehicles - On-Road

Target Indicator: 15 zero-emission electric shuttle buses purchased by 2030.

MEASURE GOV-WA-01: DEVELOP WATER EFFICIENCY POLICY

Measure: The County will improve agencywide water efficiency by formally adopting a water reduction target for new and existing buildings.

Implementation: Develop a water efficiency policy that seeks to achieve a 20 percent reduction in potable water usage below 2015 levels for all County buildings by 2030. This may include on-site greywater reuse and/or the use of recycled water.

Implementing County Departments: SM and DGS

Timeframe: Short term

GHG Reduction Potential: Not quantified

Sector: Water-Related

Target Indicator: Adoption of a water efficiency policy and construction of demonstration garden.

MEASURE GOV-WA-02: CONDUCT LANDSCAPE IRRIGATION AUDIT

Measure: The County will reduce excess water consumption associated with watering landscaped areas at County facilities.

Implementation: Conduct water audits to evaluate irrigation practices around County facilities. Identify all essential and non-essential turf, and remove non-essential turf by 2030. Modify irrigation practices and equipment accordingly for essential turf (e.g., timers, sprinkler heads). Consider changes in irrigation practices for dry years to ensure tree survival. Create drought-tolerant demonstration projects with interpretive signs at the three most visited County buildings to exhibit and promote native vegetation and high-efficiency irrigation techniques.

Implementing County Department: SM and DGS

Timeframe: Midterm

GHG Reduction Potential: Not quantified

Sector: Water-Related

Target Indicator: Preparation of an audit and replacement of suboptimal equipment identified in audit with more efficient versions.

MEASURE GOV-WA-03: USE WATER-EFFICIENT EQUIPMENT

Measure: The County will replace water-wasting equipment with more efficient equipment.

Implementation: Incorporate preferences for water-saving equipment into the County's procurement and capital improvement plans. Seek incentives or grant funds from local water purveyor(s), the State, and the federal government.

Implementing County Departments: SM and DGS

Timeframe: Long term

GHG Reduction Potential: Will reduce energy consumption, but no GHGs reduced in 2030 because of the availability of carbon-neutral electricity sources.

Sector: Water-Related

Target Indicator: Records of replaced water equipment each year showing the selection of equipment with efficiencies higher than average.

MEASURE GOV-ST-01: CONVERT STREETLIGHTS

Measure: The County will convert streetlights to more energy-efficient technologies.

Implementation: Replace remaining high-pressure sodium (HPS) and mercury-vapor (MV) streetlights with energy-saving light emitting diode (LED) technology.

Implementing County Department: SACDOT

Timeframe: Long term

GHG Reduction Potential: Will reduce energy consumption, but no GHGs reduced in 2030 because of the availability of carbon-neutral electricity sources.

Sector: Building Energy

Target Indicator: In 2015, 10,533 streetlights still relied on HPS or MV technology. The County will replace these with LEDs by 2030.

2.3 CARBON OFFSET PROGRAM

In addition to the GHG reduction measures described in Sections 2.1 and 2.2. the County will explore a carbon offset program, if needed, to account for any GHG reducing legislation or policies described in Table 2 that fail to come to fruition or meet stated objectives. New development projects that have incorporated all feasible on-site GHG mitigation may be permitted to fund energy efficiency and electrification retrofits of existing buildings subject to quantification of the costs per MT CO_2e through their individual application processes. This quantification shall be submitted by applicants for review and verification by the County or a qualified third party selected by the County. Any offset program approved by the County must include carbon offsets that are real, quantifiable, verified, additional, and permanent within the timeframe of the program or project. The offset program could allow for investments in GHG reducing activities occurring outside of the County's control. The success of these investments in reducing GHG emissions would be validated by a third-party organization and be required to be in addition to any GHG emissions reductions required by a plan, policy, or regulation for that activity. The programs selected could also include projects with climate change adaptation co-benefits. The carbon offset program would support local GHG reductions by prioritizing project locations in the following order:

- Sacramento County's environmental justice communities,
- Countywide (including incorporated cities without adopted CAPs),
- SACOG region, and
- Central Valley.

3 CLIMATE CHANGE ADAPTATION STRATEGY

This section describes the adaptation framework and presents measures that the County will take to address climate vulnerabilities and increase Countywide resiliency. Table 6 provides a summary of each of the measures in this section. The adaptation framework follows the process outlined in Phase 3 of the California Adaptation Planning Guide and relies on the vulnerability assessment to inform the preparation of the adaptation framework and strategies. Many climate adaptation measures may also reduce GHG emissions, improve public health, and achieve other co-benefits that further the County's sustainability and environmental justice goals and improve community resilience.

The adaptation measures are grouped under five overarching goals to address each climate impact with one additional measure applicable to all which calls for a comprehensive communication strategy:

- Prepare for Increases in Temperatures and Extreme Heat Days and Heat Waves;
- Prepare for Increased Risk of Wildfire and Smoke Events;
- Prepare for Increased Drought;
- Prepare for Increased Flooding; and
- Prepare for Sea-Level Rise.

The measures within each goal define the programs, policies, and regulations that the County will need to implement to anticipate and adapt to the challenges created by climate change. Consideration for how likely and how soon impacts are expected to occur are included, with specific attention given to those exposures that pose the most serious threats to the County and its residents. This includes identifying responsible County departments and implementation timeframe for each measure. Implementation of many of climate adaptation strategies contained herein will be dependent on partnerships with local, regional, State, and federal agencies and nongovernment organizations. Where Sacramento County does not have jurisdictional authority (e.g., surface water storage capacity), the appropriate roles of agencies with authority, organizations, and Sacramento County are identified. Implementation timeframes are categorized as near term (2020-2023), midterm (2024-2026), and long term (2027-2030). A co-benefit icon (Co-benefit) is shown in the benefits evaluation section of adaptation measures, that have a connection to GHG reducing CAP measures in Section 2.

Table 6: Summary of Adaptation Measures

Measure Number	Measure Name	Strategy
TEMP-01	Protect Critical Infrastructure Vulnerable to Extreme Heat Events	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
TEMP-02	Partner with Local Agencies and Utilities on Heat-Related Climate Change Initiatives and Efforts	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
TEMP-03	Educate Residents of Disadvantaged Communities on Heat-Related Risks and Strategies to Prevent Heat-Related Illness	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
TEMP-04	Encourage or Require the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
TEMP-05	Increase Participation in the Sacramento Area Sustainable Business Program	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves

Measure Number	Measure Name	Strategy
TEMP-06	Partner with Valley Vision to Expand the Business Resiliency Initiative	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
TEMP-07	Use Cool Pavement Technology	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
TEMP-08	Increase Parking Lot Shading, Landscaping, and Urban Greening, Prioritizing Communities with Less Tree Cover	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
TEMP-09	Provide Resources to Farmers, Ranchers, and Landowners to Reduce Vulnerabilities to Changing Climatic Circumstances	Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves
FIRE-01	Map and Identify Locations that are Newly at Risk, or at Higher Risk for Fire Hazards	Prepare for Increased Risk of Wildfire
FIRE-02	Coordinate with State and Local Agencies to Establish Ecological Recovery Programs	Prepare for Increased Risk of Wildfire
FIRE-03	Update Tree Planting Guidelines to Select Wildfire-Resistant Species	Prepare for Increased Risk of Wildfire
FIRE-04	Coordinate and Improve Emergency Preparedness Systems	Prepare for Increased Risk of Wildfire
FIRE-05	Avoid New Development in Very-High Fire Hazard Severity Zones	Prepare for Increased Risk of Wildfire
FIRE-06	Collaborate with Agencies and Organizations on Programs to Reduce Wildfire Hazards	Prepare for Increased Risk of Wildfire
WATER-01	Support Efforts to Evaluate Vulnerabilities of Water Supply Systems and Networks and Develop Strategies to Improve Resilience	Prepare for Increased Drought
WATER-02	Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems	Prepare for Increased Drought
WATER-03	Create Incentives and Programs to Transfer Knowledge and Technologies to Assist Farmers with New Production Methods and Drought-Adapted Varieties	Prepare for Increased Drought
WATER-04	Reduce Potable Water Use in Outdoor Landscaping	Prepare for Increased Drought
WATER-05	Expand Upon Existing Water Conservation Education Outreach Programs for Residents and Businesses	Prepare for Increased Drought
WATER-06	Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity	Prepare for Increased Drought
FLOOD-01	Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events	Prepare for Increased Flooding
FLOOD-02	Improve Sewage and Solid-Waste Management Infrastructure	Prepare for Increased Flooding
FLOOD-03	Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions	Prepare for Increased Flooding
FLOOD-04	Coordinate with Federal, State, and Local Agencies to Improve Emergency Evacuation and Supply Transportation Routes	Prepare for Increased Flooding
FLOOD-05	Invest in Use of Pervious Pavements and Landscaping in Developed Areas and Restrict the Use of Paved Surfaces	Prepare for Increased Flooding
FLOOD-06	Map Critical Facilities and Infrastructure Locations Vulnerable to Flooding and Upgrade and/or Relocate Infrastructure Where Applicable	Prepare for Increased Flooding
FLOOD-07	Establish an Underground Utilities Program Resistant to Flooding	Prepare for Increased Flooding

Measure Number	Measure Name	Strategy
FLOOD-08	Partner with SAFCA and Local Agencies, Utilities, and Other Organizations to Support Future and Ongoing Flood-Related Climate Change Initiatives	Prepare for Increased Flooding
FLOOD-09	Research the Tolerance of Current Crop Mixes to Withstand Increased Flooding and Support Aquaculture and Fish Habitat	Prepare for Increased Flooding
FLOOD-10	Expand Educational Programs to Address Vector and Waterborne Diseases	Prepare for Increased Flooding
FLOOD-11	Identify Concrete Channel Restoration Areas	Prepare for Increased Flooding
FLOOD-12	Replant Bare or Disturbed Areas	Prepare for Increased Flooding
FLOOD-13	Update and Implement the County's Local Hazard Mitigation Plan to Address Climate Change-Related Flooding Impacts	Prepare for Increased Flooding
FLOOD-14	Safeguard Freshwater Supply Against Contamination, Degradation, or Loss	Prepare for Increased Flooding
FLOOD-15	Improve Flood Warning and Information Dissemination	Prepare for Increased Flooding
SLR-01	Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures	Prepare for Sea-Level Rise
SLR-02	Support and Monitor Ongoing Analysis of Sea-Level Rise Data	Prepare for Sea-Level Rise
SLR-03	Update the County's Local Hazard Mitigation Plan to Incorporate Sea-Level Rise	Prepare for Sea-Level Rise
SLR-04	Incorporate Sea-Level Rise Effects into Capital Improvement Plans	Prepare for Sea-Level Rise
SLR-05	Guide Future Development Out of Areas Vulnerable to Sea-Level Rise	Prepare for Sea-Level Rise
ALL-01	Create a Comprehensive Outreach Strategy	Prepare for All Threats

Source: Ascent Environmental 2022.

3.1.1 Prepare for Increased Temperatures and Extreme Heat Days and Heat Waves

MEASURE TEMP-01: PROTECT CRITICAL INFRASTRUCTURE VULNERABLE TO EXTREME HEAT EVENTS

Implementation: In cases where existing communication, energy, public service, and transportation facilities and infrastructure are found to be vulnerable to extreme heat, bolster and/or upgrade associated infrastructure to be more resilient to periods of high heat (e.g., use of heat-tolerant materials).

Benefits: Reinforced and bolstered infrastructure and facilities can reduce the frequency of power outages that can interrupt the functions of business and residences.

Implementing County Departments: DGS and SACDOT

Timeframe: Near term

MEASURE TEMP-02: PARTNER WITH LOCAL AGENCIES AND UTILITIES ON HEAT-RELATED CLIMATE CHANGE INITIATIVES AND EFFORTS

Implementation: Partner with the SMAQMD, SMUD, PG&E, and SACOG to implement future and ongoing heat-related climate change initiatives. The County's partnership in ongoing programs and future initiatives could include helping other organizations increase participation in existing programs through education and promotion and by using and integrating them into County programs and activities, where feasible. Examples include but are not limited to participation in SMAQMD's Regional Urban Heat Island Initiative, the Sacramento Tree Foundation's Shade Tree and NeighborWoods Programs, PG&E's Energy Efficient Cool Roof program, and SACOG's Complete Streets GHG reduction measures.

Benefits: Implementation of this action, which includes both leveraging and supporting existing programs, as well as partnering on the development of future initiatives, can mitigate the effects of the UHIE, which is the additional artificial heat gain as a result of heat absorbed by roofs, pavements, and other components of the built environment.

Co-benefit

Reducing the UHIE provides a range of co-benefits, including lowered risk of heat-related illnesses, heat stroke, and heat-related fatalities; improved air quality through reduced ozone formation; energy savings for building occupants; and greater grid resilience. If urban forestry is part of the strategy, additional benefits include carbon sequestration, stormwater filtration, neighborhood beautification, reduced particulate matter, improved habitat, increased property values, and improvements to mental health and cognitive function.

Implementing County Department: SM

Timeframe: Near term

MEASURE TEMP-03: EDUCATE RESIDENTS OF DISADVANTAGED COMMUNITIES ON HEAT-RELATED RISKS AND STRATEGIES TO PREVENT HEAT-RELATED ILLNESS

Implementation:

- Continue coordinating with the National Weather Service on delivering robust, multi-lingual education and outreach materials accessible across multiple media forms (e.g., radio, text messaging) to publicize the symptoms and dangers of heat-related illness, where cooling centers are located, how to sign up for Sacramento Alert Emergency Notification System, and practical methods for preventing heat-related illness during periods of high heat.
- The County of Department Public Health should track heat-related illness, hospitalizations, and deaths in order to target education and outreach efforts.
- Expand partnerships with local governments, nongovernment organizations, churches, and businesses to provide additional cooling centers within disadvantaged communities, where households and residents may not have access to air conditioning during periods of extreme heat.
- Survey disadvantaged communities to identify community preferences regarding the appropriate location and accessibility of cooling centers, based on proximity to public transit.

Benefits: Improved outreach regarding safety during extreme heat and establishment of more cooling centers in disadvantaged areas will reduce exposure to heat-related illness. Inclusion in the Sacramento

Alert Emergency Notification System informs Sacramento County residents of upcoming heat waves and the locations of cooling centers, which will allow residents to plan for extreme weather.

Implementing County Department: SM

Timeframe: Near term

MEASURE TEMP-04: ENCOURAGE OR REQUIRE THE INSTALLATION OR USE OF COOL-ROOF TECHNOLOGIES, PASSIVE SOLAR HOME DESIGN, GREEN ROOFS, AND ROOFTOP GARDENS

Implementation:

- Adopt a mandatory green building code that requires installation of cool roof technologies for new development consistent with the 2016 Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Building Code, Title 24, Part 6). Cool roofs are designed to maintain a lower roof temperature than traditional roofs that are heated through sun exposure and contribute to the UHIE. Cool roofs are composed of surfaces that reflect sunlight and absorb less heat, which reduces heat flow into buildings and lowers energy usage and associated costs (U.S. Department of Energy 2010).
- Develop incentive programs including, but not limited to, permit streamlining, permit fee reductions, or tax rebates for developers and landowners to apply passive solar home design to future residential buildings. A home that employs passive solar home design has windows oriented toward the south, is composed of materials of high heat absorption, and is built to distribute heat and cold air throughout the home. Use of these design elements provides natural cooling and heating and reduces energy demand.
- Develop incentive programs including, but not limited to, permit streamlining, permit fee reductions, or tax rebates to encourage the use of rooftop gardens and green roofs in residential and commercial buildings. Rooftop gardens are gardens on rooftops, and green roofs (or living roofs) are roof tops that are partially or completely covered by vegetation. These forms of roofing lower the amount of heat absorbed by a building and reduce energy demand associated with air conditioning.

Benefits: The use of cool roofs, passive design, rooftop gardens, and green roofs will mitigate the effects of UHIE, lower energy consumption, and improve air quality.

Co-benefit

This measure will also have co-benefits related to water conservation and addressing air quality impacts from reduced ozone formation. Other co-benefits include benefits to public health and increased electrical grid resilience related to peak load reductions.

Implementing County Departments: SM, PER, and BP&I

Timeframe: Near term

MEASURE TEMP-05: INCREASE PARTICIPATION IN THE SACRAMENTO AREA SUSTAINABLE BUSINESS PROGRAM

Implementation: Increase funding and staff resources for the Sacramento Area Sustainable Business Program through the County's Business Environmental Resource Center, with the goal of increasing overall participation and certification in the program and implementing annual monitoring of businesses that

adopt practices to reduce energy consumption and promote energy efficiency, along with other sustainability measures.

Benefits: Increasing participation and monitoring of the existing Sustainable Business Program will result in reduced energy usage.

Co-benefit

This measure will have co-benefits related to water conservation, as well as other actions with respect to transportation, solid waste, and other actions that will contribute to community GHG emissions reductions. It also supports government operations GHG reduction measure GOV-BE-03.

Implementing County Departments: SM and Business Environmental Resource Center

Timeframe: Near term

MEASURE TEMP-06: PARTNER WITH VALLEY VISION TO EXPAND THE BUSINESS RESILIENCY INITIATIVE

Implementation: Partner with Valley Vision to train businesses to use the Business Resiliency Initiative (BRI) toolkit, which prepares businesses for weather-related risks to daily operations. Aspects of the BRI toolkit include:

- preparation of a hazard vulnerability assessment, which identifies the greatest risks and hazards facing individual businesses;
- review of existing resiliency;
- development of a business continuity plan;
- testing of business continuity plans through drills and exercises; and
- engagement in community outreach.

Benefits: Increased participation in the BRI and use of the toolkit would result in increased resiliency on a business-by-business basis during power outages induced by extreme heat events. Businesses would be responsible for conducting self-evaluations to identify assets at risk or vulnerable to weather-related disturbances that include extreme heat events but also other extreme events, such as storms, floods, and fires.

Co-benefit

This measure will have co-benefits related to changes in precipitation, wildfire, and flood risk.

Implementing County Departments: SM and ED

Timeframe: Near term

MEASURE TEMP-07: USE COOL PAVEMENT TECHNOLOGY

Implementation:

- Collaborate with the Capital Region Climate Readiness Collaborative (CRCRC); the California Environmental Protection Agency; the University of California, Davis Pavement Research Center; and other regional partners to obtain guidance, explore pilot projects, or obtain other technical support to identify and determine cool pavement technologies best suited for different applications in the County. Following this effort:

  - Develop and incorporate cool pavement standards into the County's roadway design manual for use in public rights-of-way. These cool pavement standards would apply to construction or modification of County-owned facilities and may vary based on location.
  - Develop and incorporate cool pavement standards into the County's development standards for private development projects. These cool pavement standards would apply to both new construction and changes to existing on-site paved surface areas (e.g., parking lots, private roadways, bike trails and sidewalks, or other hardscape areas) and may vary based on location.
- Support implementation of actions under Measure Temp-08. (Note: This action could also be achieved collaboratively with others as part of the regional UHIE initiative described earlier under Measure Temp-02.)

Benefits: Incorporation of cool pavements into maintenance of existing and construction of new paved surfaces would lower the amount of heat absorbed compared to traditional paving materials. Cool pavements reduce the effects of UHIE by reflecting sunlight and absorbing less heat as compared to traditional pavement. Implementation of cool pavements would lessen the impacts of UHIE, which would result in reduced exposure to heat-related illness, decreased building energy consumption and associated GHG emissions, and improved air quality. Pavement reflectance can be enhanced using reflective aggregate, reflective or clear cinder, or a reflective surface coating.[19]

Co-benefit

This measure will support measures related to flood risk and support GHG reduction measures GHG-02, GHG-04, and GHG-05.

Implementing County Departments: SM, PER, and BP&I

Timeframe: Near term

MEASURE TEMP-08: INCREASE PARKING LOT SHADING, LANDSCAPING, AND URBAN GREENING, PRIORITIZING COMMUNITIES WITH LESS TREE COVER

Implementation:

- Amend the County Zoning Code (Table 5.2) to require 50 percent shade tree coverage regardless of parking lot size for new development projects that include parking, revise the parking lot shading standards to provide larger minimum sizes for tree planters to improve tree health, and emphasize priority for tree species that maximize carbon sequestration potential.
- Enforce existing standards for tree shading and landscaping in existing parking lots not in compliance and establish a compliance program to ensure that trees are maintained properly.
- Establish rebate programs, permit fee reductions, or tax deductions to incentivize the installation of solar photovoltaic (PV) carports in existing and future parking lots. Solar PV carports provide shade in parking lots while simultaneously converting solar energy into electricity that can be used to charge electric vehicle and plug-in hybrid-electric vehicles.
- Amend the County Zoning Code to allow solar PV carports to fulfill a portion or all the existing parking lot shading requirements and provide guidance on the appropriate mix between the use of trees and PV carports.

[19] https://heatisland.lbl.gov/coolscience/cool-pavements.

- Develop standards for the inclusion of solar PV carports in County-owned parking lots.
- Collaborate with CRCRC, the Sacramento Tree Foundation, SMUD, PG&E, or other regional partners to identify incentives, grants, or other resources for the purposes of commercial and residential greening actions, including, but not limited to, planting of parking lot or street trees, maintaining tree health, and establishing community gardens.

Benefits: Increasing the minimum shade tree coverage and enforcing County standards regarding shading requirements for parking lots, minimum standards for planter box sizes, incorporation of solar PV on carports, and urban greening programs will provide shade during extreme heat events and further reduce the effects of the UHIE, which will lower temperatures in urban areas and improve air quality. Additional shade tree coverage will also provide greater opportunities for carbon sequestration in urban areas.

Co-benefit

This measure supports GHG reduction measures GHG-02, GHG-04, and GHG-05.

Implementing County Departments: SM, PER, Code Enforcement, and DGS

Timeframe: Midterm

MEASURE TEMP-09: PROVIDE RESOURCES TO FARMERS, RANCHERS, AND LANDOWNERS TO REDUCE VULNERABILITIES TO CHANGING CLIMATIC CIRCUMSTANCES

Implementation: Actively engage with the local University of California Cooperative Extension, Natural Resources Conservation Service (NRCS), and Farm Services Agency (FSA) to support farmers, ranchers, and landowners in understanding the vulnerabilities of their operations to variable weather events and increased disease and pest pressures, due to a changing climate, and implement adaptation strategies and management practices. The County may work with the Sacramento County Farm Bureau, resource conservation districts, and other organizations to engage the agricultural sector.

Adaptation strategies and best management practices could include, but are not limited to, data-driven irrigation systems and long-term infrastructure enhancements, cover crops, no-till or reduced tillage practices, composting, prescribed grazing, and the planting of adapted cultivars and crops.

Benefits: Providing resources to Sacramento County's farmers, ranchers, and landowners will reduce the potential for commodity and crop loss from excessive pests, disease, and increased temperatures and will improve the industry's adaptive capacity.

Implementing County Departments: SM and Agricultural Commissioner

Timeframe: Midterm

3.1.2 Prepare for Increased Risk of Wildfire

MEASURE FIRE-01: MAP AND IDENTIFY LOCATIONS THAT ARE NEWLY AT RISK, OR AT HIGHER RISK FOR FIRE HAZARDS

Implementation: Work with the California Department of Forestry and Fire Protection (CAL FIRE), the Sacramento Metropolitan Fire District (Metro Fire), and any other fire department operating within the

boundaries of the County to map and identify locations within the County that are newly at risk, or at higher risk, for wildfire hazards as a result of climate change and its impacts. Wildfire hazards may include direct damage to the American River Parkway; structures; electrical transmission, transportation, and communication infrastructure; increased rates of erosion, landslide, and water quality degradation; and ecological disturbance.

Benefits: Mapping and identifying locations that are already at high risk or will be with climate change would assist with the implementation of Measure Fire-02, listed below.

Implementing County Departments: SacOES and DTech

Timeframe: Near term

MEASURE FIRE-02: COORDINATE WITH STATE AND LOCAL AGENCIES TO ESTABLISH ECOLOGICAL RECOVERY PROGRAMS

Implementation: Coordinate with CAL FIRE, Metro Fire, and other, similar agencies to establish ecological recovery programs to support ecological restoration efforts.

Benefits: Implementation of ecological restoration strategies in existing burned or potentially future burned areas would encourage the regrowth of natural ecosystems damaged during wildfire events. Ecological restoration would include establishment of native ecological systems and processes that would reduce the potential for high-intensity wildfires and improve ecological resiliency to wildfire events.

Implementing County Department: SM

Timeframe: Near term

MEASURE FIRE-03: UPDATE TREE PLANTING GUIDELINES TO SELECT WILDFIRE-RESISTANT SPECIES

Implementation: Consult with CAL FIRE, the Sacramento Tree Foundation, and SelecTree to identify wildfire-resistant species and the appropriate species of trees for fire hazard severity zones. Incorporate such recommendations into updates to landscaping standards and tree planting guidelines in County Code or other appropriate documents.

Benefits: Selecting wildfire-resistant or fire hazard severity zone–appropriate species would help mitigate wildfire risk while allowing the County to continue to expand tree planting efforts that result in improved air quality and urban heat island mitigation.

Implementing County Department: PER

Timeframe: Near term

MEASURE FIRE-04: COORDINATE AND IMPROVE EMERGENCY PREPAREDNESS SYSTEMS

Implementation:

- Coordinate with Metro Fire, CAL FIRE, the (CalOES), and the City of Sacramento Fire Department to identify strategies to ensure capacity and resilience of escape routes potentially compromised by wildfire, including emergency evacuation and supply transportation routes.

- Improve upon educational outreach regarding emergency supplies, evacuation routes, pet protection, and key terminology (e.g., controlled/prescribed burn, fuel load), and frequently update the Sacramento Ready webpage to include current information.
- Provide input to Metro Fire and CAL FIRE to establish reliable wildfire monitoring systems that provide early warning of high wildfire risk and wildfire occurrence, and include evaluation of the ecological and human impacts of wildfire.

Benefits: Coordinating and improving emergency preparedness systems would improve the efficacy of evacuation procedures, reliability of emergency supplies, and distribution of wildfire risk information. Establishment of wildfire monitoring systems would provide up-to-date data with respect to areas considered at high risk for wildfire breakouts and improve Sacramento County's ability to prepare and combat wildfire-related impacts.

Implementing County Department: SacOES

Timeframe: Near term

MEASURE FIRE-05: AVOID NEW DEVELOPMENT IN VERY-HIGH FIRE HAZARD SEVERITY ZONES

Implementation: Avoid new development in Very-High Fire Hazard Severity Zones according to the most recent and available CAL FIRE hazard severity zones maps, and consider projections of future climate change when planning future land uses.

Benefits: Avoiding locating new developing in CAL FIRE–designated Very-High Fire Hazard Severity Zones would limit human exposure to potential wildfire.

Implementing County Department: PER

Timeframe: Midterm

MEASURE FIRE-06: COLLABORATE WITH AGENCIES AND ORGANIZATIONS ON PROGRAMS TO REDUCE WILDFIRE HAZARDS

Implementation:

- Collaborate with the Sacramento County Regional Parks Department, Metro Fire, and other Sacramento County–based fire districts to continue to reduce wildfire hazards, including, but not limited to, enforcing defensible space guidelines for existing and new development, restoring wildfire-resilient conditions by thinning and removing live or dead vegetation and implementing wildfire fuel reduction action plans, and retaining healthy native trees.
- Collaborate with the U.S. Bureau of Land Management, the U.S. Fish and Wildlife Service, CRCRC, the American River Parkway Foundation, the Sacramento County Regional Parks Department, the Sacramento River Watershed Program, resource conservation districts, and other local stakeholders in developing Resource Management Plans for the Sacramento, Cosumnes, and American Rivers.

Benefits: An integrated approach among agencies and organizations to reduce wildfire hazards within the County would ensure that effective fire management extends to a broad geographical area, resulting in more comprehensive protection against future wildfire events.

Implementing County Departments: SM, Code Enforcement, and Regional Parks

Timeframe: Midterm

3.1.3 Prepare for Increased Drought

MEASURE WATER-01: SUPPORT EFFORTS TO EVALUATE VULNERABILITIES OF WATER SUPPLY SYSTEMS AND NETWORKS AND DEVELOP STRATEGIES TO IMPROVE RESILIENCE

Implementation:

- Support the Regional Water Authority's (RWA's) efforts to evaluate the vulnerability of the local water supply systems and networks to climate change–related impacts, and develop strategies to add resilience to these systems. Resilient water supply systems must be able to deliver services during disruptive events (e.g., storms, drought).
- Work with local water providers to adopt municipal codes to enforce standards of resiliency for water-related infrastructure for all future development. Municipal codes may include, but are not limited to, standards related to elevation of electrical generators and/or tanks and containers of hazardous materials, increased capacity of water storage tanks, and improved deployment of backflow preventers to impede contamination of drinking water following an extreme weather event (e.g., storms).
- Continue to participate in and support the efforts of the Sacramento Water Forum to promote collaborative water management and support aquatic ecosystem protection for the Lower American River.
- Collaborate with experts and other agencies to identify potential hazards (e.g., floods, drought) in sites of new infrastructure, assess the vulnerabilities associated with identified hazards, and use appropriate materials and establish adequate capacities for new infrastructure.
- Support the projects of the Sacramento River Watershed Program aimed to improve water quality, streamflow, flood management, and watershed stewardship in the Sacramento River and the Lower American River watersheds.
- Encourage and support efforts of local water agencies to conduct ongoing maintenance of existing water supply–related infrastructure to identify potential weaknesses and deterioration.

Benefits: Resiliency improvements made to Sacramento County's water supply systems and networks would also serve to improve the County's resiliency to flooding.

Implementing County Departments: SM, DWR, and BP&I.

Timeframe: Near term

MEASURE WATER-02: INCREASE ON-SITE GREYWATER AND RAINWATER REUSE, STORMWATER REUSE, AND RECYCLED WATER SYSTEMS

Implementation:

- Partner with the local stormwater programs to establish incentive programs that promote the deployment of on-site rainwater catchment systems, such as rain barrels, rain gardens, cisterns, and other mechanisms, to capture and store rainwater for use during the dry season for water customers.
- Continue and expand on the Sacramento County's Environmental Management Department's educational outreach regarding the safe and proper installation of rainwater catchment and storage systems.
- Coordinate with appropriate agencies to develop a standard to deploy innovative options to meet future water demand for all County-owned facilities (e.g., reclaim and purify wastewater, build on-site greywater reuse systems, or use recycled water from the regional or local treatment plants).
- Develop an integrated network of rainwater and greywater catchment systems within the County's agricultural sector through incentive and rebate programs to further increase water storage capacity.
- Establish a regional stormwater harvest program and construct the related infrastructure (e.g., piping, storage basins and reservoirs, pumps) in existing rural and urban portions of the County, as well as new development.

Benefits: Deployment of on-site and regional rainwater capture and stormwater harvest technology would expand Sacramento County's existing water storage capacity and thereby improve the County's resiliency to periods of drought or cases where water distribution infrastructure is damaged.

Co-benefit

This measure will have co-benefits related to flood risk.

Implementing County Departments: SM, EMD, PIO, DGS, DWR, and Agricultural Commissioner

Timeframe: Near term

MEASURE WATER-03: CREATE INCENTIVES AND PROGRAMS TO TRANSFER KNOWLEDGE AND TECHNOLOGIES TO ASSIST FARMERS WITH NEW PRODUCTION METHODS AND DROUGHT-ADAPTED VARIETIES

Implementation:

- Create programs that facilitate communication between farmers of specialty crops and other climate-sensitive crops and agricultural specialists to inform and advise future agricultural practices in light of a potentially drier and hotter climate.
- Provide financial support to farmers of specialty crops and other climate-sensitive crops for changes to irrigation systems associated with drought-adapted varieties to ensure continued agricultural productivity during future years of variable and uncertain precipitation.
- Incentivize water conservation and efficiency in the agricultural sector through incentive and rebate programs to manage water resources through increasingly efficient delivery, storage, and recycling of water, and enhance soil health through management practices such as reduced tillage and the use of cover crops.

The County may work with the Sacramento County Farm Bureau, resource conservation districts, groundwater sustainability agencies, and other organizations to understand best practices and to engage the agricultural sector.

Benefits: Increased communication and financial support within the agricultural sector of the County would allow farmers to transition and adapt to a hotter and potentially drier climate. As a major economic driver for the County, as well as a contributor to the local food security of the County and State, it will be imperative that the agricultural sector adapt quickly to a changing climate. Implementation of the aforementioned actions would improve the sector's resiliency.

Implementing County Departments: SM, Agricultural Commissioner, and ED

Timeframe: Near term

MEASURE WATER-04: REDUCE POTABLE WATER USE IN OUTDOOR LANDSCAPING

Implementation:

- Amend the Sacramento County Water Efficient Landscaping Ordinance to require that 80 percent of landscaping area is dedicated to low-water, drought-tolerant species for new residential and nonresidential buildings.
- Partner with RWA and other water districts in the County to expand existing rebate programs (e.g., Cash for Grass Program or River Friendly Landscape Programs) to create incentives to incorporate low-water, drought-tolerant species in lieu of water-intensive lawns and high-water vegetation in existing residential areas.
- Partner with the Sacramento Regional County Sanitation District and local water providers to expand the existing recycled water system service areas where feasible.

Benefits: Revising the County's landscaping standards as defined by the Sacramento County Water Efficient Landscaping Ordinance and County Zoning Code, improving rebates to residential water users to incorporate drought-tolerant landscaping, and increasing the size of the recycled water system would reduce the amount of water used for landscaping. These savings could be allocated to other, more vital purposes (e.g., agriculture, potable water). These actions would also result in reductions in pumping energy and associated GHG emissions reductions.

Implementing County Departments: PER, SM, and DWR

Timeframe: Near term

MEASURE WATER-05: EXPAND UPON EXISTING WATER CONSERVATION EDUCATION OUTREACH PROGRAMS FOR RESIDENTS AND BUSINESSES

Implementation: Support RWA's efforts to expand communication of water conservation–related education and tips through multiple media platforms (e.g., radio, television, social media) to increase awareness of indoor and outdoor conservation methods. Encourage water districts to provide educational materials to water users through websites and customer bills. This may include increasing public awareness of landscaping changes and available low-water-use, drought-tolerant native plants. Showcase drought-tolerant demonstration gardens at three County buildings.

Benefits: Many Sacramento County–based water districts provide educational material to water users; however, to reduce wasteful use of water, the County, RWA, and water districts should partner and

dedicate additional efforts to expand the reach of these educational resources. This would result in more informed water users who may implement on-site water conservation strategies.

Implementing County Departments: SM, DWR, and PIO

Timeframe: Near term

MEASURE WATER-06: COLLABORATE WITH FEDERAL, STATE, AND LOCAL AGENCIES AND ORGANIZATIONS TO IDENTIFY FUTURE WATER SUPPLIES, EXPLORE ALTERNATIVE SUPPLY SOURCES, AND IMPROVE CAPACITY

Implementation:

- Pursue grant funding opportunities from the State Water Resources Control Board (SWRCB), the California Department of Water Resources (CA DWR), the U.S. Bureau of Reclamation (Reclamation), the U.S. Army Corps of Engineers (USACE) and other State and Federal agencies related to water recycling projects, and/or other water resource planning projects.
- Support the efforts of regional water districts to explore water supply options for the future and collaborate on water conservation strategies to improve supply capacity throughout the Sacramento and American River watersheds. Support water districts' efforts to engage with RWA, SWRCB, CA DWR, Reclamation, USACE, groundwater sustainability agencies, flood control agencies, and other local, State, and Federal agencies to identify new sources of water supply.
- Collaborate with RWA, the Sierra Climate Adaptation and Mitigation Partnership (Sierra CAMP), Sierra Nevada Conservancy, the Water Forum, CRCRC, groundwater sustainability agencies, and other local, regional, and State organizations to explore regional sustainability and conservation strategies for Sacramento County's water resources (i.e., Sacramento, American, Mokelumne, and Cosumnes Rivers; groundwater). This may include improving domestic well data and information sharing among agencies.
- Invest in programs within Sacramento County, such as the RWA Sacramento Regional Water Bank, to recharge groundwater supplies through in-lieu methods (e.g., supply surface water to an existing groundwater user) and direct methods (e.g., recharge ponds or injection wells) to improve Sacramento County's water storage capacity. Support water districts' efforts to conjunctively use water supplies to maximize use of surface water when it is available and rely on groundwater when it is not.
- Support projects such as RiverArc and Sites Reservoir that increase regional access to surface water and increase Statewide water storage.

Benefits: Ongoing communication and collaboration with other water-related stakeholders (e.g., agencies, organizations, businesses) would facilitate planning efforts to ensure that potentially limited water resources are allocated fairly and appropriately both upstream and downstream of Sacramento County. It is imperative that Sacramento County and its surrounding communities adapt to shifts in precipitation patterns associated with climate change.

Co-benefit

This measure will have co-benefits related to flood risk.

Implementing County Departments: SM and DWR

Timeframe: Midterm

3.1.4 Prepare for Increased Flooding

MEASURE FLOOD-01: EVALUATE AND IMPROVE CAPACITY OF STORMWATER INFRASTRUCTURE FOR HIGH-INTENSITY RAINFALL EVENTS

Implementation:

- Invest in green infrastructure, such as rain gardens, bioswales, stormwater tree trenches, green roofs, detention basins, and rain barrels, to reduce peak runoff, filter stormwater, and increase groundwater recharge.
- Increase maintenance and cleaning of gutters, drainage ditches, and culverts to maximize drainage capacity.

Benefits: Investing in green infrastructure and maintaining the existing infrastructure under the jurisdiction of the County would reduce instances of localized flooding in the County.

Implementing County Department: DWR

Timeframe: Near term

MEASURE FLOOD-02: IMPROVE SEWAGE AND SOLID-WASTE MANAGEMENT INFRASTRUCTURE

Implementation: Track the efforts of sanitation districts and waste management agencies in the region to improve sewage and solid-waste management infrastructure. Participate in interagency coordination meetings where applicable to identify opportunities for the County to support such efforts.

Benefits: Evaluation and improvement of existing undersized or inadequate sewage and solid-waste management infrastructure could lessen the occurrences of floodwater contamination, thereby reducing the spread of pollution and degraded water quality.

Implementing County Departments: DWR and DWMR

Timeframe: Near term

MEASURE FLOOD-03: IDENTIFY NEW LOCATIONS FOR FLOOD CONTROL, PRIORITIZING GREEN INFRASTRUCTURE SOLUTIONS

Implementation: Identify new locations suitable for multi-benefit flood control (e.g., underused agricultural areas, small streams) that encourage groundwater recharge, aquaculture, and habitat restoration (e.g., wetlands). Identify priority projects in coordination with resource conservation districts, groundwater sustainability agencies, the Sacramento Area Flood Control Agency (SAFCA), flood control agencies, and other organizations, and begin the CEQA process.

Benefits: Historically, Sacramento County has relied on the Yolo Bypass, Folsom Dam, and the Sacramento River and American River levee systems for flood control; however, if high climate change–caused volumes of water exceed the capacity of these facilities, Sacramento County would be dependent on additional flood control areas. Identification of these locations would mitigate potential flood events and provide other benefits, including, but not limited to, groundwater recharge, aquaculture, and habitat restoration.

Implementing County Departments: SM and DWR

Timeframe: Near term

MEASURE FLOOD-04: COORDINATE WITH FEDERAL, STATE, AND LOCAL AGENCIES TO IMPROVE EMERGENCY EVACUATION AND SUPPLY TRANSPORTATION ROUTES

Implementation:

- Coordinate with the City of Sacramento, CalOES, SAFCA, CA DWR, and the Federal Emergency Management Agency (FEMA) in improving emergency evacuation and supply transportation routes during flood events.
- Identify locations of limited evacuation and supply transport capacity (e.g., bridges) and explore innovative alternative routes (e.g., American River bike trails, light-rail).

Benefits: Evacuation out of Sacramento County could be restricted by limited bridge crossings. Development of a comprehensive plan and multiple routes for evaluation and supply transport will be necessary to protect Sacramento County residents during flood events.

Implementing County Departments: SacOES, DWR, and SACDOT. Potential collaboration opportunities with the City of Sacramento, CalOES, SAFCA, CA DWR, and FEMA.

Timeframe: Near term

MEASURE FLOOD-05: INVEST IN USE OF PERVIOUS PAVEMENTS AND LANDSCAPING IN DEVELOPED AREAS AND RESTRICT THE USE OF PAVED SURFACES

Implementation:

- Increase the use of pervious pavements and landscaped areas to allow for better infiltration and reduced stormwater overflow in developed areas.
- Minimize paved surfaces for parking in favor of pervious surfaces to mitigate high stormwater flow rates. The County will consider reducing minimum parking requirements in appropriate land use designations and/or increasing minimum tree or landscaping planter sizes.

Benefits: Use of pervious pavements and landscaping, combined with restricting the overall square footage of paved surfaces within development areas, would minimize surface runoff and rates of urban flooding. Therefore, the capacity of stormwater infrastructure would be maintained, and cases of localized flooding would be less frequent.

Implementing County Departments: SM, PER, DWR, and SACDOT

Timeframe: Near term

MEASURE FLOOD-06: MAP CRITICAL FACILITIES AND INFRASTRUCTURE LOCATIONS VULNERABLE TO FLOODING AND UPGRADE AND/OR RELOCATE INFRASTRUCTURE WHERE APPLICABLE

Implementation:

- Map locations of communication, energy, public service, and transportation facilities and infrastructure that are vulnerable to flooding.
- In cases where existing communication, energy, public service, and transportation infrastructure and facilities are found to be vulnerable to flooding, assess and upgrade associated infrastructure to be more resilient to inundation and/or relocate critical infrastructure and related elements to higher ground (e.g., generators relocated to upper floors of hospitals).

Benefits: Public facilities and infrastructure, particularly energy infrastructure, located within the 100-year, 200-year, and 500-year floodplain may be subject to several feet of inundation. Contact with floodwaters could damage the efficacy of such infrastructure, resulting in blackouts, loss of communication, and impeded public services. To combat these potential impacts, Sacramento County will need to identify the locations of existing vulnerable facilities and infrastructure and upgrade or relocate such infrastructure to withstand potential flood events.

Co-benefit

This measure will also have co-benefits related to sea-level rise.

Implementing County Departments: SacOES, SACDOT, and DTech.

Timeframe: Near term

MEASURE FLOOD-07: ESTABLISH AN UNDERGROUND UTILITIES PROGRAM RESISTANT TO FLOODING

Implementation: Partner with SMUD and PG&E to establish a flood-resistant Underground Utilities Program that would underground overhead utility lines in appropriate areas to increase the resiliency of the energy grid, particularly in existing communities.

Benefits: The undergrounding of electrical utilities would increase Sacramento County's resilience to temperature- and wildfire-related impacts (see Temp-02 and Fire-01); however, in flood-prone areas, such as Sacramento County, underground utilities may be damaged during periods of inundation or rising groundwater. The County should partner with SMUD and PG&E to develop watertight, flood-resilient underground utility designs to minimize flood impacts on this infrastructure.

Implementing County Department: SM

Timeframe: Near term

MEASURE FLOOD-08: PARTNER WITH SAFCA AND LOCAL AGENCIES, UTILITIES, AND OTHER ORGANIZATIONS TO SUPPORT FUTURE AND ONGOING FLOOD-RELATED CLIMATE CHANGE INITIATIVES

Implementation:

- Partner with SAFCA, SMUD, PG&E, CRCRC, Sierra CAMP, and others to support future and ongoing flood-related climate change initiatives, including efforts such as SMUD's Sacramento Resilient Grid Initiative, Flood Data Analysis and Preparedness Planning, and other initiatives designed to increase Sacramento County's resilience to flooding.
- Partner with SAFCA, SMUD, PG&E, CRCRC, Sierra CAMP and others in advancing upstream and downstream regional water management solutions that reduce flood risks by increasing storage capacity in upstream reservoirs (similar to improvements recently made to Folsom Dam), storing, and slowing snowmelt until later in the season, identifying other diversion points with recharge benefits, and increasing the capacity of the Yolo Bypass.
- Advance projects to stabilize and reinforce shorelines and levees along the American River to accommodate 160,000 cubic feet per second flows during high-release flood protection events.

Benefits: Coordination with agencies and organizations would enable Sacramento County to use and benefit from additional resources and experts. Comprehensive upstream and downstream management of the Sacramento and American River watersheds is integral to preventing catastrophic flooding in the region.

Co-benefit

This measure will have co-benefits related to sea-level rise.

Implementing County Departments: SM and DWR

Timeframe: Near term

MEASURE FLOOD-09: RESEARCH THE TOLERANCE OF CURRENT CROP MIXES TO WITHSTAND INCREASED FLOODING AND SUPPORT AQUACULTURE AND FISH HABITAT

Implementation:

- Work with the agricultural sector to understand the tolerance of current crop mixes to withstand increased flooding, and explore options to shift crop types to suit changing conditions.
- Support the efforts of California Trout's Nigiri Project and other, similar projects to incentivize farmers to manage fields for fish habitat and aquatic food production (e.g., rice).
- Coordinate with the U.S. Department of Agriculture, the California Department of Food and Agriculture, CA DWR, the Sacramento County Department of Water Resources (DWR), California Trout, the California Department of Fish and Wildlife, resource conservation districts, and others to identify and implement actions local farmers can take to anticipate increased flooding.

Benefits: Historically, during the period when the Sacramento River reaches a threshold elevation, water is diverted into the Yolo Bypass Wildlife Area, which has five times the capacity of the Sacramento River. Investing in options to use this water for aquaculture and fish and wildlife restoration habitat would benefit the County's economy and native ecosystems.

Co-benefit

This measure will have co-benefits related to preparations for sea-level rise.

Implementing County Departments: SM, DWR, and ED

Timeframe: Near term

MEASURE FLOOD-10: EXPAND EDUCATIONAL PROGRAMS TO ADDRESS VECTOR AND WATERBORNE DISEASES

Implementation:

- Coordinate with the Sacramento-Yolo Mosquito and Vector Control District in the design and installation of underground cisterns and other drainage facilities to reduce and treat vectors.
- Expand public outreach and education through multiple forms of media (e.g., radio, television, social media) to reduce standing water in areas that attract mosquitos. Include information regarding methods of protection (e.g., covering up, use of sprays).

Benefits: Stagnant water following flood events provides excellent breeding grounds for mosquitoes and other insects that may carry vector-borne diseases (e.g., West Nile virus, Zika virus). Expending greater resources to expand upon existing educational programs would reduce the deleterious effects these diseases may have on Sacramento County residents.

Implementing County Departments: DHS, EMD, and DWR.

Timeframe: Near term

MEASURE FLOOD-11: IDENTIFY CONCRETE CHANNEL RESTORATION AREAS

Implementation: Identify concrete channels along the Sacramento and American Rivers that could be naturalized by stabilizing streambanks and planting appropriate vegetation to buffer buildings, roads, and crops from flooding, similar to restoration activities for the Cordova Creek Naturalization Project.

Benefits: Naturalizing these existing concrete channels would create natural buffers to flood protection. The planting of native trees, shrubs, and other vegetation increases water absorption and allows for groundwater recharge, which moderates the volume of water entering rivers and streams, thereby minimizing flood events.

Implementing County Departments: DWR and Regional Parks

Timeframe: Near term

MEASURE FLOOD-12: REPLANT BARE OR DISTURBED AREAS

Implementation: Replant bare or disturbed areas to reduce runoff, improve water uptake, and reduce erosion and sedimentation in streams.

Benefits: Vegetation acts as a natural buffer to protect water quality during flood events by filtering contaminants and reducing flows of sedimentation through soil stabilization. Replanting bare or disturbed areas would reduce flood-related water quality impacts in Sacramento County.

Implementing County Departments: DWR and Regional Parks

Timeframe: Near term

MEASURE FLOOD-13: UPDATE AND IMPLEMENT THE COUNTY'S LOCAL HAZARD MITIGATION PLAN TO ADDRESS CLIMATE CHANGE-RELATED FLOODING IMPACTS

Implementation:

- Ensure that all future updates to the County's LHMP incorporate comprehensive strategies to address the increasing likelihood of flooding as a result of the hazards of climate change.
- Pursue implementation of plans related to flood protection and continue to secure grant funding to prepare future updates, where applicable.

Benefits: In accordance with federal law, the Sacramento County LHMP will be updated periodically to adapt to potential changes in hazard conditions, including climate change influences. As the effects of global climate change continue to manifest, Sacramento County's adaptation strategies and mitigation actions may need to evolve to accommodate changing conditions. Regular updates to the LHMP would include adjustments to Sacramento County's adaptation strategies and mitigation actions so that they are deployed accurately and in a timely manner.

Co-benefit

This measure will have co-benefits related to sea-level rise.

Implementing County Departments: DWR and SacOES

Timeframe: Near term

MEASURE FLOOD-14: SAFEGUARD FRESHWATER SUPPLY AGAINST CONTAMINATION, DEGRADATION, OR LOSS

Implementation: Support water district investments in new and/or upgraded existing infrastructure to ensure that freshwater supplies are not contaminated, degraded, or lost during flood events.

Benefits: Floodwaters may interact with sources of pollution and disperse hazardous substances locally or regionally, potentially impairing freshwater supplies. Safeguarding freshwater supply sources through infrastructure improvements (e.g., backflow preventers) would improve Sacramento County's ability to provide drinking water to its residents during flood events.

Implementing County Department: DWR

Timeframe: Near term

MEASURE FLOOD-15: IMPROVE FLOOD WARNING AND INFORMATION DISSEMINATION

Implementation:

- Partner with the National Weather Service to deliver robust multi-lingual education and outreach materials accessible across multiple media forms (e.g., radio, text messaging) to publicize information regarding potential day-to-day flood risk, how to sign up for the Sacramento Alert Emergency Notification System, emergency supplies, pet protection, key terminology, electrical safety, and evacuation routes in the case of flooding.

- Invest resources and personnel to regularly update the Sacramento Ready webpage to include current information.

Benefits: Improving Sacramento County's outreach and educational programs to be more accessible to non-English-speaking persons, residents living within floodplains, and disadvantaged communities would provide Sacramento County residents with real-time information of flood danger, as well as useful resources regarding steps to protect against human and property damage.

Co-benefit

This measure will have co-benefits related to sea-level rise.

Implementing County Departments: SacOES, DWR, and PIO

Timeframe: Near term

3.1.5 Prepare for Sea-Level Rise

MEASURE SLR-01: COORDINATE WITH OTHER AGENCIES ON FLOODPLAIN MAPPING UPDATES AND IDENTIFICATION OF IMPROVEMENTS TO PROTECT VULNERABLE POPULATIONS, FUNCTIONS, AND STRUCTURES

Implementation:

- Coordinate with the applicable Reclamation Districts (RDs), FEMA, and CA DWR to regularly update floodplain mapping for potentially affected areas to reflect changes in Base Flood Elevations that account for sea-level rise.
- Partner with the applicable RDs to establish measures to protect populations, functions, and structures within the affected areas, including performing continued maintenance of RD levee systems and relocating vulnerable communities, infrastructure, and facilities where applicable.

Benefits: Updates to floodplain mapping that include changes in Base Flood Elevations with sea-level rise inputs would inform future planning and investment decisions. Recognizing that the impact of sea-level rise will manifest gradually over the course of the century, and that according to current projections, 8 percent of Sacramento County is at risk of inundation from a 1.41-meter rise in sea level coupled with a 100-year flood event, Sacramento County should rely on partnerships with agencies and organizations conducting sea-level rise research to identify actions that protect the County and areas within the proximity of the County. (See Measure SLR-02, below.)

Implementing County Department: DWR

Timeframe: Near term/ongoing

MEASURE SLR-02: SUPPORT AND MONITOR ONGOING ANALYSIS OF SEA-LEVEL RISE DATA

Implementation:

- Support and monitor ongoing collection and analysis of sea-level rise, storm surge, and tidal data by existing institutions, including, but not limited to, FEMA and the National Oceanic and Atmospheric Administration.

- Support research and analysis of saltwater intrusion and degraded water quality in the Sacramento River, as well as in surrounding freshwater inlets and wells, as a result of sea-level rise.

Benefits: Gathering information on sea-level rise effects on Sacramento County (e.g., saltwater intrusion) would help the County and local water districts prepare for potentially more adverse hydrologic and water quality conditions.

Implementing County Department: DWR

Timeframe: Ongoing

MEASURE SLR-03: UPDATE THE COUNTY'S LOCAL HAZARD MITIGATION PLAN TO INCORPORATE SEA-LEVEL RISE

Implementation: Require that future updates to the County's LHMP incorporate a comprehensive evaluation of sea-level rise in the County and associated risk management processes as the degree of sea-level rise manifests and as more data become available.

Benefits: Future updates to the County's LHMP to include sea-level rise hazards would increase Sacramento County's resilience to higher sea levels, because future LHMPs would assess the geographic extent, probability of future occurrences, magnitude/severity, significance, and climate change influence of sea-level rise as it relates to the County. The LHMP's assessment of these factors would assist with the development of future mitigation actions.

Implementing County Departments: SacOES and DWR

Timeframe: Midterm/ongoing

MEASURE SLR-04: INCORPORATE SEA-LEVEL RISE EFFECTS INTO CAPITAL IMPROVEMENT PLANS

Implementation: Following the completion of Measures SLR-01 and SLR-03, update capital improvement plans for critical infrastructure to address the effects of future sea-level rise and associated hazards in potentially affected areas.

Benefits: Using sea-level rise data, the County would be able to design and locate future infrastructure projects accordingly. In areas where sea-level rise effects will likely occur, the County would bolster or relocate future infrastructure.

Implementing County Departments: DWR and SACDOT

Timeframe: Midterm

MEASURE SLR-05: GUIDE FUTURE DEVELOPMENT OUT OF AREAS VULNERABLE TO SEA-LEVEL RISE

Implementation: Following the completion of Measures SLR-01 and SLR-03, guide future development out of areas that are vulnerable to sea-level rise and associated hazards.

Benefits: Guiding development out of areas vulnerable to sea-level rise would reduce future flooding impacts on people and property.

Co-benefit

This measure will have co-benefits related to flood risk.

Implementing County Departments: PER and DWR

Timeframe: Near term/ongoing

3.1.6 Prepare for All Threats

MEASURE ALL-01: CREATE A COMPREHENSIVE OUTREACH STRATEGY

Implementation: Develop robust multi-lingual education and outreach materials accessible across multiple media forms (e.g., radio, television, social media) to publicize potential climate change impacts and how to sign up for Sacramento Alert Emergency Notification System and adequately protect and increase community resiliency to climate change.

Benefits: Improving Sacramento County's outreach and educational programs to be more accessible to non-English-speaking persons, residents living within vulnerable areas, and disadvantaged communities would provide Sacramento County residents with real-time information of climate danger, as well as useful resources regarding steps to protect against human and property damage.

Co-benefit

This measure will have multiple co-benefits and will support the overall implementation of the CAP.

Implementing County Departments: SacOES, SM, and PIO

Timeframe: Midterm

4 IMPLEMENTATION AND MONITORING STRATEGY

To successfully implement the GHG emissions reduction and adaption strategies described in previous sections, the CAP in its entirety will need to be continuously assessed and monitored. This will entail:

- Preparing an annual report for the Board of Supervisors that describes progress on the GHG reduction and adaptation strategies described in this plan. This report will state the status of each measure in achieving the implementation and target indicators set for the timeline specified;
- Coordinating measure implementation within each County department specified in the measure, or other departments, if necessary;
- Providing regular updates to the public on the status of CAP strategy implementation, through a CAP portal hosted on the County's website and linked to the existing Green Sacramento County page;
- Regular coordination with the Climate Emergency Mobilization Task Force as described in the County's Declaration of a Climate Emergency;
- Assigning the Climate Emergency Mobilization Task Force to begin immediate work on preparing the CERP under guidance of the County Executive Office and Sustainability Manager.
- Regular coordination with important regional partners such as SMUD, SMAQMD, RT, RWA, and local water districts about implementation strategies and progress;

- Seeking Board approval, when necessary, to implement programs that support the goals of the CAP measures and to adjust the CAP when necessary in response to monitored performance and community feedback;
- Updating the community GHG Inventory within the first two years of CAP implementation, and every three years thereafter, publishing a summary of the results to the CAP portal;
- Screening project applications for new development to ensure that all projects, particularly those seeking streamlining for GHG analyses are in conformance with the CAP;
- Coordination with nonprofits and community-based organizations engaged in sustainability planning on the implementation of CAP measures. This may include communicating volunteer opportunities for members of these groups to provide support for CAP measure implementation;
- Tracking the payment of relevant assessments on new development to ensure that these funds are being invested into high-density infill projects with per-capita GHG emissions below the County's 2030 business-as-usual forecast of 4.95 MT CO_2e per person;
- Providing updates to regional planning agencies and organizations to on the status of the CAP and learn new best practices for CAP measure implementation. This includes but is not limited to CRCRC, SMUD public workshops, SACOG regional planning efforts, and applicable SMAQMD rulemakings;
- Tracking the timeframe on updates to the County's General Plan, State Scoping Plan, Natural and Working Lands Strategy, and attending scoping meetings for these plans to ensure that future updates to the CAP align with these plans; and
- Begin identifying new and enhanced carbon reduction strategies to incorporate into a CAP update in the 2024-2025 timeframe that brings the County to full carbon neutrality by 2030 in accordance with the County's Climate Emergency Resolution.

The work described would entail internal coordination across multiple County agencies, with external partners, and interaction with the Board of Supervisors for consideration of actions that allow the CAP measures to be achieved, modified, and funded, as necessary. A full-time Sustainability Manager aided by support staff would be necessary for performing the duties described in this strategy.

5 REFERENCES

Bedsworth et al. 2018. *Statewide Summary Report. California's Fourth Climate Change Assessment*. Publication number: SUMCCCA4-2018-013.

Burton, Christopher and Susan L. Cutter. 2008 (August). Levee Failures and Social Vulnerability in the Sacramento-San Joaquin Delta Area, California. Natural Hazards Review. Pp 136-149. Available: https://www.researchgate.net/profile/Christopher_Burton3/publication/228756947_Levee_failures_and_social_vulnerability_in_the_Sacramento-San_Joaquin_Delta_area_California/links/00b4953c3a884f3878000000.pdf. Accessed: August 4, 2016.

CA DWR. *See* California Department of Water Resources.

CAL FIRE. *See* California Department of Forestry and Fire Protection.

CalBRACE. 2015 (December). *Public Health Planning for Climate Change Adaption in California*. Available: http://www.cdph.ca.gov/programs/Documents/VAReportSection2_Sacramento_12-21-2015.pdf. Accessed: September 21, 2016.

California Climate Action Team. 2012 (August). *Extreme Heat Adaption Interim Guidance Document*. Available: https://www.arb.ca.gov/cc/ab32publichealth/meetings/091012/extremeheatadaptationinterimguidance.pdf. Accessed: January 13, 2017.

California Department of Fish and Wildlife. 2015. *California State Wildlife Action Plan 2015 Update: A Conservation Legacy for Californians*. Available: https://www.wildlife.ca.gov/SWAP/Final. Accessed: September 20, 2016.

California Department of Food and Agriculture. 2013. *Climate Change Consortium for Specialty Crops: Impacts and Strategies for Resilience*. Available: https://www.cdfa.ca.gov/environmentalstewardship/pdfs/ccc-report.pdf. Accessed: January 12, 2017.

California Department of Forestry and Fire Protection. 2008 (November). *Power Line Fire Prevention Field Guide*. Available: http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fppguidepdf126.pdf. Accessed: March 22, 2017.

California Department of Water Resources. 1980. *Ground Water Basins in California: A Report to the Legislature in Response to Water Code Section 12924*. Available: http://www.water.ca.gov/pubs/groundwater/bulletin_118/ground_water_basins_in_california__bulletin_118-80_/b118_80_ground_water_ocr.pdf. Accessed: November 9, 2016.

———. 2008. *Managing an Uncertain Future: Climate Change Adaption Strategies for California's Water*. Available: http://www.water.ca.gov/climatechange/docs/ ClimateChangeWhitePaper.pdf. Accessed: June 15, 2016.

California Energy Commission. 2020a. *Cal-Adapt Annual Averages Tool*. Available: https://cal-adapt.org/tools/annual-averages/. Accessed November 25, 2020.

———. 2020b. *Cal-Adapt Extreme Heat Tool.* Available: https://cal-adapt.org/tools/extreme-heat/. Accessed November 25, 2020.

———. 2020c. *Cal-Adapt Extreme Precipitation Tool*. Available: https://cal-adapt.org/tools/extreme-precipitation/k. Accessed November 25, 2020.

California Natural Resources Agency. 2012. *Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risk from Climate Change in California*.

———. 2014. *Safeguarding California: Reducing Climate Risk—An Update to the 2009 California Climate Adaption Strategy*.

———. 2018. *Safeguarding California Plan: 2018 Update*. Available: https://files.resources.ca.gov/climate/safeguarding/. Accessed November 30, 2020.

CalOES. *See* Governor's Office of Emergency Services.

Capital Region Climate Readiness Collaborative. 2014 (November). *Climate Change Risks and Solutions for the Capital Region*. Available: http://www.climatereadiness.info/wp-content/uploads/2014/04/Sacramento-Climate-Change-Risks-Nov-2014.pdf. Accessed: August 2, 2016.

CAT. *See* California Climate Action Team.

CDFA. *See* California Department of Food and Agriculture.

CDFW. *See* California Department of Fish and Wildlife.

CEC. *See* California Energy Commission.

Climate Central. No Date. *Sacramento and Stockton Face Biggest Seal Level Rise Threat in California: Host State's Largest City Population on Low-Lying Lands*. Available: http://www.climatecentral.org/pdfs/SLR-CA-SS-PressRelease.pdf. Accessed: August 25, 2016.

CNRA. *See* California Natural Resources Agency.

CRCRC. *See* Capital Region Climate Readiness Collaborative.

Curtis, Katherine J. and Annemarie Schneider. 2011 (April). *Understanding the Demographic Implications of Climate Change: Estimate of Localized Population Prediction under Future Scenarios of Sea-Level Rise*. Springer Science and Business Media, LLC. Available: https://www.researchgate.net/profile/Annemarie_Schneider/publication/227203534_Understanding_the_demographic_implications_of_climate_change_Estimates_of_localized_population_predictions_under_future_scenarios_of_sea-level_rise/links/004635351a192319d4000000.pdf. Accessed: August 4, 2016.

Governor's Office of Emergency Services. 2020. *California Adaptation Planning Guide*. Available: https://www.caloes.ca.gov/HazardMitigationSite/Documents/CA-Adaptation-Planning-Guide-FINAL-June-2020-Accessible.pdf. Accessed August 20, 2020.

Heat Island Group. 2017. *Cool Pavements*. Available: https://heatisland.lbl.gov/coolscience/cool-pavements. Accessed: January 13, 2017.

Houlton, Benjamin and Jay Lund. (University of California, Davis). 2018. *Sacramento Summary Report. California's Fourth Climate Change Assessment.* Publication number: SUM-CCCA4-2018-002.

Metro Fire. *See* Sacramento Metropolitan Fire District.

SACOG. *See* Sacramento Area Council of Governments.

Sacramento Area Council of Governments. 2015. *Sacramento Region Transportation Climate Adaptation Plan*. Available: http://www.sacog.org/sites/main/files/file-attachments/fullplanwithappendices.pdf/. Accessed: June 15, 2016.

Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Available: https://planning.saccounty.net/PlansandProjectsIn-Progress/Pages/GeneralPlan.aspx

———. 2016. *2016 Sacramento Countywide Local Hazard Mitigation Plan Update*. Available: https://waterresources.saccounty.net/Local%20Hazard%20Mitigation%20Plan%202017/Executive%20Summary.pdf. Accessed November 30, 2020.

Sacramento Metropolitan Fire District. 2014 (June). *Communitywide Wildfire Protection Plan*. Available: https://metrofire.ca.gov/phocadownloadpap/CWPP/appacwpp.pdf. Accessed: January 19, 2017.

Sacramento Municipal Utilities District. 2012 (November). *Climate Readiness Strategy Overview and Summary Findings*.

SMUD. *See* Sacramento Municipal Utilities District.

USFS. *See* U.S. Forest Service.

U.S. Department of Energy. 2010 (July). *Guidelines for Selecting Cool Roofs V 1.2. Building Technologies Program*. Available: https://heatisland.lbl.gov/sites/all/files/coolroofguide_0.pdf. Accessed: January 12, 2017.

U.S. Forest Service. 2011 (February). *Southern Sacramento Mountains Restoration Project*. Available: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5270095.pdf. Accessed: April 4, 2017.

Valley Vision. No Date. *Capitol Region Business Resiliency Initiative: The Toolkit*. Available: http://resilientbusiness.org/the-toolkit/. Accessed: January 13, 2017.

Water Education Foundation. 2016. *Sacramento-San Joaquin Delta Levees*. Available: http://www.watereducation.org/aquapedia/sacramento-san-joaquin-delta-levees. Accessed: August 4, 2016.

APPENDIX A – CLIMATE CHANGE OVERVIEW AND REGULATORY BACKGROUND

A.1 GREENHOUSE GAS EMISSIONS REDUCTION IN CLIMATE ACTION PLANNING

Planning for climate change at the local level can involve preparation of plans that address the causes and effects of climate change. A known cause of climate change is the release of greenhouse gas (GHG) emissions into Earth's atmosphere (IPCC 2014). Climate Action Plans (CAPs) aim to reduce GHG emissions occurring at the local level which contribute to this global challenge. This is done by assessing historic and forecast GHG emissions occurring from local sources and then prescribing GHG reduction measures to reduce, eliminate, or remove GHG emissions over time. The measures contained in Section 2 of this CAP are aimed specifically at emissions within sectors included in the GHG Emissions Inventory for Sacramento County (County) (Section 1.2 and Appendix E) focusing on actions that are within the control of local government to enforce or provide support to partners in achieving.

A.2 KEY STATE REGULATIONS AND PLANNING EFFORTS FOR GREENHOUSE GAS REDUCTION

This CAP occurs alongside other State plans, policies and regulations aimed at reducing GHG emissions. In 2005, Governor Arnold Schwarzenegger signed Executive Order (EO) S-3-05, which directed California to reduce GHG emissions to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. A year later, in 2006, the Global Warming Solutions Act (Assembly Bill [AB] 32) was passed, establishing regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions. AB 32 put a cap on GHG emissions, setting a target of reducing GHG emissions to 1990 levels by 2020. As part of its implementation of AB 32 and EO S-3-05, the California Air Resources Board (CARB) developed a Scoping Plan in 2008 to describe the State's approach to achieving GHG reduction targets and goals.

On April 20, 2015, Governor Edmund G. Brown Jr. signed EO B-30-15, establishing a new GHG emissions reduction target of 40 percent below 1990 levels by 2030. EO B-30-15 directed CARB to update the AB 32 Scoping Plan to reflect the path to achieving the 2030 target. In September 2016, Governor Brown also signed Senate Bill 32, which codified into statute the mid-term 2030 target established by EO B-30-15. The 2030 GHG emissions reduction target places California on a trajectory towards meeting the goal of reducing statewide emissions to 80 percent below 1990 levels by 2050. EO B-55-18, signed in September 2018, furthers California's efforts to reduce GHG emissions by setting a goal to achieve carbon neutrality by 2045 and achieve net negative GHG emissions thereafter.

REFERENCES

Intergovernmental Panel on Climate Change. 2014. *Climate Change 2014 Synthesis Report Summary for Policymakers*. Geneva, Switzerland. Available: https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf. Accessed March 31, 2021.

APPENDIX B – CLIMATE CHANGE ADAPTATION, BACKGROUND & VULNERABILITY ASSESSMENT

B.1 KEY STATE REGULATIONS AND PLANNING EFFORTS FOR CLIMATE CHANGE ADAPTATION

Climate change is a global phenomenon that will result in short- and long-term consequences, including detrimental impacts on human health and safety, economic continuity, water security, provisions of basic services, and economic function. Indeed, the impacts of climate change are already being felt and are disproportionately impacting California's most vulnerable communities. According to the California Natural Resources Agency's (CNRA) Safeguarding California Plan: 2018 Update, the accelerating rate of climate change in this century will likely exceed that experienced by California's native peoples over past millennia (CNRA 2018). The magnitude and timing of climate change effects will vary by location; therefore, to develop effective strategies to address the impacts of climate change, jurisdictions must understand the projected severity of local climate impacts.

The purpose of climate adaptation planning is to seek strategies to reduce vulnerability to projected climate change impacts, increase adaptive capacity, and build resiliency. Resiliency is defined as the ability of an individual, community, organization, or natural system to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience. A climate resilient county is one that is prepared for the effects of climate change, can continue to provide essential services, protects against disproportionate impacts during hazard events, and implements adaptive management the face of change and disruption.

The two basic components of climate adaptation planning are a vulnerability assessment and adaptation strategies. The vulnerability assessment presented below evaluates how climate change will impact the County. It identifies projected climate change exposures for the County at mid- and late century timescales. This assessment identifies the County's populations and assets that are most vulnerable to climate change effects and the level of severity at which they may be impacted through a method known as "vulnerability scoring." This scoring helps the County understand which effects pose the greatest threats and should be prioritized in adaptation planning efforts. Lastly, this appendix presents adaptation strategies and measures to address the impacts of climate change, equitably protect people and infrastructure, and increase countywide resilience to climate change.

The State also prepared the 2009 California Climate Adaptation Strategy (Adaptation Strategy), which highlights climate risks and outlines possible solutions that can be implemented throughout California. The new Safeguarding California document is the State's roadmap to protect communities, infrastructure, services, and the natural environment from climate change impacts. The state has also published several guiding documents to support adaptation planning, which were used to prepare the vulnerability assessment and the strategies and measures contained in the main CAP document.

- California Adaptation Planning Guide: The California Office of Emergency Services (CalOES) and CNRA prepared the Adaptation Planning Guide (APG) in 2012 to provide vulnerability assessment and adaptation planning guidance for communities. CalOES released APG 2.0 (dated June 2020), an updated guidance document that includes bet practices and additional flexibility for jurisdictions. APG 2.0 lays out a framework for communities to identify potential climate change effects; important

physical, social, and natural assets; create adaptation strategies to address climate change impacts; and develop a monitoring and implementation framework for climate change adaptation (CalOES 2020).

- California's Fourth Climate Assessment: CNRA, the Governor's Office of Planning and Research, and the California Energy Commission prepared California's Fourth Climate Assessment (Fourth Assessment) in 2018. The Fourth Assessment was designed to address critical information gaps that decision-makers at the state, regional, and local levels need to close to protect and build the resilience of people, infrastructure, natural systems, working lands, and waterways.
- Safeguarding California Plan: Alongside the update to the Fourth Assessment, CNRA released the Safeguarding California Plan: 2018 Update which provides a roadmap for State government action to build climate resiliency. The plan identifies actions the State government will take to protect communities, infrastructure, services, and the natural environment from climate change impacts and includes strategies for use as local examples for climate adaptation.

B.2 VULNERABILITY ASSESSMENT

This section presents a vulnerability assessment for the County, focusing on direct and indirect climate change effects. The direct, or primary, effects analyzed for the County include changes in average temperature and annual precipitation amounts. Secondary effects, which can occur because of individual changes or a combination of changes in the primary effects, are also assessed. These include extreme heat, wildfire, drought, flooding, and sea-level rise. The vulnerability assessment follows the process outlined in Phase 2 of the APG and is composed of the following four steps:

- Exposure: The first step in the vulnerability assessment is to identify what climate change effects Sacramento County will experience in the future. To assess potential effects from climate change the APG 2.0 recommended Cal-Adapt tool is used. Results are based on two Representative Concentration Pathways (RCPs), 4.5 which represents a medium emissions scenario and 8.5 which represents a high emissions scenario. Because the efficacy of future global GHG reduction strategies is unknown, a discussion of both emissions scenarios, and their associated impacts, is included in this vulnerability assessment (Bedsworth et al. 2018).
- Sensitivity and Potential Impacts: This step identifies and assesses how population groups, community functions, and physical assets may be affected by localized climate change effects.
- Adaptive Capacity: The County, partner agencies, and organizations within the county have already taken steps to build resiliency and protect sensitive populations and assets from hazards. Thus, the purpose of this step is to characterize the county's current ability to cope with climate impacts, by reviewing existing plans, policies, and programs.
- Vulnerability Scoring: Lastly, vulnerability scores are determined based on how severe projected climate exposures will be, the degree of sensitivity of population groups and assets to anticipated climate effects, and whether sufficient adaptive capacity exists to manage the potential impact. This is based on a scale of 1 to 5, with higher scores indicating greater vulnerability.

Table B-1 includes a summary of the vulnerability scoring. It lists the direct and indirect impacts associated with climate change, the magnitude of risk posed to populations and assets (potential impact), and the County's existing adaptive capacity. An overall vulnerability score is determined based on the potential impact and adaptive capacity scores.

Table B-1: Potential Impact, Adaptive Capacity, and Vulnerability Scoring for Sacramento County

Impact	Potential Impact	Adaptive Capacity	Vulnerability Score
Increased Temperatures	High	Medium	4
Extreme Heat Days and Heat Waves	High	Medium	4
Increased Wildfire Risk	Medium	Medium	3
Increased Drought	Medium	Medium	3
Increased Flooding	High	Low/Medium	4/5
Sea-Level Rise	High	Medium	4

B.2.1 Exposure

PRIMARY EFFECT: INCREASED TEMPERATURES

According to Cal-Adapt, the historic (1961-1990) annual average maximum temperature for the County was 74 degrees Fahrenheit (°F), and the historic annual average minimum temperature was 48.4 °F. As shown in Table B-2 and Figures B-1 and B-2, both are projected to increase by mid-century (2035-2064) and further increase by late century (2070-2099) under the medium and high emissions scenarios. Increased temperature in unincorporated county will influence secondary climate effects including extreme heat events, wildfires, drought, and sea-level rise.

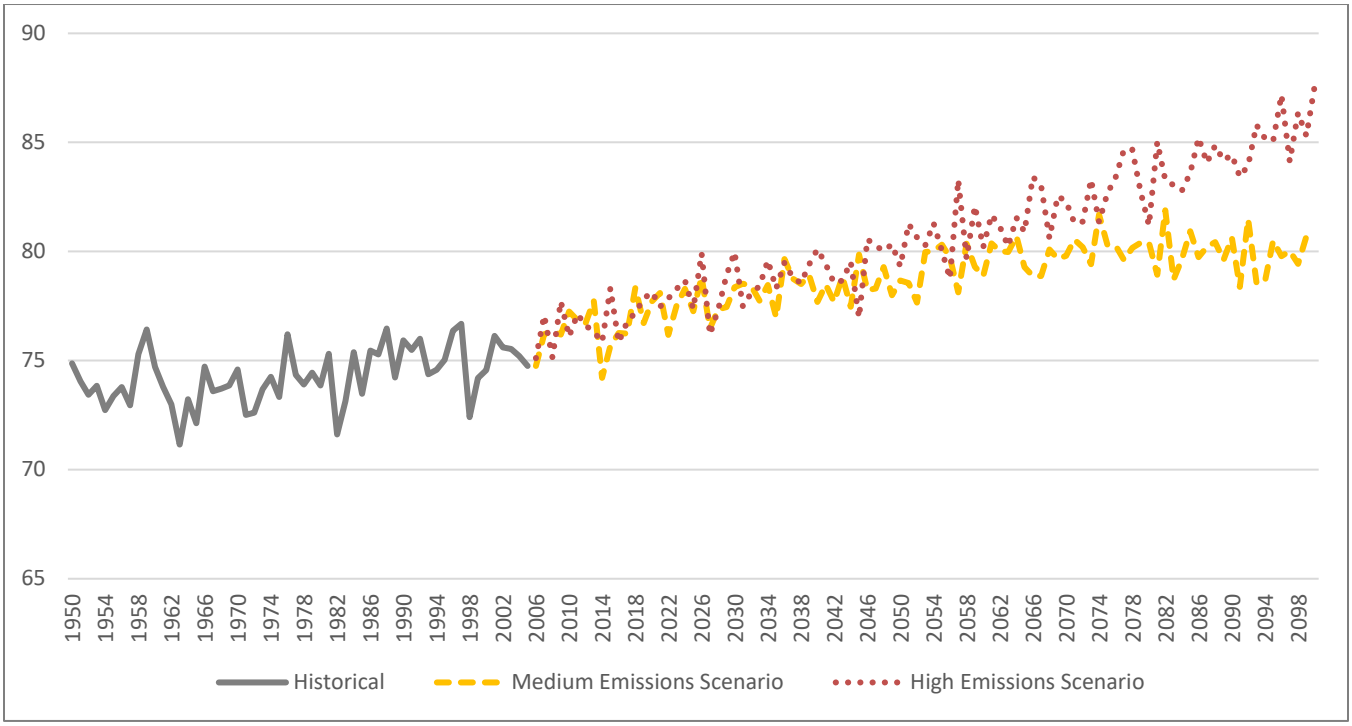
Table B-2: Changes in Annual Average Temperature in Sacramento County

Annual Average Temperature (°F)	Historic Annual Average Temperature (1961-1990)	Medium Emissions Scenario (RCP 4.5)		High Emissions Scenario (RCP 8.5)	
		Mid-Century (2035-2064)	Late Century (2070-2099)	Mid-Century (2035-2064)	Late Century (2070-2099)
Maximum Temperature	74.0	78.3	79.8	79.4	82.7
Minimum Temperature	48.4	52.2	53.4	53.2	56.8

Notes: °F = degrees Fahrenheit, RCP = Representative Concentration Pathway

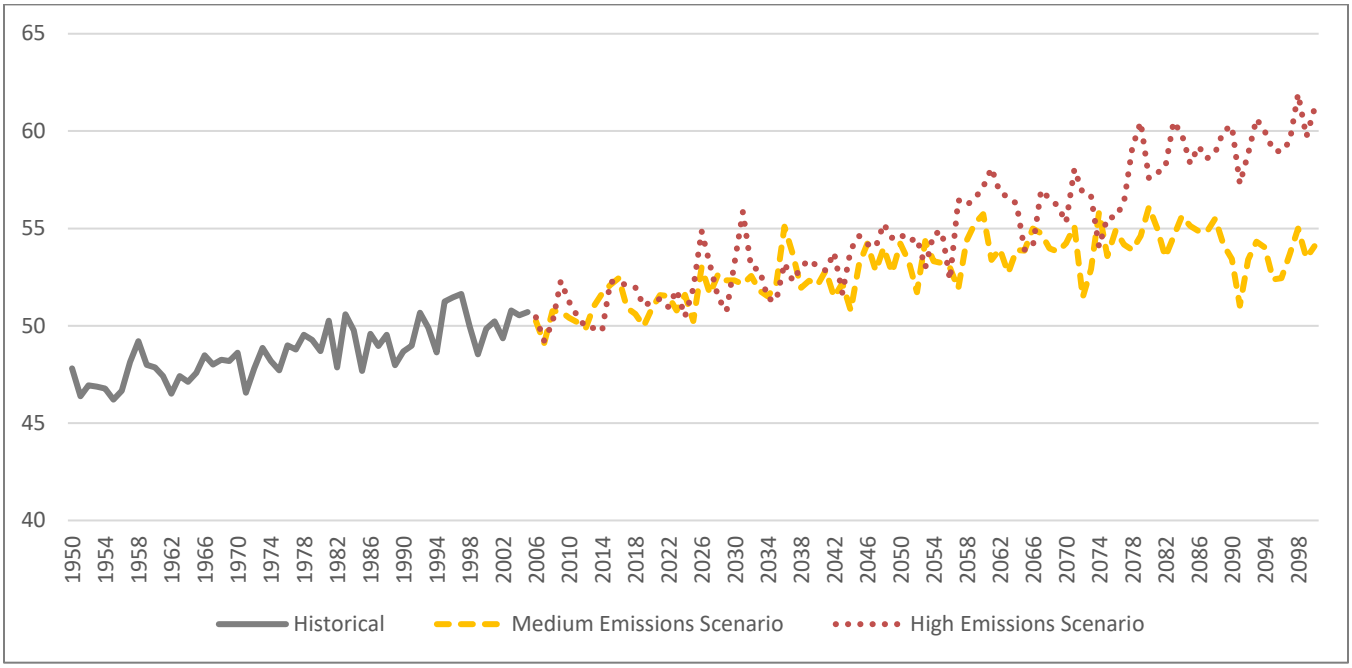
Source: CEC 2020a

Figure B-1: Historical and Projected Annual Average Maximum Temperature in Sacramento County



Source: Data downloaded from Cal-Adapt in 2020; adapted by Ascent Environmental in 2020.

Figure B-2: Historical and Projected Annual Average Minimum Temperature in Sacramento County



Source: Data downloaded from Cal-Adapt in 2020; adapted by Ascent Environmental in 2020.

PRIMARY EFFECT: CHANGES IN PRECIPITATION PATTERNS

According to California's Fourth Climate Change Assessment Sacramento Valley Region report, precipitation patterns in California oscillate between extremely dry and wet periods. Although annual precipitation figures in the Sacramento Valley region are expected to increase only slightly, climate change is likely to increase the intensity of extreme storms. Dry years are likely to become even drier, while wet years will become even wetter in the next several decades. Most critically, future wet seasons will have more precipitation as rain than snow, due to higher temperatures. The Northern Sierras, a primary water source for the Sacramento Valley, are expected to have almost no annual snowpack by the end of this century under the scenarios modeled for the paper. This shift will affect the timing of streamflow into the Sacramento Valley from spring to winter (Houlton and Lund 2018).

According to Cal-Adapt, the historic annual average precipitation in the County has been 18.3 inches. As shown in Table B-3 and Figure B-3, the total annual precipitation in the County is projected to increase slightly by mid-century and late century under the medium and high emissions scenarios (CEC 2020a).

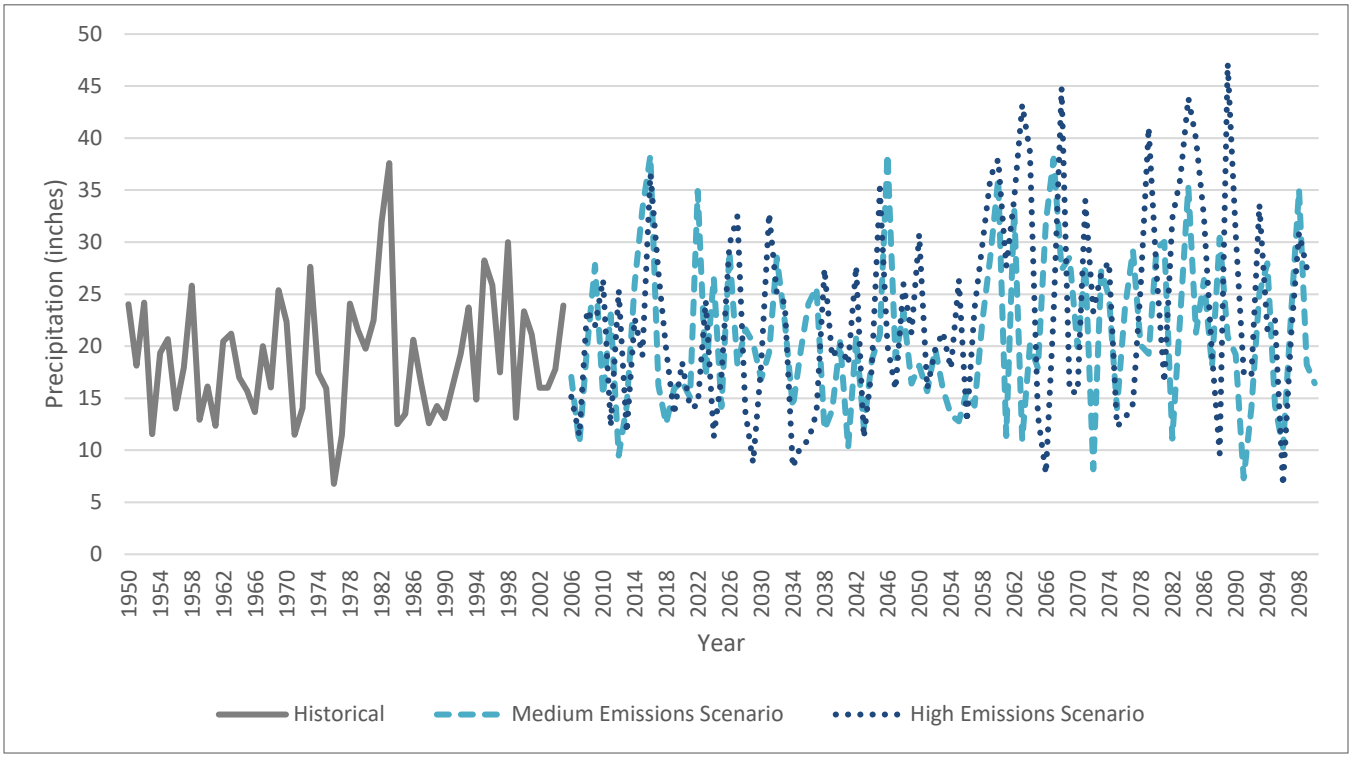
Table B-3: Changes in Annual Average Precipitation in Sacramento County

Annual Average Precipitation	Historic Annual Average Precipitation (1961-1990)	Medium Emissions Scenario (RCP 4.5)		High Emissions Scenario (RCP 8.5)	
		Mid-Century (2035-2064)	Late Century (2070-2099)	Mid-Century (2035-2064)	Late Century (2070-2099)
Annual Average Precipitation (in)	18.3	20.3	20.3	20.5	22.1

Notes: in = inches, RCP = Representative Concentration Pathway

Source: CEC 2020a

Figure B-3: Historical and Projected Precipitation in Sacramento County



Source: Data downloaded from Cal-Adapt in 2020; adapted by Ascent Environmental in 2020.

Changes in precipitation patterns will affect secondary climate effects including extreme heat, wildfires, drought, flooding, and sea level rise.

SECONDARY EFFECT: EXTREME HEAT

Cal-Adapt defines an extreme heat day as a day in a year when the daily maximum/minimum temperature exceeds the 98th historical percentile of daily maximum/minimum temperatures based on observed historical data from 1961–1990 between April and October. The extreme heat threshold for the County[1] is 103.8°F. Historically, the County experienced an average of four extreme heat days per year. Extreme heat days are already increasing in Sacramento County, with a current average of eight to nine extreme heat days per year from 2010 to 2016, including 18 extreme heat days in 2015. As a result of rising average maximum temperatures from climate change, the County is projected to experience up to 17 extreme heat days annually by mid-century and 24 extreme heat days by the late century under the medium emissions scenario. Under the high emissions scenario, the County is projected to experience up to 22 extreme heat days annually by mid-century and 40 extreme heat days by the late century (CEC 2020b).

Heat waves, which are defined as four or more consecutive extreme heat days, have been historically infrequent in Sacramento County; however, climate change will cause a substantial rise in the frequency of heat waves under both emissions scenarios. Under the medium emissions scenario, projections show an increase in heat waves to about 1.9 per year by mid-century and up to 2.8 per year by late century. Under the high emissions scenario, projections show an increase of 2.6 heat waves per year by mid-century and up to 5.8 per year by late century.

SECONDARY EFFECT: WILDFIRES

According to the 2016 Sacramento County Local Hazard Mitigation Plan (LHMP), rural wildfire and urban wildfire are ongoing concerns for the County. Currently, the major wildland fire hazards occur at the wildland urban interface where development is placed close to natural environments that support wildfire (Sacramento Metropolitan Fire District [Metro Fire] 2014).

Increased temperatures and changes in precipitation patterns associated with climate change are expected to increase the risk of wildfire in Sacramento County. Higher temperatures and reduced precipitation results in reduced average moisture in vegetation, which leads to the drying out of fuel loads that support more intense wildfires. The eastern portion of Sacramento County, where the topography includes more widespread steeper slopes, is most vulnerable to wildfire.

SECONDARY EFFECT: DROUGHT

Sacramento County is not located in an area where snow accumulates; however, major water districts and utilities in the County receive and depend on a substantial amount of water from watersheds that rely upon spring and early-summer snowmelt in the Sierra Nevada mountain range. The Sierra Nevada snowpack, which serves as a natural water supply reservoir for California during the dry months, is predicted to decline in area covered and water volume stored, as average temperatures rise and precipitation falls more frequently as rain instead of snow at mountain elevations. Further, increased temperatures will affect the timing of historical snowmelt such that the snowpack will typically melt earlier

[1] Cal-Adapt does not include countywide aggregated climate data for extreme heat. Thus, the geographic area surveyed for extreme heat relies on aggregated data from the City of Sacramento, which serves as a proxy for the County.

in the year, causing more rapid early spring flows in the Sacramento, American, Cosumnes, and Mokelumne Rivers and reduced late spring/summer flows.

Approximately 50 percent of Sacramento County is served by groundwater supplies. Changes in surface water flow will have a direct impact on groundwater recharge, including decreased periods of recharge when late spring/summer stream flows diminish. Further, groundwater usage is higher in periods of drought; therefore, groundwater supplies may be reduced during and after periods of limited surface water flows.

California (including Sacramento County) is prone to prolonged drought. The state experienced severe drought in 1973, 1976 through 1977, 1987 through 1991, 2007 through 2009, and 2012 through 2016. Climate change is expected to increase the number, duration, and severity of future droughts. Exacerbated drought conditions, early snowmelt, and reduced snowpack size, combined with increased demand as population and development increases, could result in water supply constraints in future years.

SECONDARY EFFECT: FLOODING

Climate change is likely to lead to changes in the frequency, intensity, and duration of extreme weather events, such as sustained periods of heavy precipitation, increased rainfall intensity during precipitation events, and increased risk of rain-on-snow events. Further, more winter-time precipitation that falls as rain instead of snow, and higher temperatures that will cause earlier snowmelt, which could produce substantial surface water flows over a short period of time and may potentially affect dams and spillways and overwhelm levee systems designed for historical precipitation patterns. Historically, the county[2] experienced an average of three extreme precipitation events per year. Under both the medium and high emissions scenarios, the county is expected to experience four extreme precipitation events per year by mid-century and five extreme precipitation events per year by the late century (CEC 2020c).

According to the LHMP, the County is "Highly Likely" to experience localized flooding (likelihood of occurrence every year or every other year), will have "Occasional" experience of 100-year flood events (one to ten percent likelihood of occurrence every year), and is "Unlikely" to experience a 200- and 500-year flood event (less than one percent chance of occurrence every year).

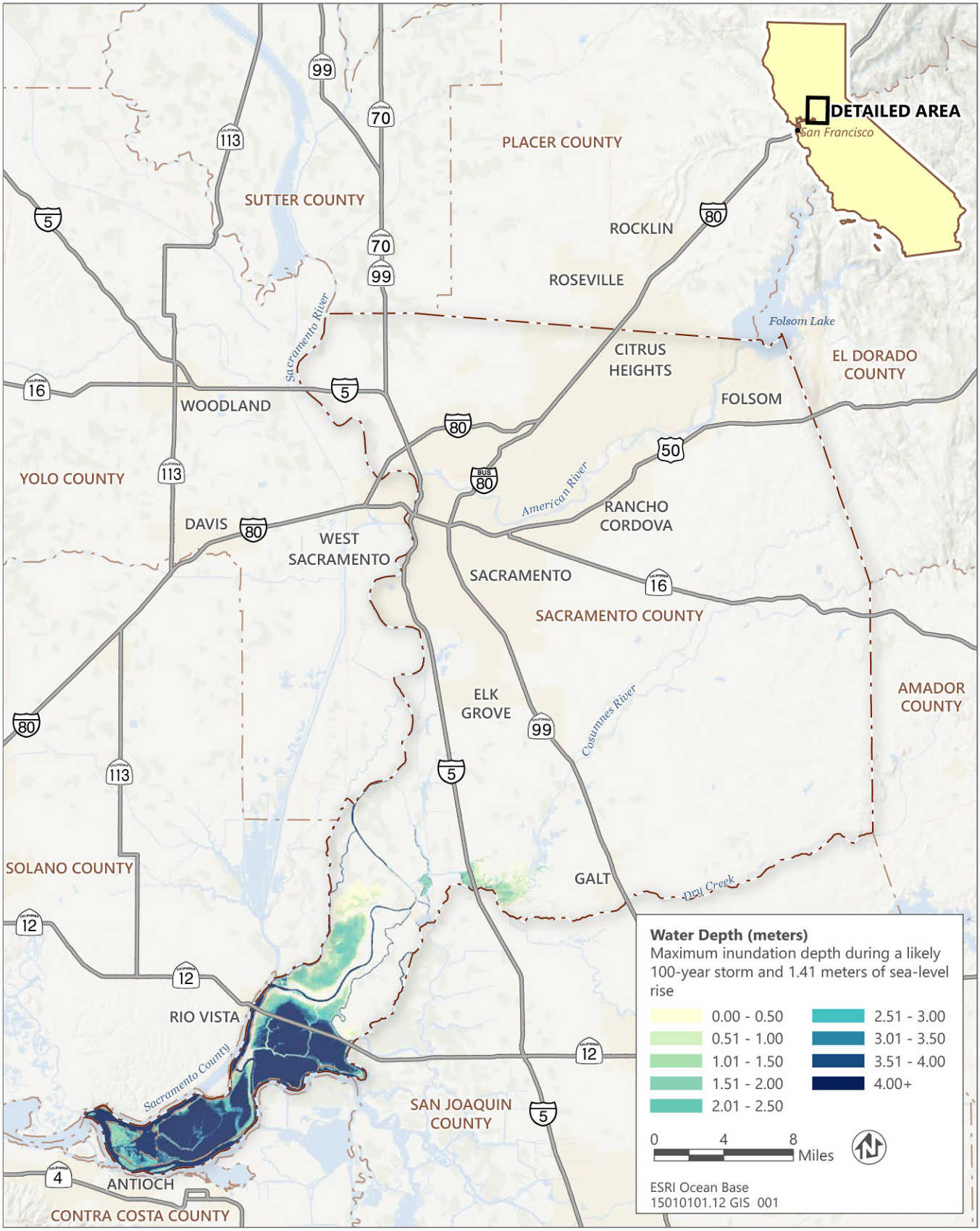
SECONDARY EFFECT: SEA-LEVEL RISE

Another outcome of global climate change is sea-level rise. As shown in Figure B-4, the southwestern portion of the County, which includes the lower reaches of the Sacramento River as it approaches the Sacramento-San Joaquin Delta, is the area of the County vulnerable to the effects of sea-level rise. Land uses in this area of the County are primarily rural and agricultural.

Sea-level rise may also result in greater saltwater incursion up the Sacramento River. Increased municipal and agricultural demand for fresh water, rising sea levels in the Delta, and reduced freshwater flow in the Sacramento River may affect water quality within the river. Water quality is dependent on a complex interaction of several variables, however, so the risk of future climate change implications on water quality in the Sacramento River is uncertain.

[2] Cal-Adapt does not include countywide aggregated climate data for extreme precipitation. Thus, the geographic area surveyed for extreme precipitation relies on aggregated data from the City of Sacramento, which serves as a proxy for the County.

Figure B-4: Sea-Level Rise Projections for Sacramento County, 1.41 Meter Rise Scenario



Source: Ascent Environmental 2021

B.2.2 Sensitivity and Potential Impacts

Climate change effects will impact some population groups, community functions, and physical assets more severely than others.

- Population includes both the general human population and segments of the population that are most likely to be sensitive or vulnerable to climate change impacts. Vulnerable populations within the County include linguistically isolated populations, the elderly, persons experiencing homelessness, outdoor workers, tribal nations, low-income communities, and disadvantaged communities who already bear a disproportionate pollution burden.
- Functions are essential services that provide for public health and safety, ecosystem functioning, and the economy. These include hospitals, medical facilities, police and fire stations, emergency operations centers, evacuation shelters, and schools. Transportation networks and lifeline utility systems are also critical to public health and safety. Functions also include economic systems such as agriculture, recreation, and tourism, as well as natural resources.
- Structures are physical assets in a community such as residential and commercial buildings, institutions (i.e., schools, churches, hospitals, prisons, etc.), recreational facilities, transportation infrastructure, parks, dikes and levees, and water and wastewater treatment infrastructure. It also includes high potential loss facilities, where damage would have large environmental, economic, or public safety considerations (e.g., nuclear power plants, dams, military installations, hazardous materials facilities).

This step in the vulnerability assessment involves identification of populations, functions, and structures that may be affected in the County by projected exposures to climate change impacts and their degree of sensitivity. A summary of potential impact scores is included in Table B-1. "Low" designates impacts that are unlikely based on projected exposure and would result in minor consequences to public health, safety, and/or other metrics of concern. "Medium" potential impacts are those that are somewhat likely based on projected exposure and would result in some consequences to public health, safety, and/or other metrics of concern. "High" potential impacts are those that are highly likely based on projected exposure and would result in substantial consequences to public health, safety, and/or other metrics of concern (CalOES 2020).

INCREASED TEMPERATURES AND EXTREME HEAT DAYS AND HEAT WAVES

Higher frequency of extreme heat days and heat waves can cause serious public health impacts, increasing the risk of conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Higher temperatures also worsen air quality through the increased air pollution. Developed areas are especially at risk, as extreme heat events will exacerbate the phenomenon known as the urban heat island effect. In built-up areas vegetation is sparse, roofs and asphalt pavement dominate the landscape, absorbing and retaining heat during the day and releasing it at night. Climate change poses significant challenges for achieving health equity, because populations that are socially and economically vulnerable often bear a disproportionate burden of climate effects. People in low-income areas, some of which are communities of color; people with existing health issues, such as chronic diseases and mental health conditions; young children and the elderly; people experiencing homelessness; outdoor workers, including farmers; immigrants; some tribal nations; and socially or linguistically isolated people are most vulnerable to the impacts of climate change. Vulnerable populations are less likely to have air conditioning to cool homes or shade from trees in their neighborhoods, more likely to experience infrastructure limitations, more likely to have one or more chronic medical conditions, and less likely to own cars that can provide mobility to avoid deleterious climate effects.

Extreme heat can also affect the functioning of essential services, economic systems, and ecosystems. High temperatures decrease the efficiency of power transmission lines, while demand for electricity simultaneously goes up as operation of air conditioners and cooling equipment increases. This results in more frequent blackouts and could affect the operation of infrastructure (SACOG 2015:23). Increased temperatures also lead to greater rates of evapotranspiration, leading to increased demand for outdoor watering and increasing stressors on the County's water supply. Extreme heat events can also impact outdoor activities like recreation, tourism, and agriculture. Increased temperatures and warmer nights as a result of climate change will likely reduce yield of some of California's most valuable specialty crops, result in heat stress to livestock, and alter the range of crop-damaging pests (CNRA 2014:24). Rising temperatures will also affect natural resources in Sacramento County. Temperature-sensitive terrestrial plant and animal species exposed to higher temperatures may shift their existing ranges to higher latitudes and elevations, cooler coastal environments, or local microclimate refuges. Vernal pool ecosystems, in particular, are vulnerable to increases temperatures and prolonged periods of heat.

Prolonged exposure to extreme heat can damage physical assets and infrastructure, resulting in roadway degradation, bridge expansion and contraction, and rail track buckling.

INCREASED RISK OF WILDFIRE

Increased frequency and intensity of wildfires will directly affect the safety of populations living within or near wildland areas (i.e., wildland-urban interface) prone to wildfire. Wildfires also result in the release of harmful air pollutants into the atmosphere, which dissipate and can affect the respiratory health of residents across a broad geographical scope.

Wildfires affect the functioning of transportation systems, emergency services, recreation and tourism, and healthy ecosystems. Roadway closures during a wildfire may result in poor emergency vehicle access and the isolation of rural and remote populations throughout the County. Hospitals may incur additional strain on their resources to accommodate an influx in emergency room visits during wildfire events. Wildfires impede recreational uses as well as the associated tourism revenue. Damage to ecological functions may also result due to catastrophic wildfire. When rain falls in burn scarred areas, there is a higher potential for soil erosion and mud flows into roads, ditches, and streams, which reduces water quality.

Lastly, wildfires can damage and destroy physical assets and infrastructure. In particular, critical transmission lines and hydroelectric infrastructure may be vulnerable to damage or temporary shutdown caused by wildfires (SMUD 2012).

INCREASED DROUGHT

Although the County has yet to face a critical loss in water resources, it is possible that climate-induced drought and increased water demand due to population growth could result in future water shortages wherein residents must implement severe cutback strategies. Those relying on wells or groundwater may also face challenges in meeting water demands as rates of groundwater recharge decline (CalBRACE 2015). Drought conditions can also affect public health by increasing the spread of vector-borne illnesses, such as the airborne transmission of pathogenic fungi spores, generated by parched agricultural land.

Energy production, agriculture, recreation, and ecosystem functions are especially vulnerable to drought. A declining volume of snowmelt coupled with earlier periods of melting could have severe consequences for the region's hydro-electricity generation. Drought and increased agricultural demand for water during extreme heat conditions could result in water insecurity for the sector. Reduced surface water flow in the County's watersheds could affect river-based economic and recreational opportunities such as the fishing, rafting, camping, and backpacking, and swimming activities in the tributaries of the Sacramento, American, Cosumnes, and Mokelumne rivers. Reduced streamflow combined with increased human demand for water could lower the availability of water for wildlife and alter the composition and structure of riparian communities (CDFW 2015).

In terms of damage to physical assets, drought conditions can increase in dependence on groundwater supplies and result in overdraft of groundwater basins. The Sacramento and San Joaquin groundwater basins have experienced "historical overdraft," where groundwater extraction exceeded rates of groundwater recharge (CA DWR 1980). Overdraft can lead to land subsidence wherein a gradual settling or sudden sinking of the earth's surface occurs. The effects of subsidence could impact houses and other structures such as transportation infrastructure, water well casing failures, and changes to the elevation and gradient of stream channels, drains, and other water transport structures (CNRA 2014:235).

INCREASED FLOODING

Increased flooding due to climate change will most adversely affect vulnerable populations living in floodplains. Low-income populations suffer higher mortality rates, and their homes sustain greater damage due to the housing stock, location, and inability to afford structural upgrades or flood insurance to mitigate the effects of flooding (Burton and Cutter 2008:144). Low-income households may also lack transportation and other resources to respond to or evacuate during a flood event. Race, class, ethnicity, and immigration status are also drivers of flood-related social vulnerability, as these may impose cultural and language barriers that affect emergency communications and access to post-disaster resources for recovery. Additionally, floodwater can interact with sources of pollution and distribute hazardous pollutants locally and regionally, resulting in water contamination and human health impacts.

Floods can disrupt transportation networks, cause economic losses through closure of businesses and government facilities, disrupt communications, disrupt the provision of utilities such as water and sewers, result in excessive expenditures for emergency response, and generally disrupt the normal function of a community (Sacramento County 2016). Roadway closures due to extended periods of flooding could prevent residents from accessing key supplies, such as food, electricity, fuel, and potable water. Flooding may also threaten ecosystem functioning and agricultural resources: unlike natural flooding regimes that deposits useful sediment resulting in increased soil fertility as well as groundwater recharge, catastrophic flooding from levee overtopping could lead to soil erosion and loss of viable cropland. It could also release sewage and hazardous materials into the environment if wastewater treatment plants are inundated, storage tanks are damaged, and pipelines severed.

Lastly, severe flooding is capable of destroying building and infrastructure such as bridges, roadways, electrical boxes, drainage systems, and levees. Extreme weather events could weaken or collapse levees in the Delta and could breach Sacramento and American river levees especially where they have not yet been upgraded or do not meet the minimum National Flood Insurance Program requirements.

SEA-LEVEL RISE

Portions of the County susceptible to sea-level rise are the low-lying lands near the Sacramento River in the southwest portion of the County. This area of the County is moderately disadvantaged according to the California Health Disadvantaged Index developed by the Public Health Alliance. As discussed above under the heading, "Increased Flooding," populations of high social vulnerability face challenges in responding or mitigating against flood events, including those associated with sea-level rise, due to low socioeconomic status, language barriers, educational status, and limited mobility (Climate Central n.d.).

Sea-level rise impacts to community functions and physical assets are similar to those described above in "Increased Flooding." The portion of the county susceptible to sea-level rise will face a greater threat of flooding because of the aging levees in the Delta and predicted increase in storm intensity affecting the American and Sacramento River watersheds (Curtis and Schneider 2011). Additionally, sea-level rise may affect the salinity of the Sacramento-San Joaquin Delta and cause saltwater intrusion into the Sacramento River, affecting water quality and supply throughout the region and state (CA DWR 2008, Water Education Foundation 2016).

B.2.3 Adaptive Capacity

The County, partner agencies, and organizations within the County have already taken steps to build resiliency and protect sensitive populations, functions, and assets from hazards. Review of existing local policies, plans, programs, resources, or institutions provides a good snapshot of the County's ability to adapt to climate change and reduce vulnerability. Based on this information, the County's adaptive capacity for each climate impact can be rated high, medium, or low. High adaptive capacity indicates that sufficient measures are already in place to address the points of sensitivity and impacts associated with climate change, while a low rating indicates a community is unprepared (CNRA 2012:26). Major plans and initiatives that address climate-related hazards include the following:

- Sacramento County General Plan of 2005 – 2030: includes policies to encourage sustainable building practices, efficient use of resources (i.e., water, land, and energy), and ecological stewardship. It also includes policies aimed at protecting its aging population, which are more vulnerable to health-related effects of climate change impacts and require better access to public services and housing (Sacramento County 2011a)
- 2016 Sacramento Countywide Local Hazard Mitigation Plan Update: addresses current and future impacts related to existing natural hazards such as flooding, levee failure, and wildfires (Sacramento County 2016). The LHMP is currently undergoing an update to address an updated list of hazards, impacts to the people and assets, and to establish updated goals and prioritize projects to reduce the impacts of future disasters on people and property as well as to critical facilities and infrastructure. It is anticipated that a draft of the updated LHMP will be available late spring 2021.
- Capital Region Climate Readiness Collaborative (CRCRC): the County is an active member of the CRCRC, which works across multiple sectors to advance resiliency across the region and the state. The CRCRC works regionally and across the state with other similar collaboratives, under the Alliance of Regional Collaboratives for Climate Adaptation, to address climate change, understand and inform the region on best practices for resiliency and adaptation to build strong, resilient, healthy, equitable, and sustainable communities across California.

- **Adaptive Efforts Related to Increased Temperature:** the Sacramento County Office of Emergency Services (SacOES) provides community-wide information for how to stay safe during periods of extreme heat through their Sacramento Ready Program, the County participates in the Property Assessed Clean Energy financing programs to help homeowners finance home energy and water efficiency upgrades, and numerous organizations within the County support urban greening and forestry efforts. The Sacramento Municipal Utility District (SMUD) implements a Cool Roof Incentive program.
- **Adaptive Efforts Related to Wildfire:** the County adopted the 2013 California Fire Code, which includes defensible space requirements and provisions to help prevent the accumulation of combustible vegetation. Metro Fire's Community Wildfire Protection Plan is a comprehensive plan to protect human life and reduce loss of property, critical infrastructure, and natural resources associated with wildfire. Through the CWPP, Metro Fire implements strategies to prevent and combat wildfire within its jurisdictional boundaries (Metro Fire 2014).
- **Adaptive Efforts Related to Drought:** the County adopted a Water Efficient Landscape Ordinance and participates in stormwater quality education and management. The Sacramento County Water Agency (SCWA) supports water conservation programs and participates in the Sacramento Area Water Forum, which aims to provide a reliable and safe water supply for the region's economic health and planned development through the year 2030 and to preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River (Sacramento County 2011b).
- **Adaptive Efforts Related to Increased Flooding:** Countywide Design Guidelines require flood protection and drainage facilities to be designed to provide multiple public benefits wherever possible. The County has also completed concrete-lined creek naturalization projects to restore habitat and increase climate resiliency. Other agencies such as the Delta Stewardship Council, Sacramento Area Flood Control Agency, the Central Valley Flood Protection District, and the U.S. Army Corps of Engineers have programs in place to improve flood protection infrastructure.
- **Adaptive Efforts Related to Sea-Level Rise:** while there are few sea-level-rise focused efforts, existing programs and strategies that address flood risk can also mitigate the impacts of sea-level rise.

A summary of the County's adaptive capacity scores is included in Table B-1. "Low" adaptive capacity means the population or asset lacks capacity to manage climate impact and major changes would be required. "Medium" adaptive capacity means the population or asset has some capacity to manage climate impact and some changes would be required. "High" adaptive capacity means the population or asset has high capacity to manage climate impact and no changes are required.

Vulnerability scores are determined based on how severe projected climate exposures will be, the degree of sensitivity of population groups and assets to anticipated climate effects, and whether sufficient adaptive capacity exists to manage the potential impact. This scoring can help the County understand which effects pose the greatest threats and should be prioritized in future planning efforts. Table B-1 shows the County's vulnerability scores on a scale of 1 to 5, in accordance with the APG's guidance. The highest scoring climate impacts are those where the potential impact is high and existing adaptive capacity is low.

REFERENCES

Bedsworth et al. 2018. *Statewide Summary Report. California's Fourth Climate Change Assessment*. Publication number: SUMCCCA4-2018-013.

Burton, Christopher and Susan L. Cutter. 2008 (August). Levee Failures and Social Vulnerability in the Sacramento-San Joaquin Delta Area, California. Natural Hazards Review. Pp 136-149. Available: https://www.researchgate.net/profile/Christopher_Burton3/publication/228756947_Levee_failures_and_social_vulnerability_in_the_Sacramento-San_Joaquin_Delta_area_California/links/00b4953c3a884f3878000000.pdf. Accessed: August 4, 2016.

CA DWR. *See* California Department of Water Resources.

California Department of Water Resources. 1980. *Ground Water Basins in California: A Report to the Legislature in Response to Water Code Section 12924*. Available: http://www.water.ca.gov/pubs/groundwater/bulletin_118/ground_water_basins_in_california__bulletin_118-80_/b118_80_ground_water_ocr.pdf. Accessed: November 9, 2016.

———. 2008. *Managing an Uncertain Future: Climate Change Adaption Strategies for California's Water*. Available: http://www.water.ca.gov/climatechange/docs/ ClimateChangeWhitePaper.pdf. Accessed: June 15, 2016.

CalBRACE. 2015 (December). *Public Health Planning for Climate Change Adaption in California*. Available: http://www.cdph.ca.gov/programs/Documents/VAReportSection2_Sacramento_12-21-2015.pdf. Accessed: September 21, 2016.

CalOES. *See* Governor's Office of Emergency Services.

CDFW. *See* California Department of Fish and Wildlife.

California Department of Fish and Wildlife. 2015. *California State Wildlife Action Plan 2015 Update: A Conservation Legacy for Californians*. Available: https://www.wildlife.ca.gov/SWAP/Final. Accessed: September 20, 2016.

California Energy Commission. 2020a. *Cal-Adapt Annual Averages Tool*. Available: https://cal-adapt.org/tools/annual-averages/. Accessed November 25, 2020.

———. 2020b. *Cal-Adapt Extreme Heat Tool.* Available: https://cal-adapt.org/tools/extreme-heat/. Accessed November 25, 2020.

———. 2020c. *Cal-Adapt Extreme Precipitation Tool*. Available: https://cal-adapt.org/tools/extreme-precipitation/. Accessed November 25, 2020.

Climate Central. No Date. *Sacramento and Stockton Face Biggest Seal Level Rise Threat in California: Host State's Largest City Population on Low-Lying Lands*. Available: http://www.climatecentral.org/pdfs/SLR-CA-SS-PressRelease.pdf. Accessed: August 25, 2016.

Governor's Office of Emergency Services. 2020. *California Adaptation Planning Guide*. Available: https://www.caloes.ca.gov/HazardMitigationSite/Documents/CA-Adaptation-Planning-Guide-FINAL-June-2020-Accessible.pdf. Accessed August 20, 2020.

California Natural Resources Agency. 2012. *Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risk from Climate Change in California*.

———. 2014. *Safeguarding California: Reducing Climate Risk—An Update to the 2009 California Climate Adaption Strategy*.

———. 2018. *Safeguarding California Plan: 2018 Update*. Available: https://files.resources.ca.gov/climate/safeguarding/. Accessed November 30, 2020.

Curtis, Katherine J. and Annemarie Schneider. 2011 (April). *Understanding the Demographic Implications of Climate Change: Estimate of Localized Population Prediction under Future Scenarios of Sea-Level Rise*. Springer Science and Business Media, LLC. Available: https://www.researchgate.net/profile/Annemarie_Schneider/publication/227203534_Understanding_the_demographic_implications_of_climate_change_Estimates_of_localized_population_predictions_under_future_scenarios_of_sea-level_rise/links/004635351a192319d4000000.pdf. Accessed: August 4, 2016.

Houlton, Benjamin and Jay Lund. (University of California, Davis). 2018. *Sacramento Summary Report. California's Fourth Climate Change Assessment.* Publication number: SUM-CCCA4-2018-002.

Metro Fire. *See* Sacramento Metropolitan Fire District.

SACOG. *See* Sacramento Area Council of Governments.

Sacramento Area Council of Governments. 2015. *Sacramento Region Transportation Climate Adaptation Plan*. Available: http://www.sacog.org/sites/main/files/file-attachments/fullplanwithappendices.pdf/. Accessed: June 15, 2016.

Sacramento County. 2011a. *Sacramento County General Plan of 2005-2030*. Adopted December 15, 1993. Available: http://www.per.saccounty.net/PlansandProjectsIn-Progress/Documents/General%20Plan%202030/2030%20General%20Plan%20Adopted%2011.9.11_sm.pdf. Accessed: May 31, 2016.

———. 2011b (November). *Sacramento County Climate Action Plan: Strategy and Framework Document*. Adopted November 9, 2011. Available: http://www.ca-ilg.org/sites/main/files/file-attachments/sac_030843.pdf. Accessed: August 24, 2016.

———. 2016. *2016 Sacramento Countywide Local Hazard Mitigation Plan Update*. Available: https://waterresources.saccounty.net/Local%20Hazard%20Mitigation%20Plan%202017/Executive%20Summary.pdf. Accessed November 30, 2020.

Sacramento Metropolitan Fire District. 2014 (June). *Communitywide Wildfire Protection Plan*. Available: https://metrofire.ca.gov/phocadownloadpap/CWPP/appacwpp.pdf. Accessed: January 19, 2017.

Sacramento Municipal Utilities District. 2012 (November). *Climate Readiness Strategy Overview and Summary Findings*.

SMUD. *See* Sacramento Municipal Utilities District.

Water Education Foundation. 2016. *Sacramento-San Joaquin Delta Levees*. Available: http://www.watereducation.org/aquapedia/sacramento-san-joaquin-delta-levees. Accessed: August 4, 2016.

APPENDIX C: SACRAMENTO COUNTY 2030 GENERAL PLAN POLICIES SUPPORTING CLIMATE ACTION

The County's 2030 General Plan is intended to guide growth and development within the unincorporated County and addresses a wide variety of issues from land use and housing to open space and safety. The general plan policies are intended to enhance and preserve the quality of life for County residents, enhance economic strengths, and preserve agricultural heritage. Notably, many general plan goals and policies also serve to advance climate change mitigation and build countywide resiliency. Table C-1 contains General Plan policies that relate to GHG reduction and adaptation and supporting CAP measures.

Table C-1: Summary of Adaptation Measures

Element	General Plan Policy Text	Supportive CAP Measures
Agricultural	AG-1. The County shall protect prime, statewide importance, unique and local importance farmlands located outside of the USB from urban encroachment.	
Agricultural	AG-2. The County shall not accept applications for General Plan amendments outside the Urban Services Boundary (USB) redesignating prime, statewide importance, unique and local importance farmlands or lands with intensive agricultural investments to agricultural/residential or urban use (i.e., residential, commercial, industrial) unless the applicant demonstrates that the request is consistent with the General Plan Agriculture-Residential expansion policies (please refer to Land Use Element Policies regarding Agriculture-Residential uses).	
Agricultural	AG-12. The County will cooperate with landowners of agriculturally zoned properties to promote the placing of natural preserve/mitigation amenities on land, such as trees and other biota enhancing improvement, by making sure amenities are assets to both the natural preserve/mitigation areas and agriculture practices.	GHG-01: Promote and Increase Carbon Farming
Agricultural	AG-15. The County shall pursue opportunities to create mitigation banks, environmental mitigation sites, wildlife refuges, or other natural resource preserves wherein substantial agricultural activities that are compatible with protection of high habitat values continue, but incompatible activities and conversion for development are precluded by conservation easements.	GHG-01: Promote and Increase Carbon Farming GHG-26: Implement South Sacramento Habitat Conservation Plan
Agricultural	AG-17. The establishment of conservation easements combining preservation of agricultural uses, habitat values, and open space on the same property should be encouraged where feasible.	GHG-01: Promote and Increase Carbon Farming
Agricultural	AG-21. The County encourages the preservation of prime, statewide importance, unique and local importance farmlands, including opposing any residential or commercial development for the Cosumnes River or Deer Creek riparian areas which are not compatible with agricultural uses	
Agricultural	AG-22. If land within the Cosumnes River watershed is developed for non-agricultural purposes, the County should actively pursue easement dedication for equestrian trails and bikeways within such development as a condition of approval.	GHG-17: Improve Bicycle Network and Facilities

Element	General Plan Policy Text	Supportive CAP Measures
Agricultural	AG-23. The County seeks to minimize agricultural/trail-user conflicts by recommending and seeking buffer zones between trails and nearby agricultural land and by locating trails away from the Cosumnes and Deer Creek riparian areas.	
Agricultural	AG-25. Outside the Urban Service Boundary, encourage landowners to enter into Williamson Act contracts or, as appropriate, to rescind Notices of Nonrenewal. Provide support to keep property in the Williamson Act by allowing agricultural-friendly land use practices that include additional economic incentives, and support replacing existing Williamson Act contracts with amended contracts that include agricultural-friendly land use practices.	GHG-01: Promote and Increase Carbon Farming
Agricultural	AG-26. Support the state-formed program for Farmland Security Zones (also known as the Super Williamson Act).	
Agricultural	AG-27. The County shall actively encourage groundwater recharge, water conservation and water recycling by both agricultural and urban water users.	
Agricultural	AG-29. The County shall minimize flood risks to agricultural lands resulting from new urban developments by: ▶ Requiring that such developments incorporate adequate runoff control structures, and/or ▶ Assisting implementing comprehensive drainage management plans to mitigate increased risks of farmland flooding resulting from such developments.	
Agricultural	AG-31. Control agricultural losses caused by pests and fires resulting from lack of management of idled farmlands.	
Agricultural	AG-32. The County shall allow construction and occupancy of agricultural accessory dwellings provided that such dwellings provide living quarters for full-time, on-site agricultural employees.	
Agricultural	AG-35. The County shall support Agri-tourism for different geographical areas of the County that includes categorical definitions for intensity and type of uses that allow for flexibility in agricultural practices and market opportunities while paying particular attention to compatibility with surrounding uses.	
Air Quality	AQ-1. New development shall be designed to promote pedestrian/bicycle access and circulation to encourage community residents to use alternative modes of transportation to conserve air quality and minimize direct and indirect emission of air contaminants.	GHG-11: Reduce Emissions from New Residential and Office/Business Professional Development Vehicle Miles Traveled GHG-13: Revise Parking Standards for Nonresidential Development
Air Quality	AQ-2. Support Regional Transit's efforts to secure adequate funding so that transit is a viable transportation alternative. Development shall pay its fair share of the cost of transit facilities required to serve the project.	GHG-12: Update Transportation System Management Plan for Nonresidential Projects GHG-14: Improve Transit Access

Element	General Plan Policy Text	Supportive CAP Measures
Air Quality	AQ-3. Buffers and/or other appropriate mitigation shall be established on a project-by-project basis and incorporated during review to provide for protection of sensitive receptors from sources of air pollution or odor. The California Air Resources Board's "Air Quality and Land Use Handbook: A Community Health Perspective", and the AQMD's approved Protocol (Protocol for Evaluating the Location of Sensitive Land uses Adjacent to Major Roadways) shall be utilized when establishing these buffers.	
Air Quality	AQ-4. Developments which meet or exceed thresholds of significance for ozone precursor pollutants as adopted by the Sacramento Metropolitan Air Quality Management District (SMAQMD), shall be deemed to have a significant environmental impact. An Air Quality Mitigation Plan shall be submitted to the County of Sacramento prior to project approval, subject to review and recommendation as to technical adequacy by the Sacramento Metropolitan Air Quality Management District.	
Air Quality	AQ-5. Reduce emissions associated with vehicle miles travelled and evaporation by reducing the surface area dedicated to parking facilities; reduce vehicle emissions associated with "hunting" for on-street parking by implementing innovative parking innovative parking solutions including shared parking, elimination of minimum parking requirements, creation of maximum parking requirements, and utilize performance pricing for publicly owned parking spaces both on- and off-street, as well as creating parking benefit districts.	GHG-13: Revise Parking Standards for Nonresidential Development
Air Quality	AQ-6. Provide incentives for the use of transportation alternatives, including a program for the provision of financial incentives for builders that construct ownership housing within a quarter mile of existing and proposed light rail stations.	GHG-21: Update Community and Corridor Plans
Air Quality	AQ-7. Implement a model trip reduction program for County employees which may include, but not be limited to, flexible and compressed work schedules, commuter matching services, telecommuting, preferential carpool/vanpool parking, carpool/vanpool and transit subsidies, and all other commute alternative incentives.	GOV-EC-01: Establish Employee Transportation Program GOV-EC-02: Expand Transit Subsidy Program GOV-EC-03: Determine Feasibility of Employee Shuttle System GOV-EC-04: Expand Secure Bicycle Storage Facilities GOV-EC-05: Provide Carpool-at-Work Incentives
Air Quality	AQ-8. Promote mixed-use development and provide for increased development intensity along existing and proposed transit corridors to reduce the length and frequency of vehicle trips.	GHG-21: Update Community and Corridor Plans
Air Quality	AQ-9. When park-and-ride facilities are requested by transit providers, the spaces provided for the park-and-ride facility may be counted as part of the total amount of parking required by the zoning code.	

Element	General Plan Policy Text	Supportive CAP Measures
Air Quality	AQ-10. Encourage vehicle trip reduction and improved air quality by requiring development projects that exceed the SMAQMD's significance thresholds for operational emissions to provide on-going, cost-effective mechanisms for transportation services that help reduce the demand for existing roadway infrastructure.	GHG-11: Reduce Emissions from New Residential and Office/Business Professional Development Vehicle Miles Traveled
Air Quality	AQ-11. Encourage contractors operating in the county to procure and to operate low-emission vehicles, and to seek low emission fleet status for their off-road equipment.	GHG-10: Implement Electric Vehicle Infrastructure Program GHG-08: Require Tier 4 Final or Cleaner Construction Equipment
Air Quality	AQ-12 Minimize air pollutant emissions from Sacramento County facilities and operations.	GOV-BE-01: Develop and Adopt Green Building Policy
Air Quality	AQ-13. Use California State Air Resources Board (ARB) and SMAQMD guidelines for Sacramento County facilities and operations to comply with mandated measures to reduce emissions from fuel consumption, energy consumption, surface coating operations, and solvent usage.	GOV-BE-01: Develop and Adopt Green Building Policy GOV-FL-01: Expand Fleet Conversion Program
Air Quality	AQ-14. Support SMAQMD's development of improved ambient air quality monitoring capabilities and the establishment of standards, thresholds and rules to more adequately address the air quality impacts of plans and proposals proposed by the County.	GHG-18: Improve Fuel Efficiency Standards
Air Quality	AQ-15. Support intergovernmental efforts directed at stricter tailpipe emissions standards.	GHG-18: Improve Fuel Efficiency Standards
Air Quality	AQ-16. Prohibit the idling of on-and off-road engines when the vehicle is not moving or when the off-road equipment is not performing work for a period of time greater than five minutes in any one-hour period.	
Air Quality	AQ-17. Promote optimal air quality benefits through energy conservation measures in new development.	GHG-05: Increase Energy Efficiency and Electrification of New Commercial/Nonresidential Buildings or Facilities GHG-08: Require Tier 4 Final or Cleaner Construction Equipment GHG-27: Provide Shared Electric Vehicles at Affordable Housing Projects GHG-29: Encourage Use of Electric or Alternatively Fueled Construction Equipment
Air Quality	AQ-18. Require the recovery of chlorofluorocarbons (CFC's) when older air conditioning and refrigeration units are serviced or disposed.	

Element	General Plan Policy Text	Supportive CAP Measures
Air Quality	AQ-19. Require all feasible reductions in emissions for the operation of construction vehicles and equipment on major land development and roadway construction projects.	GHG-08: Require Tier 4 Final or Cleaner Construction Equipment GHG-29: Encourage Use of Electric or Sustainably Fueled Construction Equipment
Air Quality	AQ-20. Promote Cool Community strategies to cool the urban heat island, reduce energy use and ozone formation, and maximize air quality benefits by encouraging four main strategies including, but not limited to: plant trees, selective use of vegetation for landscaping, install cool roofing, and install cool pavements.	GHG-06: Increase Energy Efficiency and Electrification of Existing Residential Buildings GHG-04: Increase Energy Efficiency and Electrification of Existing Commercial/Nonresidential Buildings and Facilities GHG-02: Maintain and Enhance Urban Forest Temp-02: Partner with Local Agencies and Utilities on Heat-Related Climate Change Initiatives and Efforts Temp-04: Encourage or Require the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens Temp-08: Increase Parking Lot Shading, Landscaping, and Urban Greening, Prioritizing Communities with Less Tree Cover
Air Quality	AQ-22. Reduce greenhouse gas emissions from County operations as well as private development.	*All Community and Government Operations Greenhouse Gas Reduction Measures*
Circulation	CI-1. Provide complete streets to provide safe and efficient access to a diversity of travel modes for all urban, suburban and rural land uses within Sacramento County except within certain established neighborhoods where particular amenities (such as sidewalks) are not desired. Within rural areas of the County, a complete street may be accommodated through roadway shoulders of sufficient width or other means to accommodate all modes of travel.	GHG-15: Improve Pedestrian Network and Facilities GHG-16: Implement Traffic Calming Measures GHG-17: Improve Bicycle Network and Facilities GHG-22: Connect Key Destinations

Element	General Plan Policy Text	Supportive CAP Measures
Circulation	CI-2. Promote continued mobility for individuals whose access to automobile transportation is limited by age, illness, income, desire, or disability.	GHG-14: Improve Transit Access GHG-15: Improve Pedestrian Network and Facilities GHG-17: Improve Bicycle Network and Facilities GHG-20: Establish Safe Routes to School GHG-22: Connect Key Destinations
Circulation	CI-3. Travel modes shall be interconnected to form an integrated, coordinated and balanced multi-modal transportation system, planned and developed consistent with the land uses to be served.	GHG-21: Update Community and Corridor Plans GHG-22: Connecting Key Destinations
Circulation	CI-4. Provide multiple transportation choices to link housing, recreational, employment, commercial, educational, and social services.	GHG-21: Update Community and Corridor Plans GHG-22: Connect Key Destinations
Circulation	CI-5. Land use and transportation planning and development should be cohesive, mutually supportive, and complement the objective of reducing per capita vehicle miles travelled (VMT).	GHG-21: Update Community and Corridor Plans GHG-22: Connect Key Destinations
Circulation	CI-6. Provide support for community based corridor planning processes on existing roadways with excess vehicle capacity within built communities to optimize the public right-of-way by utilizing the excess width for other modes of travel or public amenities such as bike lanes, landscaping, walkways, parking, or medians.	GHG-15: Improve Pedestrian Network and Facilities GHG-16: Implement Traffic Calming Measures GHG-17: Improve Bicycle Network and Facilities GHG-21: Update Community and Corridor Plans

Element	General Plan Policy Text	Supportive CAP Measures
Circulation	CI-7. Plan and construct transportation facilities as delineated on the Transportation Plan of the Sacramento County General Plan. Transportation facilities shall be consistent with the Sacramento County Improvement Standards and Construction Specifications, the Connector Project Design Guidelines, and supplemented by the California Department of Transportation (Caltrans) design standards. The County may deviate from the adopted County Improvement Standards and Construction Specifications in circumstances where conditions warrant special treatment. The Capital SouthEast Connector, as designated in the Transportation Plan map, shall be consistent with the most current JPA-approved "Capital SouthEast Connector JPA Project Design Guidelines," provided that the Project Design Guidelines will not be applied to diminish or alter the rights of County-approved projects and provided that the design exception process within the Project Design Guidelines is not amended to diminish the County's land use authority to approve future projects proximate to or its authority to determine access to the Capital SouthEast Connector. The Capital SouthEast Connector is intended to serve the transportation demand for both existing land uses and future growth within the Urban Services Boundary (USB). The County reserves all of its rights and powers to assure that sufficient access to and from the Connector roadway is available to accommodate the existing land uses as well as the future growth within the USB. For areas of the unincorporated County outside of the USB, the County will limit access to and from the Connector roadway to only accommodate the existing and future land uses permitted outside of the USB.	GHG-12: Update Transportation System Management Plan for Nonresidential Projects
Circulation	CI-8. Maintain and rehabilitate the roadway system to maximize safety, mobility, and cost efficiency.	GHG-16: Implement Traffic Calming Measures
Circulation	CI-9. Plan and design the roadway system in a manner that meets Level of Service (LOS) D on rural roadways and LOS E on urban roadways, unless it is infeasible to implement project alternatives or mitigation measures that would achieve LOS D on rural roadways or LOS E on urban roadways. The urban areas are those areas within the Urban Service Boundary as shown in the Land Use Element of the Sacramento County General Plan. The areas outside the Urban Service Boundary are considered rural.	GHG-16: Implement Traffic Calming Measures
Circulation	CI-10. Land development projects shall be responsible to mitigate the project's adverse impacts to local and regional roadways.	GHG-12: Update Transportation System Management Plan for Nonresidential Projects
Circulation	CI-12. To preserve public safety and local quality of life on collector and local roadways, land development projects shall incorporate appropriate treatments of the Neighborhood Traffic Management Program.	GHG-16: Implement Traffic Calming Measures
Circulation	CI-13. Collaborate with regional transportation planning agencies and neighboring jurisdictions to provide cross jurisdictional mobility.	GHG-14: Improve Transit Access GHG-17: Improve Bicycle Network and Facilities GHG-22: Connect Key Destinations

Element	General Plan Policy Text	Supportive CAP Measures
Circulation	CI-15. Support the relinquishment of State Highways to the County when the operation of the highway supports local travel demand rather than longer interregional travel demand. Relinquished State Highways shall be developed as a complete street that accommodates all modes of travel.	GHG-22: Connect Key Destinations
Circulation	CI-16. The County supports creating communities that promote access and mobility for all modes of travel through the development of roadway networks based on a grid or modified grid layout.	GHG-21: Update Community and Corridor Plans GHG-22: Connect Key Destinations
Circulation	CI-17. Ensure that transportation infrastructure improvement projects initiated by the County include a comprehensive public outreach process and involves affected local stakeholders and communities in the beginning and throughout the planning and development process for the project.	All-01: Create a Comprehensive Outreach Strategy
Circulation	CI-18. The County shall plan and prioritize the implementation of intersection improvements, where feasible, in corridors identified as congested.	GHG-16: Implement Traffic Calming Measures
Circulation	CI-19. Collaborate with transit service providers to provide transit services within the County that are responsive to existing and future transit demand.	GHG-14: Improve Transit Access
Circulation	CI-20. Promote transit services in appropriate commercial corridors and where population and employment densities are sufficient or could be increased to support those transit services.	GHG-14: Improve Transit Access GHG-21: Update Community and Corridor Plans
Circulation	CI-21. Collaborate with neighboring jurisdictions and other agencies to achieve land use patterns and densities in areas planned for development that support transit services, preserve adequate rights-of-way, and enhance transit services in the designated transit corridors	GHG-14: Improve Transit Access GHG-21: Update Community and Corridor Plans
Circulation	CI-22. Collaborate with the Sacramento Area Council of Governments and transit service providers to pursue all available sources of funding for transit services when consistent with General Plan policies and long-term funding capabilities.	GHG-14: Improve Transit Access
Circulation	CI-23. Consider the transit needs of senior, disabled, low-income, and transit-dependent persons in making recommendations regarding transit services.	GHG-14: Improve Transit Access
Circulation	CI-24. Collaborate with transit service providers for the development of facilities that provide for efficient links and interconnectivity with different transportation modes, including bicyclists and pedestrians.	GHG-14: Improve Transit Access
Circulation	CI-25. The County shall develop right-of-way acquisition guidelines for the implementation of transit services shown on the Transportation Plan.	GHG-14: Improve Transit Access
Circulation	CI-26. Consider the expansion of Neighborhood Shuttle services in unincorporated area communities.	
Circulation	CI-27. Public Facilities Financing Plans shall incorporate capital costs for transit. Infrastructure Master Plans shall include transit planning.	GHG-14: Improve Transit Access

Element	General Plan Policy Text	Supportive CAP Measures
Circulation	CI-28 Collaborate with local transit service providers in obtaining all available sources of funding for the development, improvement, and maintenance of the transit system.	GHG-14: Improve Transit Access
Circulation	CI-29. The County shall work with transit service providers to establish and implement development guidelines to maximize the ability of new development and redevelopment to support planned transit services. New development and redevelopment shall have an orientation to travel patterns that are conducive to transit service. This will include concentration of development in centers and along linear corridors such that trip origins and destinations are concentrated near transit services.	GHG-11: Reduce Emissions from New Residential and Office/Business Professional Development Vehicle Miles Traveled GHG-21: Update Community and Corridor Plans GHG-22: Connect Key Destinations
Circulation	CI-30. The County shall collaborate with transit service providers to promote the phased implementation of transit services to all growth areas as development occurs.	GHG-14: Improve Transit Access GHG-21: Update Community and Corridor Plans GHG-22: Connect Key Destinations
Circulation	CI-31. In BRT corridors that are anticipated to be congested in the future, the County shall implement all feasible measures to minimize the effects of congestion on transit travel times.	GHG-14: Improve Transit Access GHG-16: Implement Traffic Calming Measures GHG-21: Update Community and Corridor Plans
Circulation	CI-32. Develop a comprehensive, safe, convenient and accessible bicycle and pedestrian system that serves and connects the County's employment, commercial, recreational, educational, social services, housing and other transportation modes.	GHG-15: Improve Pedestrian Network and Facilities GHG-17: Improve Bicycle Network and Facilities GHG-22: Connect Key Destinations
Circulation	CI-33. Adopt, implement and periodically update the Sacramento County Bicycle Master Plan for unincorporated Sacramento County that sets forth the goals, policies, guidelines, programs and improvements necessary to accomplish the goals of this section.	GHG-17: Improve Bicycle Network and Facilities
Circulation	CI-34. Construct and maintain bikeways and multi-use trails to minimize conflicts between bicyclists, pedestrians, and motorists.	GHG-15: Improve Pedestrian Network and Facilities GHG-17: Improve Bicycle Network and Facilities

Element	General Plan Policy Text	Supportive CAP Measures
Circulation	CI-35. The applicant/developer of land development projects shall be responsible to install bicycle and pedestrian facilities in accordance with Sacramento County Improvement Standards and may be responsible to participate in the fair share funding of regional multi-use trails identified in the Sacramento County Bicycle Master Plan.	GHG-11: Reduce Emissions from New Residential and Office/Business Professional Development Vehicle Miles Traveled GHG-15: Improve Pedestrian Network and Facilities GHG-17: Improve Bicycle Network and Facilities
Circulation	CI-36. Collaborate with neighboring jurisdictions and regional agencies to coordinate planning and development of the County's bikeways, pedestrian facilities and multiuse trails with those of neighboring jurisdictions, and to support a regional bicycle and pedestrian network.	GHG-15: Improve Pedestrian Network and Facilities GHG-17: Improve Bicycle Network and Facilities
Circulation	CI-37. Pursue all available sources of funding for the development, improvement, and maintenance of bikeways, pedestrian facilities and multi-use trails, and to support bicycle and pedestrian safety, education, encouragement and enforcement programs.	GHG-15: Improve Pedestrian Network and Facilities GHG-17: Improve Bicycle Network and Facilities
Circulation	CI-38. Design and construct pedestrian facilities to ensure that such facilities are accessible to all users.	GHG-15: Improve Pedestrian Network and Facilities
Circulation	CI-39. Plan and implement intelligent transportation system (ITS) strategies within the County's high-demand travel corridors and support efforts to deploy ITS strategies on a regional level.	GHG-16: Implement Traffic Calming Measures
Circulation	CI-40. Whenever possible, the applicant/developer of new and infill development projects shall be conditioned to fund, implement, operate and/or participate in TSM programs to manage travel demand associated with the project	GHG-11: Reduce Emissions from New Residential and Office/Business Professional Development Vehicle Miles Traveled GHG-12: Update Transportation System Management Plan for Nonresidential Projects GHG-21: Update Community and Corridor Plans
Circulation	CI-41. Consider TSM programs that increase the average occupancy of vehicles and divert automobile commute trips to transit, walking, and bicycling.	GHG-12: Update Transportation System Management Plan for Nonresidential Projects
Circulation	CI-42. Collaborate with other agencies to develop measures to provide for more efficient traffic flow, reduce vehicular travel demand and meet air quality goals.	GHG-16: Implement Traffic Calming Measures GHG-22: Connect Key Destinations

Element	General Plan Policy Text	Supportive CAP Measures
Circulation	CI-43. The County shall promote transit-supportive programs in new development, including employer-based trip-reduction programs (employer incentives to use transit or non-motorized modes), "guaranteed ride home" for commute trips, and car-share or bike-share programs.	GHG-11: Reduce Emissions from New Residential and Office/Business Professional Development Vehicle Miles Traveled
Circulation	CI-44. Support improvements to at-grade rail crossings within the County. Support efforts to develop and fund the construction of grade-separated rail crossings where appropriate and cost effective to improve safety and reduce congestion.	GHG-16: Implement Traffic Calming Measures
Circulation	CI-46. Support multi-modal stations at appropriate locations to integrate rail transportation with other transportation modes.	GHG-22: Connect Key Destinations
Circulation	CI-47. Support the development of a statewide high-speed rail service through the Central Valley that serves Sacramento County.	
Circulation	CI-55. Encourage in coordination with the Delta Citizens Municipal Advisory Council the Department of Water Resources, the State Reclamation Board, and the U.S. Army Corps of Engineers to determine how the present strict requirements for levee stripping and burning can be revised to take into account aesthetic and environmental considerations, and including consideration of enhancement and replanting of levees.	
Circulation	CI-56. Encourage the State Reclamation Board and the U.S. Army Corps of Engineers to riprap on levees no higher than the average annual high water level.	
Circulation	CI-64. Investigate in coordination with other County agencies the routing of bike trails and equestrian paths along scenic corridors.	
Circulation	CI-65. Incorporate Low Impact Design (LID) techniques to the greatest extent feasible to improve water quality runoff and erosion control, infiltration, groundwater recharge, visual aesthetics, etc. LID techniques may include but are not limited to: ▸ Bioretention techniques, such as filtration strips, swales, and tree box filters ▸ Permeable hardscape ▸ Green roofs ▸ Erosion and sediment controls ▸ Reduced street and lane widths where appropriate	Flood-01: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Flood-05: Invest in Use of Pervious Pavements and Landscaping in Developed Areas and Restrict the Use of Paved Surfaces
Circulation	CI-66. Use recycled and/or recyclable materials whenever feasible.	
Circulation	CI-67. When feasible, incorporate lighter colored (higher albedo) materials and surfaces, such as lighter-colored pavements, and encourage the creation of tree canopy to reduce the built environment's absorption of heat to reduce the urban "heat island" effect.	GHG-02: Maintain and Enhance Urban Forest Temp-04: Encourage or Require the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green

Element	General Plan Policy Text	Supportive CAP Measures
		Roofs, and Rooftop Gardens Temp-08: Increase Parking Lot Shading, Landscaping, and Urban Greening, Prioritizing Communities with Less Tree Cover
Circulation	CI-68. Smart Growth Street planning efforts shall identify specific, implementable measures to create and/or improve community identity.	
Circulation	CI-70. Smart Growth Streets shall incorporate features such as shade trees and plantings, well designed benches and other street furniture, trash receptacles, news racks, outdoor dining experiences, entertainment, public art, pedestrian scaled lighting fixtures, wayfinding signage, bicycle racks and other amenities as appropriate.	GHG-15: Improve Pedestrian Network and Facilities GHG-17: Improve Bicycle Network and Facilities GHG-21: Update Community and Corridor Plans
Circulation	CI-71. A Smart Growth Street designation requires a focused and holistic corridor planning analysis that considers highly coordinated and interconnected land uses and transportation infrastructure within the corridor while also considering the impacts to surrounding communities and the natural environment. A Smart Growth Street should recognize that they will remain major corridors for through auto traffic that should be accommodated on the Smart Growth Street and not shifted to neighborhood streets surrounding it.	GHG-21: Update Community and Corridor Plans
Circulation	CI-72. On a Smart Growth Street, the County shall strive to maintain operations and capacity on urban roadways and intersections at LOS E or better, unless maintaining this LOS would, in the County's judgment, be infeasible and conflict with the achievement of other Smart Growth Street objectives. Congestion in excess of LOS E may be acceptable provided that provisions are made to improve overall mobility, reduce overall VMT and/or promote non-automobile transportation.	GHG-16: Implement Traffic Calming Measures
Circulation	CI-73. Where a Smart Growth Street planning analysis indicates that a roadway improved to its general plan designation will be congested in excess of LOS E, mobility impacts fees may be assessed to the properties within the Smart Growth Street area. Such mobility fees shall be fairly apportioned to the properties and shall be sufficient in amount to improve other Smart Growth Street objectives such as improvements that would enhance pedestrian, bicycle, transit, other modes of mobility, and public realm amenities.	GHG-16: Implement Traffic Calming Measures GHG-22: Connect Key Destinations
Circulation	CI-74. Evaluation of Smart Growth Street corridors and development within those corridors shall utilize multi-modal level of service standards, including pedestrian, bicycle, and transit modes of travel in addition to motor vehicle travel, to support and encourage overall mobility through improvement to all modes of travel.	GHG-22: Connect Key Destinations
Circulation	CI-75. Smart Growth Street planning efforts shall develop a comprehensive strategy to significantly reduce the total number of driveways along the roadway, including specific measures to ensure implementation, such as	GHG-13: Revise Parking Standards for Nonresidential Development

Element	General Plan Policy Text	Supportive CAP Measures
	requiring cross-access and reciprocal parking agreements between adjacent property owners.	
Circulation	CI-76. Smart Growth Street planning efforts shall develop a comprehensive strategy to reduce both the total amount of parking and total surface area dedicated to parking facilities. In general, reduced parking requirements and innovative parking solutions such as, shared parking, structured parking, parking maximums rather than minimums, on street parking, performance parking pricing, parking benefit districts and other innovative parking solutions will be strongly encouraged wherever feasible, while large surface parking lots will be strongly discouraged.	GHG-13: Revise Parking Standards for Nonresidential Development
Circulation	CI-77. Planning processes for Smart Growth Street corridors shall consider road diets, pedestrian and bicycle enhancements, traffic calming measures and other feasible measures to create a corridor that equitably accommodates all users and modes of travel.	GHG-15: Improve Pedestrian Network and Facilities GHG-17: Improve Bicycle Network and Facilities GHG-22: Connect Key Destinations
Circulation	CI-78. Establish connectivity standards to implement within Smart Growth Street corridors, to ensure safe, pleasant and direct travel between destinations for all users.	GHG-22: Connect Key Destinations
Circulation	CI-79. To ensure the safety and comfort of all users, support and encourage street design to accommodate vehicular speeds of up to 40 miles per hour as appropriate.	GHG-16: Implement Traffic Calming Measures
Conservation	CO-4. Support the construction of facilities that maximize the use of available surface water.	
Conservation	CO-5. Support the WFA Increased Surface Water Diversions Element. Collaborate with other local water purveyors to ensure consistency with WFA conjunctive use goals.	Water-06: Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity
Conservation	CO-6. Support surface water supply alternatives for agriculture, including the use of SMUD water entitlements, where feasible.	Water-06: Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity
Conservation	CO-7. Support the Water Forum Agreement Groundwater Management Element. Prior to approving any new development water supply plan shall be approved that demonstrates consistency with an adopted groundwater management plan.	Water-02: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems Water-06: Collaborate with Federal, State, and Local

Element	General Plan Policy Text	Supportive CAP Measures
		Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity
Conservation	CO-8. Applicants proposing developments in areas with significant groundwater recharge characteristics shall evaluate the impact of said development on groundwater recharge and quality. This evaluation should recognize criteria defined in any broader Countywide determination and/or evaluation of groundwater recharge areas.	Water-02: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems
Conservation	CO-9. Developments in areas with significant contamination shall utilize remediated groundwater as part of their water supply when feasible.	Water-02: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems
Conservation	CO-10. Support local watershed initiatives that enhance groundwater recharge.	Water-02: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems Water-06 Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity
Conservation	CO-11. Support local groundwater management efforts that are consistent with the WFA Groundwater Management Element.	Water-06: Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity
Conservation	CO-12. Support groundwater recharge in surface mining reclamation plans where feasible.	Water-06: Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity
Conservation	CO-13. Support the WFA Conservation Element and the California Urban Water Conservation Council Best Management Practices for Water Conservation.	Water-06: Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies,

Element	General Plan Policy Text	Supportive CAP Measures
		Explore Alternative Supply Sources, and Improve Capacity
Conservation	CO-14. Support the use of recycled wastewater to meet non-potable water demands where financially feasible.	Water-02: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems
Conservation	CO-15. Support effective agricultural water conservation practices, including the use of recycled wastewater where financially feasible.	Water-02: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems Water-03: Create Incentives and Programs to Transfer Knowledge and Technologies to Assist Farmers with New Production Methods and Drought Adapted Varieties
Conservation	CO-16. Ensure developments are consistent with the County Water Efficient Landscape Ordinance, which shall be updated as needed to conform to state law.	Water-04: Reduce Potable Water Use in Outdoor Landscaping
Conservation	CO-18. Support the WFA recommended Lower American River Flow Standard.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-19. Support the WFA Lower American River Habitat Management Element.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-20. Support preservation and restoration of the Cosumnes River riparian ecosystem.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-21 Support protection and restoration of the Sacramento River Delta.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-22. Support water management practices that are responsive to the impacts of Global Climate Change such as groundwater banking and other water storage projects.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-23 Development approval shall be subject to a finding regarding its impact on valuable water-supported ecosystems.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions

Element	General Plan Policy Text	Supportive CAP Measures
Conservation	CO-24. Comply with the Sacramento Areawide National Pollutant Discharge Elimination System Municipal Stormwater Permit (NPDES Municipal Permit) or subsequent permits, issued by the Central Valley Regional Water Quality Control Board (Regional Board) to the County, and the Cities of Sacramento, Elk Grove, Citrus Heights, Folsom, Rancho Cordova, and Galt (collectively known as the Sacramento Stormwater Quality Partnership [SSQP]).	Flood-01: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events Flood-08: Partner with SAFCA and Local Agencies, Utilities, and Other Organizations to Support Future and Ongoing Flood-Related Climate Change Initiatives Flood-14: Safeguard Freshwater Supply Against Contamination, Degradation, or Loss Water-06: Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity
Conservation	CO-25. Support the preservation, restoration, and creation of riparian corridors, wetlands and buffer zones.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Flood-14: Safeguard Freshwater Supply Against Contamination, Degradation, or Loss
Conservation	CO-26. Protect areas susceptible to erosion, natural water bodies, and natural drainage systems.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Flood-14: Safeguard Freshwater Supply Against Contamination, Degradation, or Loss
Conservation	CO-27. Support surface water quality monitoring programs that identify and address causes of water quality degradation.	Flood-14: Safeguard Freshwater Supply Against Contamination, Degradation, or Loss
Conservation	CO-29. Continue to support the County's participation in regional NPDES Municipal Permit compliance activities through collaborative efforts such as the Sacramento Stormwater Quality Partnership.	Water-06: Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply

Element	General Plan Policy Text	Supportive CAP Measures
		Sources, and Improve Capacity
Conservation	CO-30. Require development projects to comply with the County's stormwater development/design standards, including hydromodification management and low impact development standards, established pursuant to the NPDES Municipal Permit. Low impact development design and associated landscaping may serve multiple purposes including reduction of water demand, retention of runoff, reduced flooding and enhanced groundwater recharge. (Modified 2016)	Flood-01: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events Water-04: Reduce Potable Water Use in Outdoor Landscaping
Conservation	CO-31. Require property owners to maintain all required stormwater measures to ensure proper performance for the life of the project.	Flood-01: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events
Conservation	CO-32. Support programs and activities conducted by watershed groups and citizen volunteers that help to ensure compliance with the NPDES Municipal Permit by increasing public awareness and encouraging stewardship of water resources.	Water-05: Expand Upon Existing Water Conservation Education Outreach Programs for Residents and Businesses All-01: Create a Comprehensive Outreach Strategy
Conservation	CO-35. New development that will generate additional water demand shall not be approved and building permits shall not be issued if sufficient water supply is not available, as demonstrated by Water Supply Assessment and Written Verification processes.	Water-01: Support Efforts to Evaluate Vulnerabilities of Water Supply Systems and Networks and Develop Strategies to Improve Resilience
Conservation	CO-38. Sewer interceptor and trunk alignments shall be routed to avoid areas planned for aggregate resource mining to the extent practical. Where such alignments are impractical, they shall be designed to minimize aggregate resources which would be precluded from mining, and make reasonable attempt to preserve the future use of mined areas for flood control or recharge purposes.	Water-02: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-45. To the maximum extent possible, all base material utilized in County and private road construction shall be composed of recycled asphalt concrete and roadway base material.	
Conservation	CO-46. Reduce solid waste beyond the 50% minimum state mandate through a variety of recycling programs.	
Conservation	CO-48. All County departments and agencies shall enforce the Environmental Purchasing Policy, approved by the Board of Supervisors in January 2003, which facilitate purchase of recycled, recyclable or reusable products and materials where feasible.	

Element	General Plan Policy Text	Supportive CAP Measures
Conservation	CO-49. Outside contractors bidding to provide products or services to the County, including printing services, must demonstrate that they will comply with County recycled materials policies to the greatest extent feasible.	
Conservation	CO-50. Actively promote a comprehensive, consistent and effective recycled materials procurement effort among other governmental agencies and local businesses.	
Conservation	CO-52. Recreational uses shall not be constructed on prime, statewide importance, unique or local farmland outside of the Urban Services Boundary where the use would impede agricultural practices.	
Conservation	CO-55. Support Resource Conservation Districts to promote soil and water conservation practices.	Water-05: Expand Upon Existing Water Conservation Education Outreach Programs for Residents and Businesses
Conservation	CO-58. Ensure no net loss of wetlands, riparian woodlands, and oak woodlands.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-61. Mitigation should be consistent with Sacramento County-adopted habitat conservation plans.	GHG-26: Implement South Sacramento Habitat Conservation Plan
Conservation	CO-62. Permanently protect land required as mitigation.	
Conservation	CO-63. Vernal pools, wetlands, and streams within identified preserves shall not be drained, excavated, or filled for the purpose of converting the land to another use. If fill or modification is required for Drainage Master Plans, stormwater quality or levee maintenance, creation or restoration of an equal amount must occur within the boundaries of the preserve to achieve no net loss consistent with policy CO-58.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-64. Consistent with overall land use policies, the County shall support and facilitate the creation and biological enhancement of large natural preserves or wildlife refuges by other government entities or by private individuals or organizations.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions GHG-26: Implement South Sacramento Habitat Conservation Plan
Conservation	CO-66. Mitigation sites shall have a monitoring and management program including an adaptive management component including an established funding mechanism. The programs shall be consistent with Habitat Conservation Plans that have been adopted or are in draft format.	
Conservation	CO-67. Preserves and conservation areas should have an established funding mechanism, and where needed, an acquisition strategy for its operation and management in perpetuity. This includes existing preserves such as the American River Parkway, Dry Creek Parkway, Cosumnes River Preserve and other plans in progress for riparian areas like Laguna Creek.	

Element	General Plan Policy Text	Supportive CAP Measures
Conservation	CO-69. Avoid, to the extent possible, the placement of new major infrastructure through preserves unless located along disturbed areas, such as existing roadways.	
Conservation	CO-70. Community Plans, Specific Plans, Master Plans and development projects shall: ▶ Include the location, extent, proximity and diversity of existing natural habitats and special status species in order to determine potential impacts, necessary mitigation and opportunities for preservation and restoration. ▶ Be reviewed for the potential to identify nondevelopment areas and establish preserves, mitigation banks and restore natural habitats, including those for special status species, considering effects on vernal pools, groundwater, flooding, and proposed fill or removal of wetland habitat. ▶ Be reviewed for applicability of protection zones identified in this Element, including the Floodplain Protection Zone, Stream Corridor Ordinance, Cosumnes River Protection Combining Zone and the Laguna Creek Combining Zone.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-71. Development design shall help protect natural resources by: ▶ Minimizing total built development in the floodplain, while designing areas of less frequent use that can support inundation to be permitted in the floodplain, ▶ Ensuring development adjacent to stream corridors and vernal pools provide, where physically reasonable, a public street paralleling at least one side of the corridor with vertical curbs, gutters, foot path, street lighting, and post and cable barriers to prevent vehicular entry. ▶ Projects adjacent to rivers and streams shall integrate amenities, such as trail connectivity, that will serve as benefits to the community and ecological function. ▶ Siting of wetlands near residential and commercial areas should consider appropriate measures to minimize potential for mosquito habitation. ▶ Development adjacent to steam corridors and vernal pools shall be designed in such a manner as to prevent unauthorized vehicular entry into protected areas.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-72. If land within river and stream watersheds in existing agricultural areas is developed for non-agricultural purposes, the County should actively pursue easement dedication for recreation trails within such development as a condition of approval.	
Conservation	CO-73. Secure easement or fee title to open space lands within stream corridors as a condition of development approval.	
Conservation	CO-74. Evaluate feasible on-site alternatives early on in the planning process and prior to the environmental review process that reduce impacts on wetland and riparian habitat and provide effective on-site preservation in terms of minimum management requirements, effective size, and evaluation criteria.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions

Element	General Plan Policy Text	Supportive CAP Measures
Conservation	CO-76. Habitat conservation plans shall be adopted by the County to provide a comprehensive strategy to protect and aid in the recovery of special status species.	
Conservation	CO-82. Ensure that mosquito control measures have the least effect on non-target species.	Flood-10: Expand Educational Programs to Address Vector and Waterborne Diseases
Conservation	CO-90. Increase riparian woodland, valley oak riparian woodland and riparian scrub habitat along select waterways within Sacramento County.	
Conservation	CO-93. Discourage fill in the 100-year floodplain (Please also refer to CO-117).	
Conservation	CO-94. Development within the 100-year floodplain and designated floodway of Sacramento streams, sloughs, creeks or rivers shall be: ▶ Consistent with policies to protect wetlands and riparian areas; and ▶ Limited to land uses that can support seasonal inundation.	
Conservation	CO-95. Development within the 100-year floodplain should occur in concert with the development of the Floodplain Protection Zone (please refer to Land Uses Adjacent to Rivers and Streams for information on this Zone).	
Conservation	CO-96. Reduce dependence on traditional levee protection methods where those methods conflict with habitat preservation efforts and where alternate methods exist which are compatible with preservation efforts and offer an acceptable level of bank stabilization.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-97. Work with appropriate regulatory agencies to reduce bank and levee erosion by minimizing erosive wake activity generated by recreational and commercial boating.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-98. Coordinate with federal, state and local agencies overseeing levee and bank stabilization to investigate and, whenever possible, utilize biotechnical or nonstructural alternatives to other conventional stabilization methods.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-99. Encourage habitat restoration and recreational opportunities as an integral part of bank and levee stabilization efforts.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-100. Encourage construction of structures for flood control and stormwater quality purposes using currently approved scientific methods to prevent erosion and stabilize the banks.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-101. Stabilize the banks of rivers and streams in a manner that increases flood protection and increases riparian habitat functions.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-102. Promote and encourage habitat restoration efforts on and adjacent to our river floodways.	

Element	General Plan Policy Text	Supportive CAP Measures
Conservation	CO-105. Channel modification projects shall be considered for approval by the Board of Supervisors only after conducting a noticed public hearing examining the full range of alternatives, relative costs and benefits, and environmental, economic, and social benefits.	Flood-11: Identify Concrete Channel Restoration Areas
Conservation	CO-105a. Encourage flood management designs that respect the natural topography and vegetation of waterways while retaining flow and functional integrity. (Added 2016)	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-106. Realigned or modified channels should retain topographic diversity including maintaining meandering characteristics, varied berm width, naturalized side slope, and varied channel bottom elevation.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Flood-11: Identify Concrete Channel Restoration Areas
Conservation	CO-107. Maintain and protect natural function of channels in developed, newly developing, and rural areas.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Flood-11: Identify Concrete Channel Restoration Areas
Conservation	CO-108. Channel lowering should occur after consideration of alternatives and only when it is necessary to accommodate the gravity drainage of storm runoff and/or accommodate floodflows under existing bridge structures.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Flood-11: Identify Concrete Channel Restoration Areas
Conservation	CO-109. Channel modifications should not prevent minimum water flows necessary to protect and enhance fish habitats, native riparian vegetation, water quality, or ground water recharge.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Flood-11: Identify Concrete Channel Restoration Areas
Conservation	CO-110. Improvements in watercourses will be designed for low maintenance. Appropriate Manning's "n" values will be used in design of the watercourses to reflect future vegetative growth (including mitigation plantings) associated with the low maintenance concept.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-111. Channel modifications shall retain wetland and riparian vegetation whenever possible or otherwise recreate the natural channel consistent with the historical ecological integrity of the stream or river.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Flood-11: Identify Concrete Channel Restoration Areas
Conservation	CO-112. The use of concrete and impervious materials is discouraged where it is inconsistent with the existing adjacent watercourse and overall ecological function of the stream.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions

Element	General Plan Policy Text	Supportive CAP Measures
		Flood-11: Identify Concrete Channel Restoration Areas
Conservation	CO-113. Encourage revegetation of native plant species appropriate to natural substrate conditions and avoid introduction of nonindigenous species.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-114. Protect stream corridors to enhance water quality, provide public amenities, maintain flood control objectives, preserve and enhance habitat, and offer recreational and educational opportunities.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-115. Provide setbacks along stream corridors and stream channels to protect riparian habitat functions (Figure 1). ▶ A functional setback of at least 100 feet and measured from the outside edge of the stream bank should be retained on each side of a stream corridor that prohibits development or agricultural activity. This buffer is necessary to protect riparian functions by allowing for the filtering of sediment, pesticides, phosphorus and nitrogen, organic matter and other contaminates that are known to degrade water quality. This buffer also provides for the protection of vegetation along the stream bank which provides bank stability, erosion control and flood attenuation. ▶ A transitional setback of at least 50 feet in width beyond the functional buffer should be retained along all stream corridors. This buffer is necessary to protect hydrogeomorphic functions that regulate water temperature, regulate microclimate, maintain channel complexity and retain hydrologic flow regimes. This buffer also provides corridors to facilitate the movement of wildlife. ▶ An extended setback of at least 50 feet in width beyond the transitional setback should be retained along all stream corridors. This setback will allow for recreational uses such as bike, pedestrian and/or equestrian trails and will allow for the placement of infrastructure such as water and sewer lines. ▶ Stormwater discharge ponds or other features used for improving stormwater quality may be located within the extended or transitional setback area. However, in order to protect stream habitat and floodplain value, the width of the setback shall not be based upon the width of the pollutant discharge pond. The ponds shall be landscaped and maintained with vegetation native to the surrounding area. Detention ponds or other features implementing pollutant discharge requirements, other than approved regional stormwater quality practices that are designed and operated to complement the corridor functionally and aesthetically, are prohibited. ▶ Setback averaging within individual development projects or as otherwise specified in a County-adopted master plan will be permitted except when riparian woodland will be lost. The minimum width of setbacks cannot fall below 50 feet. Master drainage plans may provide for other standards that meet the intent of this policy.	

Element	General Plan Policy Text	Supportive CAP Measures
Conservation	CO-117. Public roads, parking, and associated fill slopes shall be located outside of the stream corridor, except at stream crossings and for purposes of extending or setting back levees. The construction of public roads and parking should utilize structural materials to facilitate permeability. Crossings shall be minimized and be aesthetically compatible with naturalistic values of the stream channel.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-118. Development adjacent to waterways should protect the water conveyance of the system, while preserving and enhancing the riparian habitat and its function.	
Conservation	CO-122. River and stream maintenance should allow natural vegetation in and along the channel to assist in removal of nutrients, pollutants, and sediment and to increase bank stabilization, while minimizing impacts on conveyance.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Conservation	CO-125. Restore concrete sections of rivers and streams to natural or naturalized channels, where feasible for increased flood or conveyance capacity and groundwater recharge.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Flood-11: Identify Concrete Channel Restoration Areas
Conservation	CO-130. Protect, enhance and restore riparian, in-channel and shaded riverine aquatic habitat for: ▶ spawning and rearing of fish species, including native and recreational nonnative, non-invasive species, where they currently spawn; ▶ potential areas where natural spawning could be sustainable; and ▶ supporting other aquatic species	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Flood-09: Research the Tolerance of Current Crop Mixes to Withstand Increased Flooding and Support Aquaculture and Fish Habitat
Conservation	CO-137. Mitigate for the loss of native trees for road expansion and development consistent with General Plan policies and/or the County Tree Preservation Ordinance.	GHG-02: Maintain and Enhance Urban Forest
Conservation	CO-139. Native trees other than oaks, which cannot be protected through development, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed.	GHG-02: Maintain and Enhance Urban Forest
Conservation	CO-140. For projects involving native oak woodlands, oak savannah or mixed riparian areas, ensure mitigation through either of the following methods: ▶ An adopted habitat conservation plan. ▶ Ensure no net loss of canopy area through a combination of the following: (1) preserving the main, central portions of consolidated and isolated groves constituting the existing canopy and (2) provide an area on-site to mitigate any canopy lost. Native oak mitigation area must be a contiguous area on-site which is equal to the size of canopy area lost and shall be adjacent to existing oak canopy to ensure opportunities for regeneration.	GHG-02: Maintain and Enhance Urban Forest Fire-03: Update Tree Planning Guidelines to Select Wildfire-Resistant Species

Element	General Plan Policy Text	Supportive CAP Measures
	▸ Removal of native oaks shall be compensated with native oak species with a minimum of a one to one dbh replacement. ▸ A provision for a comparable on-site area for the propagation of oak trees may substitute for replacement tree planting requirements at the discretion of the County Tree Coordinator when removal of a mature oak tree is necessary. ▸ If the project site is not capable of supporting all the required replacement trees, a sum equivalent to the replacement cost of the number of trees that cannot be accommodated may be paid to the County's Tree Preservation Fund or another appropriate tree preservation fund. ▸ If on-site mitigation is not possible given site limitation, off-site mitigation may be considered. Such a mitigation area must meet all of the following criteria to preserve, enhance, and maintain a natural woodland habitat in perpetuity, preferably by transfer of title to an appropriate public entity. Protected woodland habitat could be used as a suitable site for replacement tree plantings required by ordinances or other mitigations. ▪ Equal or greater in area to the total area that is included within a radius of 30 feet of the dripline of all trees to be removed; ▪ Adjacent to protected stream corridor or other preserved natural areas; ▪ Supports a significant number of native broadleaf trees; and ▪ Offers good potential for continued regeneration of an integrated woodland community.	
Conservation	CO-141. In 15 years the native oak canopy within on-site mitigation areas shall be 50 percent canopy coverage for valley oak and 30 percent canopy coverage for blue oak and other native oaks.	Fire-03: Update Tree Planting Guidelines to Select Wildfire-Resistant Species
Conservation	CO-142. Provide funds for education, programs, and materials emphasizing the value and importance of trees.	GHG-02: Maintain and Enhance Urban Forest Temp-08: Increase Parking Lot Shading, Landscaping, and Urban Greening, Prioritizing Communities with Less Tree Cover
Conservation	CO-143. Work cooperatively with local utilities to assure that new trees are planted in locations that will maximize energy conservation and air quality benefits.	GHG-02: Maintain and Enhance Urban Forest Fire-03: Update Tree Planting Guidelines to Select Wildfire-Resistant Species Temp-08: Increase Parking Lot Shading, Landscaping, and Urban Greening, Prioritizing Communities with Less Tree Cover
Conservation	CO-144. Support a regional approach consistent with the provisions of Greenprint for the protection, replacement, and mitigation of trees.	GHG-02: Maintain and Enhance Urban Forest

Element	General Plan Policy Text	Supportive CAP Measures
		Fire-03: Update Tree Planting Guidelines to Select Wildfire-Resistant Species
Conservation	CO-145. Removal of non-native tree canopy for development shall be mitigated by creation of new tree canopy equivalent to the acreage of non-native tree canopy removed. New tree canopy acreage shall be calculated using the 15-year shade cover values for tree species.	GHG-02: Maintain and Enhance Urban Forest Fire-03: Update Tree Planting Guidelines to Select Wildfire-Resistant Species
Conservation	CO-146. If new tree canopy cannot be created onsite to mitigate for the non-native tree canopy removed for new development, project proponents (including public agencies) shall contribute to the Greenprint funding in an amount proportional to the tree canopy of the specific project.	GHG-02: Maintain and Enhance Urban Forest Fire-03: Update Tree Planting Guidelines to Select Wildfire-Resistant Species
Conservation	CO-147. Increase the number of trees planted within residential lots and within new and existing parking lots.	GHG-02: Maintain and Enhance Urban Forest
Conservation	CO-148. Support private foundations with local funds for their tree planting efforts.	GHG-02: Maintain and Enhance Urban Forest
Conservation	CO-149. Trees planted within new or existing parking lots should utilize pervious cement and structured soils in a radius from the base of the tree necessary to maximize water infiltration sufficient to sustain the tree at full growth.	GHG-02: Maintain and Enhance Urban Forest Temp-08: Increase Parking Lot Shading, Landscaping, and Urban Greening, Prioritizing Communities with Less Tree Cover
Delta Protection	DP-3. Proponents of new non- agriculturally oriented residential, recreational, commercial, habitat, restoration or industrial development shall provide appropriate buffer areas to prevent conflicts between any proposed use and existing adjacent agricultural parcels. Buffers shall adequately protect integrity of land for existing and future agricultural uses and shall not include uses that conflict with agricultural operations on adjacent agricultural lands. Appropriate buffer setbacks shall be determined in consultation with local Agricultural commissioners, and shall be based on any applicable general plan policies and criteria included in the Right-to-Farm Ordinance.	
Delta Protection	DP-4. Direct new non-agriculturally oriented non-farmworker residential development within the existing unincorporated towns (Walnut Grove, Courtland, Hood, Locke, and Ryde).	
Delta Protection	DP-7. New structures shall be set back from levees and areas that may be needed for future levee expansion consistent with local reclamation district regulations, and, upon adoption, with the requirements to be identified in the California Department of Water Resources Central Valley Flood control Plan.	
Delta Protection	DP-11. Consider developing programs to permit clustering of residential units that allow property owners to engage in limited property development in order to ensure the efficient use and conservation of agricultural lands, support open space values, and protect sensitive environmental areas in the	

Element	General Plan Policy Text	Supportive CAP Measures
	Primary Zone. Clustered development occurs when contiguous or non-contiguous parcels are developed to cluster lots for residential use. The purpose of clustered development is to provide a mechanism to preserve agricultural land and open space, to locate housing in areas that can readily be served by public services and utilities, and provide the agricultural community an alternative to transfer of development rights. Clustered development programs shall ensure that the number of clustered lots created does not exceed the allowable density requirement for the zoning of the sum of the parcels. Clustered development may only be used one time. Neither the clustered lots nor the remainder lots may be further subdivided. Residential development shall be consistent with Sacramento County General Plan policies and zoning regulations and standards.	
Delta Protection	DP-12. Consider developing transfer of development rights (TDR) programs that allow land owners to transfer the development right from one parcel of land to another. The purpose of these TDR programs would be to provide the efficient use and conservation of agricultural lands, to support open space values, and to protect sensitive environmental areas within the Primary Zone. This purpose would be achieved by relocating development rights within the Primary Zone to more suitable areas such as adjacent to or within existing urban areas within or outside of the Primary Zone, or to provide expanded opportunities for affordable farm worker housing. TDR programs shall ensure that the transferred development density does not exceed the development density identified for the zoning for the sending parcel, and that any farm worker housing is restricted and regulated for that purpose. The land upon which the development rights are transferred from would be restricted with a permanent conservation easement. Receiving areas must have the infrastructure capacity, public services and utilities to absorb the new development.	
Delta Protection	DP-13. Support the implementation of appropriately located agricultural labor camps and housing that serve agricultural operations, which are constructed and sited consistent with Sections 17021.5 and 17021.6 of the California Health and Safety Code and consistent with the requirements of local building codes.	
Delta Protection	DP-14. The conversion of an agricultural parcel, parcels, and/or an agricultural island for water impoundment, including reservoirs, water conveyance or wetland development may not result in the seepage of water onto or under the adjacent parcel, parcels, and/or island. These conversions shall mitigate the risks and adverse effects associated with seepage, levee stability, subsidence, and levee erosion, and shall be consistent with the goals of this element.	Flood-14: Safeguard Freshwater Supply Against Contamination, Degradation, or Loss
Delta Protection	DP-15. Support regional efforts to address issues related to urban development, habitat conservation and agricultural protection through participating in the South Sacramento Habitat Conservation Plan.	GHG-26: Implement South Sacramento Habitat Conservation Plan
Delta Protection	DP-19. Support agricultural programs that maintain economic viability and increase agricultural income in accordance with market demands, including but not limited to wildlife-friendly farming, conservation tillage and non-tillage.	GHG-03: Support Urban-Rural Connections
Delta Protection	DP-20. Encourage implementation of the necessary plans and ordinances to: maximize agricultural parcel size; reduce subdivision of agricultural lands; protect agricultural and related activities; protect agricultural land from conversion to non-agriculturally oriented uses. An optimum package of	

Element	General Plan Policy Text	Supportive CAP Measures
	regulatory and incentive programs would include: (1) an urban limit line; (2) minimum parcel size consistent with local agricultural practices and needs; (3) strict regulations regarding subdivision of agricultural lands intended to ensure that subdivided lands will continue to contain agriculturally-oriented land uses; (4) adequate buffers between agricultural and nonagricultural land uses particularly residential development outside but adjacent to the Primary Zone; (5) an agriculture element of the general plan; (6) a right-to-farm ordinance; and (7) a conservation easement program.	
Delta Protection	DP-21. Encourage acquisition of agricultural conservation easements from willing sellers as mitigation for projects within each county. Promote use of environmental mitigation in agricultural areas only when it is consistent and compatible with ongoing agricultural operations and when developed in appropriate locations designated on a countywide or Deltawide habitat management plan.	
Delta Protection	DP-23. Encourage the protection of agricultural areas, recreational resources and sensitive biological habitats, and the reclamation of those areas from the destruction caused by inundation.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Flood-12: Replant Bare or Disturbed Areas
Delta Protection	DP-25. Preserve and protect the natural resources of the Delta. Promote protection of remnants of riparian and aquatic habitat. Encourage compatibility between agricultural practices, recreational uses and wildlife habitat. Partner with Sacramento Regional County Sanitation District and other partners to promote and encourage the use of recycled water for agricultural, habitat and water conservation purposes where feasible.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Water-02: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems Water-03: Create Incentives and Programs to Transfer Knowledge and Technologies to Assist Farmers with New Production Methods and Drought-Adapted Varieties Water-05: Expand Upon Existing Water Conservation Education Outreach Programs for Residents and Businesses Water-04: Reduce Potable Water Use in Outdoor Landscaping
Delta Protection	DP-31. Incorporate, to the maximum extent feasible, suitable and appropriate wildlife protection, restoration and enhancement on publicly-owned land as part of a Delta-wide plan for habitat management.	

Element	General Plan Policy Text	Supportive CAP Measures
Delta Protection	DP-33. Protect and restore ecosystems and adaptively manage them to minimize impacts from climate change and other threats and support their ability to adapt in the face of stress.	
Delta Protection	DP-34. Support the design, construction, and management of any flooding program to provide seasonal wildlife and aquatic habitat on agricultural lands, duck club lands and additional seasonal and tidal wetlands, shall incorporate "best management practices" to minimize vectors including mosquito breeding opportunities, and shall be coordinated with the local vector control districts., (Each of the four vector control districts in the Delta provides specific wetland/mosquito management criteria to landowners within their district.)	Flood-10: Expand Educational Programs to Address Vector and Waterborne Diseases
Delta Protection	DP-38. Encourage new regional recreational opportunities, such as Delta-wide trails, which take into consideration environmental, agricultural, infrastructure, and law enforcement needs, and private property boundaries. Also, encourage opportunities for water, hiking, and biking trails.	
Delta Protection	DP-52. Support efforts to address levee encroachments that are detrimental to levee maintenance.	
Delta Protection	DP-53. Support funding assistance for existing unincorporated towns within the Delta to improve levees up to a 200-year flood protection level.	
Delta Protection	DP-54. Support stockpiling rock in the Delta for levee emergency response	
Delta Protection	DP-55. Support a multi-year funding commitment to maintain and restore both project and non-project levees in the Delta.	
Delta Protection	DP-56. Encourage the beneficial reuse of dredged material, as appropriate, for levee maintenance and rehabilitation, and the maintenance of instream flows. Support and advocate for the Delta Long-Term Management Strategy (LTMS).	
Delta Protection	DP-60. New houses built in the Delta agricultural areas but outside of the Delta's unincorporated towns shall continue to be served by independent potable water and wastewater treatment facilities and/or septic systems. Agricultural uses that require wastewater treatment shall provide adequate infrastructure improvements or pay to expand existing facilities, and not overburden the existing limited community resources. The appropriate governing body shall ensure that new or expanded construction of agriculturally-oriented wastewater disposal systems meet the appropriate standards/conditions and are not residentially growth inducing. Independent treatment facilities should be monitored to ensure no cumulative adverse impact to groundwater supplies.	
Delta Protection	DP-62. Encourage recycling programs for metals, glass, paper, cardboard, and organic materials in order to minimize waste generation. Recycling facilities for these materials should be suitably located to serve Delta residents, visitors, and businesses. High groundwater tables and subsiding soil make the Delta an inappropriate location for solid waste disposal.	
Delta Protection	DP-65. Encourage the provision of infrastructure for new water, recycled water and recreational and scientific research facilities.	Water-02: Increase On-Site Greywater and Rainwater Reuse, Stormwater Reuse, and Recycled Water Systems

Element	General Plan Policy Text	Supportive CAP Measures
Economic Development	ED-2. Concentrate commercial uses in areas best able to support them, including neighborhood, community and regional centers, transit stations, and commercial corridors.	
Economic Development	ED-3. Ensure a controlled, balanced and sustainable development pattern on a sub-regional and regional level through comprehensive planning incorporating multiple disciplines.	
Economic Development	ED-4. Identify opportunity sites within the unincorporated area that are appropriate for regional retail opportunities and other synergistic uses.	
Economic Development	ED-5. Ensure that adequate infrastructure is planned and developed to support regional retail opportunity sites.	
Economic Development	ED-7. Promote retail facilities of appropriate size and scale to serve the shopping needs of the local population and the populace at large when planning new residential neighborhoods or major residential developments.	
Economic Development	ED-8. Create plans for new growth areas with a mix of land uses, including a balance of residential and employment (jobs-housing balance) as well as providing for neighborhood-oriented services and diverse commercial amenities to serve a broader portion of the population.	
Economic Development	ED-9. Plan new growth areas to emphasize full capture of retail and service demands within the planning area and within a broader area when appropriate.	
Economic Development	ED-10. Revitalize distressed and aging commercial corridors by developing mixed-use centers and urban villages along corridors to improve community quality of life, optimize economic development, balance land uses, and foster the opportunity to accommodate a portion of the anticipated future growth.	
Economic Development	ED-11. Foster orderly and efficient commercial and residential growth within identified commercial corridors, ensuring that adequate infrastructure and public services are available to support existing and new commercial activity on the established commercial corridors.	
Economic Development	ED-13. Support location of County employment centers and facilities in areas in need of revitalization, including commercial corridors.	
Economic Development	ED-14. Support and promote a healthy and competitive agricultural industry whose products are recognized in local, national and international markets.	GHG-03: Urban-Rural Connections
Economic Development	ED-15. Support ongoing efforts by the agriculture community to develop high value products and new markets for goods that can support higher paying and more steady employment opportunities in the unincorporated area.	
Economic Development	ED-17. Support agricultural agencies, marketing cooperatives and other agricultural organizations in their efforts to research global, domestic and new markets for Sacramento County farm produce.	GHG-03: Support Urban-Rural Agricultural Connections
Economic Development	ED-18. Encourage local and regional processing facilities that create high quality jobs.	GHG-03: Support Urban-Rural Agricultural Connections
Economic Development	ED-20. Emphasize the efficient reuse of existing facilities and the high quality development of underutilized properties within the former base and the adjacent areas.	

Element	General Plan Policy Text	Supportive CAP Measures
Economic Development	ED-21. Promote an orderly, balanced, and integrated land use pattern that optimizes existing McClellan Park assets, supports sustainable land utilization, and enhances local and regional character, identity, and quality of development.	
Economic Development	ED-22. Support the redevelopment and revitalization efforts in the surrounding communities and create interrelationships with portals into the community along Watt Avenue and Winters Street.	
Economic Development	ED-23. Encourage economic development activities that support and complement local and regional economic development activities including the creation of high quality jobs.	
Economic Development	ED-25. Reuse of Mather Airfield will emphasize the efficient reuse of existing facilities and the high quality development of underutilized properties within the base focusing on the transition of vacant and underutilized properties into airport, commercial, and recreation uses.	
Economic Development	ED-27. Provide roadway connections through Mather Airfield to improve regional mobility and facilitate the movement of goods and services.	GHG-22: Connect Key Destinations
Economic Development	ED-31. Support business and private sector efforts to create regional, state, national, and international markets for the Sacramento County's products and services.	GHG-03: Support Urban-Rural Agricultural Connections
Economic Development	ED-33. Partner to create and maintain an adaptive/skilled workforce to meet the needs of existing and future businesses.	
Economic Development	ED-60. Encourage public events that allow people to gather for the purposes of entertainment and education, such as art and music festivals, farmers markets, and other performance events.	GHG-03: Support Urban-Rural Agricultural Connections
Energy	EN-1. Develop standards which would reduce the energy required to maintain interior spaces in the comfort zone, including such standards as tree planting and proper orientation of dwellings.	GHG-02: Maintain and Enhance Urban Forest Temp-08: Increase Parking Lot Shading, Landscaping, and Urban Greening, Prioritizing Communities with Less Tree Cover
Energy	EN-2. Inform the public of the need and of ways to conserve energy in the home.	
Energy	EN-3. Encourage the conservation and rehabilitation of existing housing and the revitalization of older, more intensively developed neighborhoods in the urban area.	GHG-06: Increase Energy Efficiency and Electrification of Existing Residential Buildings
Energy	EN-4. Encourage consumers to purchase or rent energy efficient houses and apartments.	
Energy	EN-5. Reduce travel distances and reliance on the automobile and facilitate increased use of public transit through appropriate land use plans and regulations.	GHG-14: Improve Transit Access GHG-22: Connect Key Destinations

Element	General Plan Policy Text	Supportive CAP Measures
Energy	EN-6. Actively support the efforts of the Regional Transit District to expand and upgrade service and attract an increasing percentage of travel.	GHG-14: Improve Transit Access
Energy	EN-7. Expand existing programs and develop new programs which promote and encourage vanpooling and carpooling.	GOV-EC-01: Establish Employee Transportation Program GOV-EC-05: Provide Carpool at Work Incentives
Energy	EN-8. Promote and encourage increased percentages of more efficient cars.	GHG-10: Implement Electric Vehicle Infrastructure Program GHG-18: Improve Fuel Efficiency Standards GHG-27: Provide Shared Electric Vehicles at Affordable Housing Projects GOV-FL-01: Expand Fleet Conversion Program
Energy	EN-9. Inform the public of the need to reduce auto travel and encourage the use of public transit and other energy efficient modes of travel.	
Energy	EN-10. Continue implementation of the Bikeways Master Plan, and develop standards for neighborhood bikeways and pedestrian-ways, incorporating them into Neighborhood Planning Standards.	GHG-15: Improve Pedestrian Network and Facilities GHG-17: Improve Bicycle Network and Facilities
Energy	EN-11. Promote the location within the Sacramento area of those industries which are labor intensive, utilize solar energy systems, and are consistent with other policies in terms of environmental protection.	
Energy	EN-12. Encourage industry located or locating in the Sacramento area to participate in cogeneration of power.	
Energy	EN-13. Aggressively pursue programs to retrofit with insulation those existing uninsulated or underinsulated commercial, institutional, and industrial buildings where economically justified.	Temp-04: Encourage or Require the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens
Energy	EN-14. Develop or revise design standards relating to building solar orientation, landscaping, impervious surfaces, and parking space requirements to conserve energy.	GHG-04: Increase Energy Efficiency and Electrification of Existing Commercial/Nonresidential Buildings and Facilities
Energy	EN-15. Inform the agricultural industry of ways to conserve energy through the Cooperative Agricultural Extension office.	GHG-28: Reduce or Eliminate Emissions in Agricultural Equipment

Element	General Plan Policy Text	Supportive CAP Measures
Energy	EN-16. Promote the use of passive and active solar systems in new and existing residential, commercial, and institutional buildings as well as the installation of solar swimming pool heaters and solar water and space heating systems.	Temp-04: Encourage or Require the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens
Energy	EN-17. Support the development and improvement of solar space cooling systems.	Temp-04: Encourage or Require the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens
Energy	EN-18. Develop and implement standards for the protection of the solar rights of property owners.	Temp-04: Encourage or Require the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens
Energy	EN-19. Support the development and use of renewable sources of energy, including but not limited to biomass, solar, wind, and geothermal.	
Energy	EN-20. Advocate that the state legislate a tax incentive or other means of encouraging utilities to improve the efficiency of existing hydroelectric generators.	
Energy	EN-21. Investigate the effectiveness of reducing summer daily peak load by shifting working hours, particularly for office workers and, if effective, promote its implementation.	
Energy	EN-22. Inform the public of ways to reduce electrical consumption at times of peak load and of the resulting benefits.	
Energy	EN-23. Investigate in a joint effort with SMUD the feasibility and effectiveness of peak day pricing by rate structure and/or surcharge.	
Energy	EN-24. Support electronic load management as a method of reducing peak electrical load.	
Energy	EN-25. Institute total energy management (TEM) for county buildings.	GOV-BE-01: Develop and Adopt Green Building Policy
Energy	EN-26. Use life cycle costing and, where applicable, consider energy efficiency ratios for county equipment purchases, including vehicles, and require that vendors on county property do likewise.	GOV-FL-01: Expand Fleet Conversion Program GOV-BE-01: Develop and Adopt Green Building Policy
Energy	EN-27. Recycle office wastepaper.	

Element	General Plan Policy Text	Supportive CAP Measures
Energy	EN-28. Commit itself to the principles of source reduction and resource recovery of municipal solid waste.	
Energy	EN-29. Establish within a single office of county government responsibility for the following: ▶ Coordinating energy conservation efforts in county government; ▶ Publicizing the energy conservation programs of the city, county, SMUD, PG&E, and the state; ▶ Advocating, in cooperation with the county's legislative advocate, other government agencies to adopt programs which support the county's energy goal and objectives; ▶ Preparing 'an "energy account" annually of the previous year's demand and use of energy in Sacramento County; and ▶ Coordinating and encouraging appropriate federal, state, county, and other local governmental agencies to conserve energy in water treatment and wastewater treatment and reclamation.	GHG-25:Convert to Electric Irrigation Pumps
Energy	EN-30. Develop and implement standardized procedures for evaluating the initial and long-range energy impacts of proposed developments.	
Energy	EN-31. Design new county buildings to incorporate passive and active solar energy systems and total energy management.	GOV-BE-01: Develop and Adopt Green Building Policy GOV-BE-02: Use Solar Power for County Buildings Temp-04: Encourage or Require the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens
Energy	EN-32. Develop and implement a countywide water resources management plan which is based on conservation of energy and water resources.	
Energy	EN-33. Promote district heating for commercial, institutional, and high-density residential buildings in downtown Sacramento.	
Environmental Justice	EJ-1. Improvement and program support for each EJ Community shall address the Community's unique or compounded needs.	
Environmental Justice	Policy EJ-2. Maximize public engagement opportunities and continually adapt to new forms of communication	All-01: Create a Comprehensive Outreach Strategy
Hazardous Materials	HM-12. Continue the effort through the Sacramento Metropolitan Air Quality Management District (AQMD) to inventory and reduce toxic air contaminants as emission standards are developed.	
Human Services	HS-5. New human services facilities shall be appropriately sited adjacent to existing or planned transportation corridors to enhance mobility options.	GHG-22: Connect Key Destinations

Element	General Plan Policy Text	Supportive CAP Measures
Human Services	HS-6. Adequate infrastructure (i.e., complete streets including bicycle lanes and sidewalks) and appropriate design elements are incorporated during the planning and review of new human services facilities to improve connectivity and access.	
Human Services	HS-9. Forward appropriate projects to the Human Service Coordinating Council (HSCC) as part of Planning and Environmental Review's initial distribution process for applications. Appropriate projects include large master plans, Specific Plans, Community Plans, and Corridor Plans but may also include other appropriate infill or corridor projects. Representatives of the HSCC may then forward comments or attend meetings and hearings such as the Project Review Committee (PRC) to comment on the needs for future human services and facilities.	GHG-21: Update Community and Corridor Plans
Land Use	LU-1. The County shall not provide urban services beyond the Urban Policy Area, except when the County determines the need for health and safety purposes and the extension provisions as provided in Policy LU-1.1.	
Land Use	LU-1.1 Limited public water service and facilities can be extended beyond the Urban Policy Area/Urban Services Boundary to serve uses allowed by the Cordova Hills Special Planning Area (SPA) for the 251 acre area located in proximity to Kiefer Landfill, as shown in Figure 9. Permitted uses within this area include agriculture, sports park, solar farm, district energy plant, corporation yard, park and ride lot, transit parking facility, fueling station, roads, storm water and storm water quality basins, community gardens, avoided areas, sewer pump station and lines, water tanks and similar utilities. Water facilities shall be sized adequately to only serve these permitted uses. Furthermore, proposed uses must be consistent with these permitted uses, act as a buffer between urban and open space uses, and help strengthen and preserve the current location of the Urban Services Boundary.	
Land Use	LU-2. The County shall maintain an Urban Service Boundary that defines the long-range plans (beyond twenty five years) for urbanization and extension of public infrastructure and services, and defines important areas for protecting as open space and agriculture.	
Land Use	LU-3. It is the intent of the County to focus investment of public resources on revitalization efforts within existing communities, especially within commercial corridors, while also allowing planning and development to occur within strategic new growth areas.	
Land Use	LU-4. The County shall give priority to residential development on vacant or underutilized sites within existing urban areas that have infrastructure capacity available.	
Land Use	LU-6. Provide for the development of vacant or underutilized portions of commercial projects and industrial-office parks with medium or high-density residential uses or mixed-use development where appropriate, such as near existing or planned transit service.	GHG-21: Update Community and Corridor Plans GHG-22: Connect Key Destinations
Land Use	LU-7. Provide for additional mixed use development in commercial parking areas where such uses would be compatible with surrounding uses and where parking demand can be appropriately accommodated or structured parking can be constructed.	GHG-21: Update Community and Corridor Plans

Element	General Plan Policy Text	Supportive CAP Measures
Land Use	LU-8. Infill projects that are consistent with the County's definition of a Quality Infill Project may participate in the County's Infill/Urban Tree Mitigation Program. The Tree Mitigation Infill Policy is as follows: Impacts to native trees designated for removal shall be calculated and mitigated based on canopy area coverage. Canopy replacement may utilize any tree species that is listed on the Tree Coordinator's list of recommended trees for parking lot shade. For measurement purposes, replacement tree canopy shall be calculated in the same manner as the parking lot shade requirements of Section 330-94 of the Sacramento County Zoning Code, using the ultimate canopy growth as specified on the Tree Coordinator's Tree Species Specifications. Tree canopy replacement shall, ideally, occur on site. In the event the physical constraints of the site preclude the additional replacement mitigation on-site, the following options may be utilized in coordination with the County Tree Coordinator and Mitigation Program: ▸ Planting in adjacent landscape/ corridor areas; ▸ Planting within local parks; and ▸ Other plantings that may otherwise be arranged in the neighborhood or community; d. Participation in County programs including but not limited to payment of in lieu fees for use in tree care, preservation and maintenance programs, and other similar programs to the satisfaction of the County Tree Coordinator.	GHG-02: Maintain and Enhance Urban Forest GHG-21: Update Community and Corridor Plans
Land Use	LU-9. Residential buildout of planned communities shall occur at a minimum of the approved plan densities.	
Land Use	LU-11. It is the intent of the County to comprehensively plan for the revitalization of the targeted commercial corridors and invest the resources necessary to achieve the following: stimulate private investment; encourage development of vacant and underutilized parcels; support reuse and/or rehabilitation of abandoned or blighted buildings; encourage rezoning of excess industrial and commercial lands to allow for medium and high density residential or mixed use projects, and; avoid non transit supportive uses, such as industrial uses, low density residential, and uses that would necessitate large parking lots fronting on the street.	GHG-21: Update Community and Corridor Plans
Land Use	LU-12. The County will prohibit land use projects which are not contiguous to the existing UPA, city boundaries, or existing planned communities or master plan areas (i.e. leapfrog development).	
Land Use	LU-14. Master or Specific plans may be prepared for subareas of an urban growth area for the purpose of prioritizing development opportunities. The boundaries of new Master or Specific Plan areas should be defensible and should take into account the physical nature and characteristic of the sub planning areas. The boundaries of these subareas should consider the following constraints and features: roadways, drainage watersheds, school districts, water districts, parks districts, etc.	
Land Use	LU-15. Planning and development of new growth areas should be consistent with Sacramento County-adopted Habitat Conservation Plans and other efforts to preserve and protect natural resources.	GHG-26: Implement South Sacramento Habitat Conservation Plan
Land Use	LU-19. Incompatible urban land uses should be buffered from one another by methods that retain community character, and do not consume large land areas or create pedestrian barriers.	

Element	General Plan Policy Text	Supportive CAP Measures
Land Use	LU-21. Promote a better balance of employment, neighborhood services, and different housing types by reviewing development projects and the surrounding community and designing new projects wherever feasible so that they maintain or improve the mix of uses in the community.	
Land Use	LU-22. Specific Plans and Community Plans should provide a balance of employment, neighborhood services, and different housing types wherever feasible.	GHG-21: Update Community and Corridor Plans
Land Use	LU-23. Providing compact, mixed use developments shall be an integral part of all master planning efforts for new growth areas and commercial corridors.	GHG-21: Update Community and Corridor Plans
Land Use	LU-24. Support private development requests that propose pedestrian- and transit-friendly mixed use projects in commercial corridors, town centers, and near existing or proposed transit stops.	GHG-14: Improve Transit Access GHG-15: Improve Pedestrian Network and Facilities
Land Use	LU-26. When planning for new development in new communities, the features below shall be incorporated for their public health benefits and ability to encourage more active lifestyles, unless environmental constraints make this infeasible. In existing communities, the features below shall be considered, as appropriate and feasible: ▸ Where appropriate, compact, mixed use development and a balance of land uses including schools, parks, jobs, retail and grocery stores, so that everyday needs are within walking distance of homes. ▸ Grid or modified-grid pattern streets, integrated pathways and public transportation that connect multiple destinations and provide for alternatives to the automobile. ▸ Wide sidewalks, shorter blocks, well-marked crosswalks, on-street parking, shaded streets and traffic-calming measures to encourage pedestrian activity. ▸ Walkable commercial areas with features that may include doors and windows fronting on the street, street furniture, pedestrian-scale lighting, and served by transit when feasible. ▸ Open space, including important habitat, wildlife corridors, and agricultural areas incorporated as community separators and appropriately accessible via non-vehicular pathways.	GHG-15: Improve Pedestrian Network and Facilities GHG-16: Implement Traffic Calming Measures GHG-21: Update Community and Corridor Plans GHG-22: Connect Key Destinations
Land Use	LU-27. Provide safe, interesting and convenient environments for pedestrians and bicyclists, including inviting and adequately-lit streetscapes, networks of trails, paths and parks and open spaces located near residences, to encourage regular exercise and reduce vehicular emissions.	GHG-15: Improve Pedestrian Network and Facilities GHG-17: Improve Bicycle Network and Facilities
Land Use	LU-28. Encourage the development of energy-efficient buildings and communities.	GHG-04: Increase Energy Efficiency and Electrification of Existing Commercial/Nonresidential Buildings and Facilities

Element	General Plan Policy Text	Supportive CAP Measures
		GHG-05: Increase Energy Efficiency and Electrification of New Commercial/Nonresidential Buildings and Facilities GHG-06: Increase Energy Efficiency and Electrification of Existing Residential Buildings
Land Use	LU-29. Promote voluntary participation in incentive programs to increase the use of solar photovoltaic systems in new and existing residential, commercial, institutional, and public buildings.	GOV-BE-02: Use Solar Power for County Buildings Temp-08: Increase Parking Lot Shading, Landscaping, and Urban Greening, Prioritizing Communities with Less Tree Cover
Land Use	LU-30. Whenever feasible, incorporate energy-efficient site design, such as proper orientation to benefit from passive solar heating and cooling, into master planning efforts.	
Land Use	LU-32. It is the policy of Sacramento County to support and encourage Transit Oriented Development (TODs) in appropriate areas throughout the county. Development applications within ½ mile of a transit stop/station identified in Regional Transit's Master Plan or a County-adopted Plan shall comply with the TOD development requirements as listed on Table 7. Appropriate locations include transit stops or nodes in commercial corridors, Bus Rapid Transit (BRT) or Light Rail stations, transit stops in new growth areas, or opportunity sites identified in Regional Transit's Master Plan. The Planning Director will be responsible for determining an applications' consistency with this policy and will take into account application-specific opportunities and constraints, including reasonable opportunities for access to transit. If the Planning Department determines that an application is inconsistent with the intent of this policy, the Board of Supervisors shall be the appropriate hearing body to determine feasibility of consistency (see table 7). Master Plans (such as Specific Plans, corridor plans, etc.) adopted after the updated General Plan is approved may replace the standards in this policy and Table 7 with standards tailored to the subject area.	GHG-13: Revise Parking Standards for Nonresidential Development GHG-21: Update Community and Corridor Plans
Land Use	LU-33. Parking requirements may be reduced in order to meet the density requirements established by policy LU-32.	GHG-13: Revise Parking Standards for Non-Residential Development
Land Use	LU-34. Developments in the areas designated on the Land Use Diagram as Transit Oriented Development shall be designed in a manner that conforms to the concepts of transit-oriented development, including: ▸ High intensity, mixed-use development concentrated in a Core Area within an easy walk (one quarter mile) of a transit stop on the Trunk or Feeder Line Network. ▸ An emphasis on neighborhood support commercial services at street level in the Core Area that can serve the residents of the Core and surrounding Secondary Areas, with other employment encouraged in the TODs created along the Trunk Line Network.	GHG-21: Update Community and Corridor Plans GHG-22: Connect Key Destinations

Element	General Plan Policy Text	Supportive CAP Measures
	▶ A pleasant walking environment created through good land use design, short distances, amenities, and streetscape features. ▶ Direct, multiple linkages, especially for bicycles and pedestrians, between the Core Area and the surrounding Secondary Area.	
Land Use	LU-35. The primary concepts in LU-34 should be employed wherever feasible in new urban development.	
Land Use	LU-36. Community Plans and Specific Plans shall employ the primary concepts in LU-34 in designating locations for higher intensity mixed use development and designing circulation and pedestrian networks.	GHG-21: Update Community and Corridor Plans GHG-22: Connect Key Destinations
Land Use	LU-37. Provide and support development of pedestrian and bicycle connections between transit stations and nearby residential, commercial, employment or civic uses by eliminating physical barriers and providing linking facilities, such as pedestrian overcrossings, trails, wide sidewalks and safe street crossings.	GHG-14: Improve Transit Access GHG-15: Improve Pedestrian Network and Facilities GHG-17: Improve Bicycle Network and Facilities GHG-21: Update Community and Corridor Plans GHG-22: Connect Key Destinations
Land Use	LU-38. Community Plans, Specific Plans, and development projects shall be designed to promote pedestrian movement through direct, safe, and pleasant routes that connect destinations inside and outside the plan or project area.	GHG-11: Reduce Emissions from New Residential and Office/Business Professional Development Vehicle Miles Traveled GHG-15: Improve Pedestrian Network and Facilities
Land Use	LU-39. Support implementation of the ADA Transitional Plan and the Pedestrian Master Plan to create a network of safe, accessible and appealing pedestrian facilities and environments.	GHG-15: Improve Pedestrian Network and Facilities
Land Use	LU-40. Employ appropriate traffic calming measures in areas where pedestrian travel is desirable but made unsafe by a high volume or excessive speed of automobile traffic. Preference shall be given to measures that slow traffic and improve pedestrian safety while creating the least amount of conflict with emergency responders.	GHG-16: Implement Traffic Calming Measures
Land Use	LU-41. Encourage placement of active uses, such as retailers, restaurants, and various services, on the ground floor of buildings in areas where the greatest levels of pedestrian activity are sought.	GHG-22: Connect Key Destinations
Land Use	LU-42. Master planning efforts for new growth areas shall provide for separated sidewalks along all arterials and thoroughfares to make walking a safer and more attractive transportation option.	GHG-15: Improve Pedestrian Network and Facilities

Element	General Plan Policy Text	Supportive CAP Measures
Land Use	LU-43. Parking areas shall be designed to: ▶ Minimize land consumption; ▶ Provide pleasant and safe pedestrian and bicycle movement; ▶ Facilitate shared parking; ▶ Allow for the possible reuse of surface parking lots through redevelopment; and ▶ Minimize parking lot street frontage.	GHG-13: Revise Parking Standards for Nonresidential Development GHG-17: Improve Bicycle Network and Facilities GHG-19: Establish EV Parking Code
Land Use	LU-44. Affordable housing should be located in compact, mixed use developments near transit stations whenever feasible.	GHG-14: Improve Transit Access GHG-22 Connect Key Destinations GHG-23: Incentivize Infill Development
Land Use	LU-46. Assure that regionally-oriented commercial and office uses and employment concentrations have adequate road access, high frequency transit service and an adequate but efficient supply of parking.	GHG-22: Connect Key Destinations
Land Use	LU-47. Commercial areas within one-half mile of a TOD commercial core area should maximize pedestrian and transit-friendly uses.	GHG-14: Improve Transit Access
Land Use	LU-48. Discourage the establishment and build-out of linear, strip pattern, commercial centers.	GHG-21: Update Community and Corridor Plans
Land Use	LU-50. All new employment-intensive County offices or offices providing walk-in services to the public shall be located along a Trunk Line or Feeder Line Network.	GHG-22: Connect Key Destinations
Land Use	LU-52. New industrial uses with high employment densities that do not create significant noise, odor, or other negative impacts, such as office-industrial parks, shall be located with access to transit provided that appropriate measures are undertaken and maintained to mitigate nuisances and traffic.	GHG-14: Improve Transit Access
Land Use	LU-57. Future Agricultural-Residential development shall be limited to existing developed and infill Agricultural-Residential lands designated on the Land Use Diagram and such additional areas adjacent to existing developed lands to act as a buffer to new urban areas or as a buffer at the Urban Service Boundary as are consistent with LU-58.	
Land Use	LU-58. Community and Specific Plans prepared for urbanizing areas may provide for additional Agricultural-Residential areas provided they are functionally integrated with other urban uses in the context of the Plan.	
Land Use	LU-60. The County supports development proposals that divide vacant and developed AR/A1 and AR/A-2 zoned parcels inside the USB to their maximum zoning density.	
Land Use	LU-61. The County supports rezoning of lands within existing Agricultural-Residential areas inside the USB to create additional AR/A-1 and AR/A-2 zoned land uses when it is consistent with plans to provide for urban uses, appropriate infrastructure is available or planned, is in line with historic demand levels, and consolidates rural communities.	

Element	General Plan Policy Text	Supportive CAP Measures
Land Use	LU-63. All new AR/A-1 and AR/A-2 lots created within the USB shall either connect to or provide for ultimate connection to the public sewer and water system to the satisfaction of the local utility service provider.	
Land Use	LU-68. Give the highest priority for public funding to projects that facilitate infill, reuse, redevelopment and rehabilitation, mixed-use development, and that will result in per-person vehicle miles traveled lower than the County average, and the lowest priority for projects that do not comply with public facilities Master Plan phasing sequences.	GHG-11: Reduce Emissions from New Residential and Office/Business Professional Development Vehicle Miles Traveled GHG-21: Update Community and Corridor Plans
Land Use	LU-70. Enact cost effective energy conservation performance standards consistent with USEPA Energy Star standards for new construction.	GHG-06: Increase Energy Efficiency and Electrification of Existing Residential Buildings GHG-05: Increase Energy Efficiency and Electrification of New Commercial/Nonresidential Buildings and Facilities Temp-04: Encourage or Require the Installation or Use of Cool-Roof Technologies, Passive Solar Home Design, Green Roofs, and Rooftop Gardens
Land Use	LU-71. Reduce the energy impacts from new residential and commercial projects through investigation and implementation of energy efficiency measures during all phases of design and development.	GHG-05: Increase Energy Efficiency and Electrification of New Commercial/Nonresidential Buildings and Facilities
Land Use	LU-72. Expansion of urban uses in the Delta shall be limited to the established Delta communities of Freeport, Hood, Courtland, Locke, and Walnut Grove and to specific small expansions that support the agriculturally and recreationally based economies of the Delta.	
Land Use	LU-74. The County will not support the development of new towns in rural areas extending beyond the Urban Services Boundary.	
Land Use	LU-75. Limited urban services may be provided to the town of Freeport, including marinas and waterside uses, due to extraordinary circumstances including, but not limited to: the town's historic nature, its immediate adjacency to the USB, and its proximity to encroaching urban development. However, the capacity of such services shall be strictly limited to serve existing urban development and buildout of parcels within the town's boundaries at existing zoned densities, as defined by Figure 7.	
Land Use	LU-76. The County generally supports Agricultural-Residential uses adjacent to the inside boundary of the USB to both establish a smooth transition from urban uses within the USB to the rural uses found outside the USB, as well as	

Element	General Plan Policy Text	Supportive CAP Measures
	to reinforce the integrity of the USB by limiting the potential for urban uses to reach beyond it.	
Land Use	LU-77. Future agricultural-residential development outside the USB and outside Galt's Sphere of Influence shall be limited to existing agricultural-residential lands so designated on the Land Use Diagram and new areas adjacent to existing areas with agricultural-residential land use designations. Agricultural-Residential expansion within the City of Galt's Sphere of Influence shall be discouraged.	
Land Use	LU-79. The County supports consolidating substandard lots into standard lots consistent with prevailing zoning densities.	
Land Use	LU-80. Rezones proposed for areas where urban services are not and will not be available outside the Urban Service Boundary and Galt Sphere of Influence shall be only to zones that do not allow densities to exceed 1 primary residence per five acres.	
Land Use	LU-82. Infill of existing Agricultural-Residential communities shall take precedence over expansion. Infill is defined as development within areas designated Agricultural-Residential on the Land Use Diagram. Each community is defined by the Agricultural-Residential land use classifications designated on the Land Use Diagram. Expansion is the change from Agriculture to Agricultural-Residential land use classifications.	GHG-21: Update Community and Corridor Plans
Land Use	LU-83. The County supports Agricultural-Residential expansion outside the USB when it is determined by the Board of Supervisors to be necessary to meet demand levels for agricultural-residential lands.	
Land Use	LU-84. If the Board of Supervisors finds that the creation of additional Agricultural-Residential designated lands outside the Urban Services Boundary (USB) is warranted, as outlined by LU-82, then the following locational criteria apply: 1. Encourage Agricultural-Residential expansion only where it can be shown that such expansion will serve to define community boundaries and preserve coherent neighborhoods. Agricultural-Residential expansion shall be proximate to other property designated Agricultural-Residential and form a logical expansion of an existing community; 2. Agricultural-Residential expansion shall be limited to those areas that are consistent with the following criteria: (a) Maintain the existing separation of communities; (b) Avoid Prime Farmland; (c) Protect Farmland of Statewide Importance where agricultural production is feasible and viable using customary and reasonable management practices. The Board of Supervisors may rely upon written documentation from the Agricultural Commissioner that the land is no longer agriculturally feasible and viable; (d) Consistent with adopted County flood policy; and (e) Protect areas identified as a Natural Preserve or Resource Conservation Area on the Land Use Diagram and all areas shown on the Open Space Vision Map in the Open Space Element.	

Element	General Plan Policy Text	Supportive CAP Measures
Land Use	LU-85. Agricultural-Residential expansion projects shall mitigate all impacts on existing rural services and schools.	
Land Use	LU-89. Support planning for and development of mixed use centers and urban villages along commercial corridors to improve quality of life by creating diverse neighborhood gathering places, supporting enhanced transit service and non-automotive travel, stimulating local economic development, eliminating blight and balancing land uses.	GHG-21: Update Community and Corridor Plans GHG-22: Connect Key Destinations
Land Use	LU-90. Focus investment of County resources in commercial corridors to facilitate improvements to streetscapes, sidewalks, landscaping, undergrounding of utilities, and other infrastructure and public amenities to encourage and stimulate private investment.	Flood-07: Establish an Underground Utilities Program Resistant to Flooding
Land Use	LU-91. Support district planning efforts that focus on specific areas in need of reinvestment and revitalization.	
Land Use	LU-92. Support development of a bus rapid transit system and light rail expansion by encouraging appropriate land uses and densities along planned routes.	
Land Use	LU-95. Support the ongoing conservation, maintenance and upgrading of the County's housing inventory.	
Land Use	LU-100. Discourage attempts to rezone vacant and underutilized infill parcels currently zoned for residential uses to other uses, except when to allow for mixed use developments that include a residential component.	GHG-21: Update Community and Corridor Plans
Land Use	LU-101. Support conversion of excess, vacant or underperforming commercial and industrial properties to residential uses or mixed use developments.	
Land Use	LU-102. Ensure that the structural design, aesthetics and site layout of new developments is compatible and interconnected with existing development.	GHG-22: Connect Key Destinations
Land Use	LU-105. The County shall create redevelopment districts in those areas where deteriorated conditions and blight warrant planned redevelopment.	
Land Use	LU-106. The County shall encourage aggressive code enforcement activity in areas designated for redevelopment or revitalization.	
Land Use	LU-107. When siting new civic buildings and County offices, preference shall be given to locations in existing communities in need of revitalization.	
Land Use	LU-111. Annexations should only be advocated which: ▶ ensure provisions and demonstrate maintenance for adequate municipal services; ▶ are consistent with state law and LAFCO standards and criteria; ▶ provide for equitable distribution, based on region-wide analysis, of social services and low income housing needs; and ▶ preserve community identity.	
Land Use	LU-112. The County shall coordinate with regional planning agencies setting land use and environmental policies and programs and cooperate in the implementation of programs consistent with General Plan policy.	Water-06: Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies,

Element	General Plan Policy Text	Supportive CAP Measures
		Explore Alternative Supply Sources, and Improve Capacity Flood-08: Partner with SAFCA and Local Agencies, Utilities, and Other Organizations to Support Future and Ongoing Flood-Related Climate Change Initiatives SLR-01: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures
Land Use	LU-113. The County shall work with SACOG to support implementation of Blueprint's policies and land use objectives.	
Land Use	LU-114. It is the policy of Sacramento County that development and open space preservation in the Natomas Joint Vision Overlay Area occur in a comprehensive, responsible and cohesive manner that best addresses land use, economic development and environmental opportunities and challenges in Natomas.	
Land Use	LU-115 It is the goal of the County to reduce greenhouse gas emissions to 1990 levels by the year 2020. This shall be achieved through a mix of State and local action.	
Land Use	LU-116. The County shall consult with state and federal regulatory and resource agencies during initial review of development projects to identify potential environmental conflicts and establish, if appropriate, concurrent application processing schedules.	Water-06: Collaborate with Federal, State, and Local Agencies and Organizations to Identify Future Water Supplies, Explore Alternative Supply Sources, and Improve Capacity Flood-04: Coordinate with Federal, State, and Local Agencies to Improve Emergency Evacuation and Supply Transportation Routes
Land Use	LU-117. The County will provide information to applicants with projects in potential wetland or natural resource areas and provide coordination assistance with such entities as the Army Corps of Engineers, the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife in order to facilitate development review and permit review processes.	

Element	General Plan Policy Text	Supportive CAP Measures
Land Use	LU-119 The County shall only accept applications to expand the UPA or initiate an expansion of the UPA or any Master Plan processes outside of the existing UPA if the Board finds that the proposal meets the following: ▶ Parallel processes to expand UPA and prepare Master Plans: Proposed additions to the UPA will only be considered when accompanied by a request to initiate a Master Plan process for all land encompassed by the proposed UPA expansion boundary. Likewise, requests to initiate a Master Plan process outside the UPA will only be considered when accompanied by a request to expand the UPA to include all land encompassed by the proposed Master Plan.26 ▶ Project Justification Statement and Outreach Plan: Proposed UPA expansions/Master Plan processes must be accompanied by both a "Justification Statement" and an "Outreach Plan". The Justification Statement shall be a comprehensive explanation of the proposed request and the development it would allow. It must include background information, reasoning, and the goal(s) and benefits of the proposed project. The Outreach Plan shall describe how the project proponent plans to inform and engage neighbors and members of the general public about the proposed UPA expansion and project. ▶ Proximity to existing urbanized areas: Proposed UPA expansions/Master Plan processes must have significant borders that are adjacent to the existing UPA or a city boundary. As a guideline, "significant borders" generally means that the length of the boundary between the existing UPA or city boundary and the proposed UPA expansion/Master Plan should be 25 percent of the length of the boundary of the UPA expansion area. ▶ Logical, comprehensive, and cohesive planning boundaries: Proposed UPA expansions/Master Plan processes must consist of a contiguous set of parcels that have a regular outside boundary consistent with the logical planning boundary illustrations below. All parcels within this boundary must be included in both the proposed UPA expansion and proposed Master Plan area.	All-01: Create a Comprehensive Outreach Strategy
Land Use	LU-121. The criteria in LU-120 regarding approval of proposed UPA expansions and/or Master Plans outside of the existing UPA should be used as guidelines for any proposed Master Plan within the existing UPA.	
Land Use	LU-122. The Urban Policy Area is intended to provide an adequate supply of developable land sufficient to accommodate projected growth. The UPA shall also include additional preserve lands to ensure an appropriate supply of open space. It is the policy and intent of the County to evaluate the UPA at a minimum of five year intervals, to determine if an expansion is needed to maintain a constant adequate supply of land. Guidelines to be considered by the Board in determining the expansion of the Urban Policy Area include: ▶ Buildout rates by type of use, unit type and density for the previous 5-year period. ▶ Infill trends and opportunities. ▶ Population and job growth projections as reflected by a minimum of three independent sources.	GHG-21: Update Community and Corridor Plans GHG 26: Implement South Sacramento Habitat Conservation Plan

Element	General Plan Policy Text	Supportive CAP Measures
	▶ Evidence that the infrastructure capacity and service availability exist or can be extended to the property. ▶ Evidence that the proposed expansion is consistent with Sacramento County-adopted Habitat Conservation Plan goals and objectives, or where such a draft or adopted Plan does not exist, evidence that important natural resources lands, agricultural lands, and open space lands will be protected and integrated into a cohesive and interconnected network of open space within the UPA.	
Land Use	LU-123. Before granting approval of an amendment to the Land Use Diagram, the Board of Supervisors shall find that: ▶ the request is consistent with the objectives and policies of the General Plan; ▶ the request is consistent with the goals and objectives of a Sacramento County-adopted Habitat Conservation Plan; ▶ approval of the proposal will not adversely affect the fiscal resources of the County; and ▶ the project will be consistent with the performance standards in this Plan and, for urban uses in urban growth areas, the project complies with the requirements of LU-13.	
Land Use	LU-125. The County shall not accept applications to amend the Land Use Diagram from a designation in Column A to a designation in Column B of Table 10 for property outside of the Urban Service Boundary unless consistent with Policy LU-72.	
Land Use	LU-126. The County shall not accept applications to amend the Land Use Diagram from a designation in Column A, in Table 10 to an Agricultural-Residential Land Use Designation for property outside the Urban Service Boundary, unless: ▶ The property is proximate to an existing area designated for agricultural-residential land use. ▶ The property is consistent with Policy LU-82 & LU-83. ▶ The change in designation will not trigger the need for urban services and cumulative traffic impacts will be within the capacity of the planned road system.	
Land Use	LU-127. The County shall not expand the Urban Service Boundary unless: ▶ There is inadequate vacant land within the USB to accommodate the projected 25 year demand for urban uses; and ▶ The proposal calling for such expansion can satisfy the requirements of a master water plan as contained in the Conservation Element; and ▶ The proposal calling for such expansion can satisfy the requirements of the Sacramento County Air Quality Attainment Plan; ▶ The area of expansion does not incorporate open space areas for which previously secured open space easements would need to be relinquished; ▶ The area of expansion does not include the development of important natural resource areas, aquifer recharge lands or prime agricultural lands;	

Element	General Plan Policy Text	Supportive CAP Measures
	▶ The area of expansion does not preclude implementation of a Sacramento County-adopted Habitat Conservation Plan; OR ▶ The Board approves such expansion by a 4/5ths vote based upon on finding that the expansion would provide extraordinary environmental, social or economic benefits and opportunities to the County.	
Open Space	OS-1. Actively plan to protect, as open space, areas of natural resource value, which may include but are not limited to wetlands preserves, riparian corridors, woodlands, and floodplains associated with riparian drainages.	
Open Space	OS-2. Maintain open space and natural areas that are interconnected and of sufficient size to protect biodiversity, accommodate wildlife movement and sustain ecosystems.	
Open Space	OS-4. Open space acquisition shall be directed to lands identified on the Open Space Vision Diagram and associated component maps.	
Open Space	OS-5. Fee title and easement acquisitions within stream corridors shall be consistent with any adopted Master Drainage Plans of the Department of Water Resources.	
Open Space	OS-6. The County may seek to acquire land for open space purposes through either fee title or less than fee interest; however, such acquisitions shall be negotiated only with willing sellers.	
Open Space	OS-7. Costs of acquiring public open space shall be equitably distributed between existing and new residents.	
Open Space	OS-8. The County shall consider adopting a comprehensive Open Space Preservation Action Plan which implements the Open Space Vision Diagram. Any such action plan shall be compatible with County adopted Habitat Conservation Plans. This Action Plan should include: ▶ An inventory of open space resources. ▶ Refinement of targeted areas for preservation identified in this Element, with cost estimates for acquisition. ▶ An administrative structure which provides for governance by the Board of Supervisors. ▶ Provisions for permanent preservation of open space lands acquired in fee title or less than fee interest will only be negotiated with willing sellers. ▶ Funding for acquisition.	
Open Space	OS-9. Open space easements obtained and offered as mitigation shall be dedicated to the County of Sacramento, an open space agency, or an organization designated by the County to protect and manage the open space. Fee title of land may be dedicated to the County, the open space agency, or organization provided it is acceptable to the appropriate department or agency (Please also refer to Section V of the Conservation Element for related policies).	
Open Space	OS-10. Sacramento County shall seek to attain the County Regional Park System standard of 20 acres of regional parkland per 1,000 population.	

Element	General Plan Policy Text	Supportive CAP Measures
Open Space	OS-11. Establish trail connections and linkages within the County and across jurisdictional boundaries that are compatible with existing land uses. These trail connections shall have the capability of being Class I trails (off-street, separated facilities) with grade separations wherever feasible.	
Open Space	OS-12. The County shall seek to establish greenbelts to serve as habitat corridors and community separators. These shall be located: Between agricultural-residential communities within the unincorporated County; and Where feasible, between the unincorporated County and adjacent cities.	
Open Space	OS-13. Permit development clustering in urban areas where grouping of units at a higher density would facilitate on-site protection of woodlands, wetlands, steep slopes, urban stream corridors, scenic areas, or other appropriate natural features as open space, provided that: ▶ Urban infrastructure capacity is available for urban use. ▶ On-site resource protection is appropriate and consistent with other General Plan Policies. ▶ General Plan policies pertaining to floodplain fill or natural preserves would not preclude development of the proposed use in the area to be protected as open space. ▶ The architecture and scale of development is appropriate for the area. ▶ Development rights for open space areas are permanently dedicated via conservation easements and appropriate long-term management is provided for by either a public agency or other appropriate entity. (Please also refer to the Conservation Element for related policies).	
Open Space	OS-14. Permit development clustering in rural areas where grouping units at a higher density would create an open space buffer protecting intensive farming activities, provided that: ▶ Clustered residential lots are adjacent to and comparable in lot size to existing agricultural areas. ▶ Septic disposal systems are not concentrated in a manner which increases the potential for groundwater contamination. ▶ General Plan policies pertaining to floodplain or natural preserves would not preclude development of the proposed use in the area to be protected as open space. ▶ The project complies with any applicable development credits transfer ordinance relating to density bonuses. ▶ Development rights for open space areas are permanently dedicated via conservation easements and appropriate long-term management is provided for by either a public agency or other appropriate entity. (Please also refer to the Conservation Element for related polices). ▶ The overall average density of the project is comparable to the average lot sizes in the area.	
Open Space	OS-15. Consider density bonuses as a method of encouraging development clustering and open space preservation.	

Element	General Plan Policy Text	Supportive CAP Measures
Public Facilities	PF-1. New water facilities shall be planned to minimize impacts to in-stream water flow in the Sacramento and American Rivers.	
Public Facilities	PF-11. The County shall not support extension of the regional interceptor system to provide service to areas within the unincorporated County which are beyond the Urban Service Boundary. This shall not prohibit the County from supporting the extension of the regional interceptor system to areas outside the USB which are being proposed for annexation to a city.	
Public Facilities	PF-13. Public sewer systems shall not extend service into agricultural-residential areas outside the urban policy area unless the Environmental Management Department determines that there exists significant environmental or health risks created by private disposal systems serving existing development and no feasible alternatives exist to public sewer service.	
Public Facilities	PF-20. Support the implementation of recycling programs for the unincorporated area of Sacramento County through the Source Reduction and Recycling Element of the County Integrated Waste Management Plan in order to meet the requirements of AB 939.	
Public Facilities	PF-26. Solid waste collection vehicles shall minimize dispersion of litter, odor and fumes.	
Public Facilities	PF-28. Community and Specific Plans shall consider the needs of community colleges and address the feasibility and appropriateness of off-campus facilities, particularly in TODs.	GHG-21: Update Community and Corridor Plans
Public Facilities	PF-29. Schools shall be planned as a focal point of neighborhood activity and interrelated with neighborhood retail uses, churches, neighborhood and community parks, greenways and off-street paths whenever possible.	GHG-22: Connect Key Destinations
Public Facilities	PF-30. New elementary schools in the urban area should be planned whenever possible so that almost all residences will be within walking distance of the school (one mile or less) and all residences are within two miles of a school.	GHG-11: Reduce Emissions from New Residential and Office/Business Professional Development Vehicle Miles Traveled GHG-20: Establish Safe Routes to School GHG-22: Connect Key Destinations
Public Facilities	PF-31. Schools shall be planned adjacent to neighborhood parks whenever possible and designed to promote joint use of appropriate facilities. The interface between the school and park shall be planned with an open design and offer unobstructed views to promote safety.	GHG-20: Establish Safe Routes to School
Public Facilities	PF-32. Elementary schools shall not be located along arterials and thoroughfares. Junior high and high schools should be located near roadways with adequate capacity and should provide adequate parking to facilitate the transport of students.	GHG-20: Establish Safe Routes to School
Public Facilities	PF-33. New community college campuses and high schools within the urban service boundary shall be located along arterial or thoroughfare streets, with high priority to location adjacent to transportation corridors identified on the Transportation Plan Map.	GHG-11: Reduce Emissions from New Residential and Office/Business Professional Development Vehicle Miles Traveled

Element	General Plan Policy Text	Supportive CAP Measures
		GHG-20: Establish Safe Routes to School GHG-22: Connect Key Destinations
Public Facilities	PF-34 All school site plans shall be designed to minimize traffic speed and maximize traffic flow around the school, allowing for several access points to and from the site.	GHG-20: Establish Safe Routes to School GHG-16: Implement Traffic Calming Measures
Public Facilities	PF-35. New schools should link with planned bikeways and pedestrian paths wherever possible.	GHG-20: Establish Safe Routes to School GHG-22: Connect Key Destinations
Public Facilities	PF-48. Locate future library sites to be accessible by car, bicycle, foot, public transportation, and have sufficient off-street parking.	GHG-22: Connect Key Destinations
Public Facilities	PF-54. Require new development to install fire hydrants and associated water supply systems which meet the fire flow requirements of the appropriate fire district.	
Public Facilities	PF-55. New development shall provide access arrangements pursuant to the requirements of the California Fire Code.	
Public Facilities	PF-56. Infill development shall be provided adequate off-site improvements to meet on-site fire flow requirements.	
Public Facilities	PF-59. Alternative methods of fire protection and access must be instituted if access is reduced to emergency vehicles.	Fire-04: Coordinate and Improve Emergency Preparedness Systems
Public Facilities	PF-61. Mitigation fees may be established by the Board of Supervisors or Fire Districts for the purpose of funding adequate fire protection and emergency medical response facilities provided they find that such fees are critical and necessary to meet the facility funding needs of the fire district and that existing methods of financing are inadequate.	Fire-04: Coordinate and Improve Emergency Preparedness Systems
Public Facilities	PF-69. Cooperate with the serving utility to minimize the potential adverse impacts of energy production and distribution facilities to environmentally sensitive areas by, when possible, avoiding siting in the following areas: ▸ Wetlands. ▸ Permanent marshes. ▸ Riparian habitat. ▸ Vernal pools. ▸ Oak woodlands. ▸ Historic and/or archaeological sites and/or districts.	Flood-06: Map Critical Facilities and Infrastructure Locations Vulnerable to Flooding and Upgrade and/or Relocate Infrastructure Where Applicable
Public Facilities	PF-73. Cogeneration facilities are prohibited outside the Urban Service Boundary, except as part of an existing processing operation such as for dairying, agricultural, or landfill purposes.	
Public Facilities	PF-76. The County supports the generation and use of energy produced from renewable resources.	GOV-BE-02: Use Solar Power for County Buildings

Element	General Plan Policy Text	Supportive CAP Measures
Public Facilities	PF- 77. The County supports a variety of solar and other renewable energy sources, including: ▸ A dispersed system that feeds into the electric delivery system; ▸ On-site facilities that primarily supply energy for on-site uses; and ▸ Properly sited large, centralized facilities consistent with Policy PF-78.	GOV-BE-02: Use Solar Power for County Buildings
Public Facilities	PF-78 Large multi-megawatt solar and other renewable energy facilities should be sited at locations that will minimize impacts. The following guidelines should be considered, though is it recognized that each project is different and must be analyzed individually, and that other factors may affect the suitability of a site. Locational criteria for wind turbines should be determined on a case-by-case basis and referred to the Sacramento County Airport System and the FAA for review and comment. ▸ Desirable sites are those which will minimize impacts to county resources and will feed into the electrical grid efficiently, including: ▪ Lands with existing appropriate land use designations, e.g. industrial. ▪ Brownfield or other disturbed properties (e.g. former mining areas, mine tailings) or land that has been developed previously and has lost its natural values as open space, habitat or agricultural land. ▪ Sites close to existing facilities necessary for connection to the electrical grid to minimize the need for additional facilities and their impacts, and to improve system efficiency. ▸ Other sites may be used for siting renewable energy facilities after consideration of important natural and historic values of the land, including: ▪ Farmlands. Site on farmlands of the lowest quality, e.g. land classified by the Department of Conservation as "other land" or "grazing land", then consider farmlands of local, unique or statewide importance. Avoid high quality farmlands, especially land classified by the Department of Conservation as prime and lands under active Williamson Act contracts. ▪ Habitat and Other Open Space Lands. Site on lands with the lowest habitat and open space values, and consider how a site will affect conservation planning, e.g. the Conservation Strategy in the South Sacramento Habitat Conservation Plan. Avoid areas containing vernal pool complexes and associated uplands. ▪ Scenic Values. Site in areas of lowest scenic values and avoid visually prominent locations e.g. ridges, designated scenic corridors and designated historic sites. ▪ Cultural Resources. Site in areas that are known to have limited potential for containing cultural resources. Otherwise, avoid sites with known cultural resources.	
Public Facilities	PF-79. New solar and other renewable energy facilities should be designed and developed so as to minimize impacts to sensitive biological resources such as oak woodlands and vernal pools, cultural resources (including designated historic landscapes), or farmlands as defined by the California	

Element	General Plan Policy Text	Supportive CAP Measures
	Department of Conservation. Nearby farm operations shall not be negatively affected by renewable energy facilities, per the policies of the Right-to-Farm Ordinance and the Agricultural Element.	
Public Facilities	PF-80. Locate solar facilities, and design and orient solar panels in a manner that addresses potential problems of glare consistent with optimum energy and capacity production.	
Public Facilities	PF-81. The County supports renewable energy facilities that convert and mitigate problem waste streams and residues that adversely impact environmental quality.	
Public Facilities	PF-82. The County supports the placement of large multi-megawatt solar facilities on rooftops and over parking lots to minimize land use impacts associated with these systems.	GOV-BE-02: Use Solar Power for County Buildings
Public Facilities	PF-84. New transmission lines constructed within existing and planned urban areas should utilize existing transmission corridors whenever practical. Secondary preferred locations are adjacent to railway and freeway corridors when feasible.	
Public Facilities	PF-92. Transmission lines should avoid to the greatest extent possible, cultural resources and biological resources such as wetlands, permanent marshes, riparian habitats, vernal pools, and oak woodlands. When routed through such areas, transmission lines should have maximum line spans and cross at the narrowest points which involve minimal cutting and cropping of vegetation, maintaining the drainage regime of wetland basins. Additionally, when feasible, such routes should be maintained to serve as biological dispersion corridors between areas of high biodiversity.	
Public Facilities	PF-95. Transmission lines should avoid paralleling recreation areas, historic areas, rural scenic highways, landscaped corridors, drainage basins, wetland mitigation, tree planting, and designated federal or state wild and scenic river systems, although these areas may be considered as options if facilities already exist there.	
Public Facilities	PF-96. Locate transmission facilities in a manner that maximizes the screening potential of topography and vegetation.	
Public Facilities	PF-99. Minimize overhead wire congestion using techniques such as undergrounding or combining lines on poles for the same voltage.	Flood-07: Establish an Underground Utilities Program Resistant to Flooding
Public Facilities	PF-105. Landscaping shall be included in corridor design which meets the standards of the surrounding land use zone and is compatible with the overhead line design.	
Public Facilities	PF-109. Public facility financing plans for developing neighborhoods may include the cost of undergrounding new and existing sub-transmission lines. Costs should be shared by all participating developers.	Flood-07: Establish an Underground Utilities Program Resistant to Flooding
Public Facilities	PF-110. In areas of renovation and redevelopment, install sub-transmission and distribution lines underground, when feasible, with installation costs provided to the utility by redevelopment funds. Installation should be designed in a manner that minimizes impacts to any historical features.	Flood-07: Establish an Underground Utilities Program Resistant to Flooding

Element	General Plan Policy Text	Supportive CAP Measures
Public Facilities	PF-124. Consistent with its infill development standards and mixed use Commercial Corridor plans, the County in consultation with the local recreation and park districts shall encourage new infill and Corridor development projects to provide small plazas, pocket parks, civic spaces, and other gathering places that are available to the public to help encourage pedestrian activity, meet recreational needs and service standards consistent with Smart Growth principles.	GHG-21: Update Community and Corridor Plans
Safety	SA-1. The County shall require geotechnical reports and impose the appropriate mitigation measures for new development located in seismic and geologically sensitive areas.	
Safety	SA-3. The County shall support efforts by Federal, State, and other local jurisdictions to investigate local seismic and geological hazards and support those programs that effectively mitigate these hazards.	
Safety	SA-4. The County shall prohibit development on ground surfaces which exceed 40 percent in slope, such as the bluff areas along the American River. Development shall be set back from these slopes at a distance established by the Zoning Code.	
Safety	SA-5. A comprehensive drainage plan for major planning efforts shall be prepared for streams and their tributaries prior to any development within the 100-year floodplain and/or the 200-year floodplain in areas subject to the Urban Level of Flood Protection, defined by full watershed development without channel modifications. The plan shall: a. Determine the elevation of the future 100-year flood and/or the 200-year flood in areas subject to the Urban Level of Flood Protection, associated with planned and full development of the watershed; b. Determine the boundaries of the future 100-year floodplain and/or the 200-year floodplain in areas subject to the Urban Level of Flood Protection, for both flood elevations (planned and full development) based on minimum 2-foot contour intervals; c. Assess the feasibility of gravity drainage into the existing flowline of the stream; d. Assess the feasibility of alternative means of drainage into the stream; e. Identify potential locations for sedimentation ponds and other stormwater treatment facilities; f. Determine practical channel improvements and/or detention basins to provide the flood control needs of the proposed development; g. Determine the location and extent of marsh, vernal pool and riparian habitat; h. Develop measures for protecting and mitigating natural habitat; i. Develop measures for protecting and mitigating for federal and state listed endangered species; j. Develop and ensure implementation of measures that would reduce vector larvae; and k. Identify appropriate plant species to be included as part of the natural features of the comprehensive drainage plan. (Modified 2016)	Flood-01: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Flood-11: Identify Concrete Channel Restoration Areas Flood-12: Replant Bare or Disturbed Areas

Element	General Plan Policy Text	Supportive CAP Measures
Safety	SA-6. The County will coordinate with the City of Sacramento, the Army Corps of Engineers, the Sacramento Area Flood Control Agency, and other Federal, State and local governments and agencies to develop a plan to finance, develop and construct flood control project improvements to reduce flooding potential in Sacramento County. The construction of flood control projects along the Sacramento and American Rivers and the immediate connection of local streams to these rivers shall be included in these projects. Such projects should provide 200-year flood protection.	Flood-01: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Flood-08: Partner with SAFCA and Local Agencies, Utilities, and Other Organizations to Support Future and On-Going Flood-Related Climate Change Initiatives
Safety	SA-6a. The County will continue to coordinate with parties responsible for flood management facilities and structures (e.g., pump stations, levees, canals, channels, and dams) to provide proper maintenance and/or improvements. (Added 2016)	Flood-01: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Safety	SA-6b. The County will continue to coordinate with relevant organizations and agencies (e.g., Federal Emergency Management Agency (FEMA) and State of California Department of Water Resources (CADWR)) when updating floodplain mapping, flood management plans, local hazard mitigation plans, and other emergency response plans to consider the impacts of urbanization and climate change on long-term flood safety and flood event probabilities. (Added 2016)	Flood-08: Partner with SAFCA and Local Agencies, Utilities, and Other Organizations to Support Future and On-Going Flood-Related Climate Change Initiatives Flood-15: Improve Flood Warning and Information Dissemination
Safety	SA-6c. The County will continue to coordinate with local, regional, state, and federal agencies to maintain an adequate flood management information base, prepare risk assessments, and identify strategies to mitigate flooding impacts. (Added 2016)	Flood-01: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions Flood-06: Map Critical Facilities and Infrastructure Locations Vulnerable to Flooding and Upgrade and/or Relocate

Element	General Plan Policy Text	Supportive CAP Measures
		Infrastructure Where Applicable Flood-08: Partner with SAFCA and Local Agencies, Utilities, and Other Organizations to Support Future and On-Going Flood-Related Climate Change Initiatives
Safety	SA-7. In accordance with the County Floodplain Management Ordinance, the County shall locate, when feasible, new essential public facilities outside of flood hazard zones, including hospitals and health care facilities, emergency shelters, fire stations, emergency command centers, and emergency communications facilities; or identify construction methods or other methods to minimize damage if these facilities are located in flood hazard zones.	Flood-06: Map Critical Facilities and Infrastructure Locations Vulnerable to Flooding and Upgrade and/or Relocate Infrastructure Where Applicable Flood-07: Establish an Underground Utilities Program Resistant to Flooding
Safety	SA-8. Maintain the structural and operational integrity of essential public facilities during flooding.	Flood-06: Map Critical Facilities and Infrastructure Locations Vulnerable to Flooding and Upgrade and/or Relocate Infrastructure Where Applicable
Safety	SA-9. New and modified bridge structures should minimize any increase in water surface elevations of the 100-year floodplain, or the 200-year floodplain in areas subject to the Urban Level of Flood Protection. (Modified 2016)	Flood-04: Coordinate with Federal, State, and Local Agencies to Improve Emergency Evacuation and Supply Transportation Routes
Safety	SA-10. Fill within the 100-year floodplain of creeks outside of the Urban Service Boundary is permissible to accommodate structures (e.g., residential, commercial, accessory) and septic systems, and only when the Board of Supervisors finds that the fill will not impede water flows or storm runoff capacity. Such development shall not cause an increase in base flood elevation of the 100-year floodplain exceeding 0.10 feet, unless analysis clearly indicated that the physical and/or economic use of adjacent property within the floodplain will not be adversely affected. A permit is required if the fill is within the jurisdiction of the Central Valley Flood Protection Board.	Flood-01: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events Flood-05: Invest in Use of Pervious Pavements and Landscaping in Developed Areas and Restrict the Use of Paved Surfaces
Safety	SA-11. The County shall implement the improvement of natural drainage channels and certain floodplains for urbanized or urbanizing portions of the County to reduce local flooding. Such improvements shall comply with the General Plan policies contained in the Conservation Element, Urban Streams, and Channel Modification Section.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions

Element	General Plan Policy Text	Supportive CAP Measures
Safety	SA-12. The County shall continue local efforts that encourage implementation of the Federal Flood Insurance Program.	
Safety	SA-13. Where new upstream development in Sacramento County will increase or potentially impact runoff onto parcels downstream in a neighboring jurisdiction, such as the City of Sacramento, Sacramento County will coordinate with the appropriate neighboring jurisdiction to mitigate such impacts.	Flood-05: Invest in Use of Pervious Pavements and Landscaping in Developed Areas and Restrict the Use of Paved Surfaces
Safety	SA-14. The County shall require, when deemed to be physically or ecologically necessary, all new urban development and redevelopment projects to incorporate runoff control measures to minimize peak flows of runoff and/or assist in financing or otherwise implementing Comprehensive Drainage Plans.	Flood-01: Evaluate and Improve Capacity of Stormwater Infrastructure for High-Intensity Rainfall Events Flood-05: Invest in Use of Pervious Pavements and Landscaping in Developed Areas and Restrict the Use of Paved Surfaces
Safety	SA-15. The County shall regulate, through zoning and other ordinances, land use and development in all areas subject to potential flooding and prohibit urban uses on unprotected flood land.	SLR-01: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures
Safety	SA-16. Deny creation of parcels that do not have buildable areas outside the 100-year floodplain, or the 200-year floodplain in areas subject to the Urban Level of Flood Protection, unless otherwise allowed in the Floodplain Management Ordinance. (Modified 2016)	SLR-01: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures
Safety	SA-17. For residential zoning, the area outside the 100-year floodplain, or the 200-year floodplain in areas subject to the Urban Level of Flood Protection, must be contiguous or reasonably situated to provide buildable area for a residence and associated structures. Examples of structures include swimming pools, sheds, barns, detached garages, and other outbuildings that are normally associated with residential development. There may be exceptions (such as the Delta area) as allowed in the Floodplain Management Ordinance. (Modified 2016)	SLR-01: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures
Safety	SA-18. Vehicular access to the buildable area of newly created parcels must be at or above the 10-year flood elevation. Exceptions may be made when the existing public street from which access is obtained is below the 10-year flood elevation. There may be exceptions (such as the Delta area) as allowed in the Floodplain Management Ordinance.	SLR-01: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures

Element	General Plan Policy Text	Supportive CAP Measures
Safety	SA-18a. Provide unobstructed access to levees on county-owned lands, whenever practicable, for maintenance and emergencies. Require setbacks and easements to provide access to levees from private property. (Added 2016)	
Safety	SA-18b. Urban flood control levees should have adequate setbacks consistent with local, regional, State, and federal design and management standards. (Added 2016)	
Safety	SA-19. Creation of lots that require watercourse crossings for single lots, or that will likely encourage watercourse crossings to be built by property owners (lots with useable area on both sides of a watercourse) will not be allowed unless a detailed hydraulic study is approved by Water Resources and there is found to be no adverse impact in accordance with the County Floodplain Management Ordinance.	
Safety	SA-20. Levees for the purpose of floodplain reclamation for development shall be strongly discouraged. Floodplain restoration shall be encouraged to provide flood protection and enhancement and protection of a riparian ecosystem.	Flood-03: Identify New Locations for Flood Control, Prioritizing Green Infrastructure Solutions
Safety	SA-21. If levee construction is approved to reclaim floodplain for new development, 200- year flood protection is required.	
Safety	SA-22. Areas within a 100-year floodplain, or within the 200-year floodplain in areas subject to the Urban Level of Flood Protection, shall not be upzoned to a more intensive use unless and until a Master Drainage Plan is prepared that identifies areas of the floodplain that may be developed. (Modified 2016)	SLR-01: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures
Safety	SA-22a. Sacramento County will evaluate development projects and all new construction located within a defined Flood Hazard Zone (FHZ) to determine whether the 200-year Urban Level of Flood Protection or 100-year FEMA flood protection applies, and whether the proposed development or new construction is consistent with that standard. Prior to approval of development projects or new construction subject to either standard, the appropriate authority must make specific finding(s) related to the following: a. Urban Level of Flood Protection standard (200-year) applies to projects in a Flood Hazard Zone that meet certain criteria, developed by the State of California Department of Water Resources, related to urbanization, watershed size and potential flood depth. b. b. Federal Emergency Management Agency (FEMA) standard of protection (100- year) applies to projects in a Special Flood Hazard Area that are not subject to the Urban Level of Flood Protection. (Added 2016)	SLR-01: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures
Safety	SA-22b. New development shall be elevated as required by the applicable flood standards (100-year, or 200-year in areas subject to the Urban Level of Flood Protection) and should be constructed to be resistant to flood damage consistent with the Floodplain Management Ordinance. (Added 2016)	SLR-01: Coordinate with Other Agencies on Floodplain Mapping Updates and Identification of Improvements to Protect Vulnerable Populations, Functions, and Structures

Element	General Plan Policy Text	Supportive CAP Measures
Safety	SA-23. The County shall require that all new development meets the local fire district standards for adequate water supply and pressure, fire hydrants, and access to structures by firefighting equipment and personnel.	
Safety	SA-24. The County shall require, unless it is deemed infeasible to do so, the use of both natural and mechanical vegetation control in lieu of burning or the use of chemicals in areas where hazards from natural cover must be eliminated, such as levees and vacant lots.	Fire-04: Coordinate and Improve Emergency Preparedness Systems
Safety	SA-25. The County shall work with local fire districts to develop high visibility fire prevention programs, including those which provide voluntary home inspections and awareness of home fire prevention measures.	Fire-04: Coordinate and Improve Emergency Preparedness Systems
Safety	SA-26. The County and fire districts shall develop programs to provide citizens with self-preparedness and community readiness skills for large or extended accidental, natural, and terrorist emergencies/incidents.	Fire-04: Coordinate and Improve Emergency Preparedness Systems
Safety	SA-27. The County shall require, where appropriate, the use of fire resistant landscaping and building materials for new construction developments that are cost effective.	
Safety	SA-28. The County shall encourage and require, to the maximum extent feasible, automatic fire sprinkler systems for all new commercial and industrial development to reduce the dependence on fire department equipment and personnel.	
Safety	SA-30. The County, medical community, and fire districts shall work to improve EMS response system that includes first responder emergency care and transportation services. ▶ Properly locating resources to provide timely response ▶ Paramedic services from every fire station	
Safety	SA-31. The County shall continue to maintain, periodically update, and test the effectiveness of its Emergency Response Plan.	Fire-04: Coordinate and Improve Emergency Preparedness Systems
Safety	SA-32 The County will implement the Local Hazard Mitigation Plan in the planning and operations of the County to achieve the goals, objectives, and actions of the County's Local Hazard Mitigation Plan.	
Safety	SA-33. The County shall continue its coordinative efforts, including evacuation planning, with service agencies, the cities within the County, and cities within surrounding counties.	Fire-04: Coordinate and Improve Emergency Preparedness Systems Flood-4: Coordinate with Federal, State, and Local Agencies to Improve Emergency Evacuation and Supply Transportation Routes
Safety	SA-34. The County shall increase its efforts to inform and educate the general public of disaster response and emergency preparedness procedures.	Fire-04: Coordinate and Improve Emergency Preparedness Systems

Element	General Plan Policy Text	Supportive CAP Measures
Safety	SA-35. The County shall ensure that the siting of critical emergency response facilities such as hospitals, fire, sheriff's offices and substations, and other emergency service facilities and utilities have minimal exposure to flooding, seismic and geological effects, fire, and explosions.	Temp-01: Protect Critical Infrastructure Vulnerable to Extreme Heat Events Flood-06: Map Critical Facilities and Infrastructure Locations Vulnerable to Flooding and Upgrade and/or Relocate Infrastructure Where Applicable
Safety	SA-36. The County shall require that high intensity land uses proposed in areas highly susceptible to multiple hazards, such as the Delta, provide mitigation measures that include emergency evacuation routes. Consideration shall be given to the need for additional roads, particularly in the Delta, that may serve as evacuation routes. The County Regional Emergency Operations Office has a study of evacuation routes for various levee breach scenarios for reaches of the Sacramento River north of Freeport and for the American River.	Fire-04: Coordinate and Improve Emergency Preparedness Systems Flood-04: Coordinate with Federal, State, and Local Agencies to Improve Emergency Evacuation and Supply Transportation Routes
Safety	SA-37. The County shall continue to maintain its response to flood emergencies by maintaining and updating the following: ▶ Flood Emergency Action Plan, to address potential flooding in levee and dam inundation areas, consistent with the California Water Code, and; ▶ Community flood evacuation and rescue maps, making them available to the public, as appropriate. (Added 2016)	Flood-06: Map Critical Facilities and Infrastructure Locations Vulnerable to Flooding and Upgrade and/or Relocate Infrastructure Where Applicable

APPENDIX D – PUBLIC ENGAGEMENT

D.1 SUMMARY OF COMMUNITY OUTREACH

Local action on climate change requires active and ongoing partnerships between residents, businesses, the County, agencies, and organizations. Starting in August 2016, the County prioritized engagement and outreach throughout the Climate Action Plan (CAP) development process to ensure the CAP provides feasible, equitable, and implementable measures. The goals of the outreach process were to: (1) raise awareness of climate change and the need for this CAP; (2) inform stakeholders and the public about the CAP; (3) gather input at the various steps of CAP development; and (4) provide opportunities to influence decision-making. The County provided CAP updates via, a dedicated project website, electronic mail notifications, community meetings and press releases.

A summary of stakeholder and public outreach events is included in Table D-1. The County hosted four public workshops at various community locations (including two disadvantaged communities) to ensure that the CAP captured the ideas and concerns of residents and businesses. Outreach media were produced to advertise community events, solicit input on the CAP, and provide general information on the CAP development process. All flyers for community events were produced in both English and Spanish. In 2020 a stakeholder group representing a wide variety of interests was formed to provide input on the CAP. Stakeholder Working Group was comprised of representatives from 350 Sacramento; Associated Builders and Contractors, Inc.; Capital Region Climate Readiness Collaborative; Community Resource Project, Inc., Environmental Council of Sacramento; Lewis Group of Companies; North State Building Industry Association; Sacramento Metropolitan Air Quality Management District; Sacramento Municipal Utility District; Sacramento Regional Builders' Exchange; and Sierra Club Mother Lode Chapter.

Stakeholders and the public shaped the strategies and measures in this CAP in several ways, from attending meetings and providing comments, sending emails and letters, and participating in stakeholder calls. Comments have ranged from suggesting ideas for greenhouse gas reduction and adaptation to highlighting especially urgent and important issues that the CAP should prioritize. Themes that emerged from the outreach focused on greenhouse gas reduction and included the need to reduce water consumption, consider zero-waste goals, prioritize food recovery before composting, incentivizing electric vehicles and rooftop solar, encourage signups for the Sacramento Municipal Utilities District's Greenergy program, improve transit connectivity, target transportation improvements in disadvantaged communities, reduce sprawl, protect farmland, and prioritize measures with co-benefits. Themes that emerged from the outreach relating to adaptation and resiliency included the importance of urban forestry, considering rain barrels and greywater as strategies to address changing precipitation patterns and drought, the need to specifically assess climate impacts to the Delta such as saltwater intrusion, and the urgency of increasing wildfire risk.

An additional opportunity for public input on a Draft version of the CAP was provided in March 2021. The Final Draft CAP was released in September of 2021 with an associated environmental document, which was available for public review and comment for 30 days. Additional public input on the CAP and CEQA environmental document were heard at Planning Commission hearing in November of 2021. Letters received during the comment periods are included in Section D.2.

Table D-1: Summary of CAP Stakeholder Meetings and Public Workshops

Event	Date	Description
Stakeholder Meeting	August 24, 2016	Project kickoff meeting for stakeholders to understand the purpose of the CAP and CAP development process.
Stakeholder Meeting	September 13, 2016	Meeting with VG Consulting.
Stakeholder Meeting	October 6, 2016	Meeting with Community Resource Project.
Neighborhood Meeting	October 17, 2016	Presentation to MLK Neighborhood Association.
Neighborhood Meeting	October 20, 2016	Presentation to South Oak Park Community Association.
Public Workshop #1 and #2	November 15 and 16, 2016	Initial set of public workshops held at different locations within the County to raise awareness of the CAP and get feedback and ideas for GHG emissions reduction strategies.
Public Workshop #3 and #4	February 6 and 9, 2016	Set of public workshops held at different locations within the County to raise awareness of the CAP and get feedback and ideas for climate change adaptation and resiliency strategies.
Stakeholder Meeting	March 21, 2017	Meeting with the Sacramento Metropolitan Air Quality Management District to discuss strategies related to energy efficiency and consumption, VMT, and methane emissions.
Board Workshop	May 24, 2017	Board of Supervisors workshop to discuss the 2015 GHG emissions inventory and forecasts and climate change vulnerability assessment.
Stakeholder Meeting	June 15, 2017	Meeting with the North State Building Industry Association.
Stakeholder Meeting	January 4, 2018	Meeting with the Sacramento Municipal Utility District.
Stakeholder Meeting	February 23, 2018	Meeting with the Delta Stewardship Council.
Stakeholder Meeting	February 27, 2018	Meeting with the Pacific Gas & Electric Company.
Stakeholder Meeting	Mach 19, 2018	Meeting with Teichert.
Stakeholder Meeting	March 21, 2018	Meeting with the Sacramento Association of Realtors.
Stakeholder Meeting	March 28, 2018	Meeting with the Sacramento Region Business Association.
Stakeholder Meeting	March 29, 2018	Meeting with the North State Building Industry Association.
Stakeholder Meeting	April 19, 2018	Meeting with the Sacramento Metropolitan Fire District.
Stakeholder Meeting	April 19, 2018	Meeting with the Environmental Justice Advisory Committee.
Stakeholder Meeting	April 26, 2018	Meeting with the Sacramento Regional Builders Exchange.
Stakeholder Meeting	April 26, 2018	Meeting with the California Sierra Club.
Stakeholder Meeting	April 30, 2018	Meeting with the Sacramento Municipal Utility District.
Stakeholder Meeting	May 1, 2018	Meeting with the Sacramento Association of Realtors.
Stakeholder Meeting	May 3, 2018	Meeting with the Sacramento Electric Vehicle Association.
Stakeholder Meeting	May 8, 2018	Meeting with the Capital Region Climate Readiness Collaborative.
Stakeholder Meeting	May 9, 2018	Meeting with the Sacramento Sierra Club.
Stakeholder Meeting	May 17, 2018	Meeting with 350 Sacramento.
Stakeholder Meeting	May 22, 2018	Meeting with the Environmental Council of Sacramento.
Stakeholder Meeting	May 22, 2018	Meeting with the Capital Region Climate Readiness Collaborative.
Stakeholder Meeting	August 16, 2018	Meeting with the Sacramento Sierra Club.
Stakeholder Meeting	October 29, 2018	Meeting with 350 Sacramento.

Event	Date	Description
Stakeholder Meeting	December 3, 2018	Presentation to the American River College class.
Stakeholder Meeting	August 12, 2020	Meeting with Stakeholder Working Group.
Stakeholder Meeting	August 19, 2020	Meeting with Stakeholder Working Group.
Stakeholder Meeting	September 24, 2020	Meeting with Stakeholder Working Group.
Stakeholder Meeting	November 19, 2020	Meeting with Stakeholder Working Group.
Public Workshop	March 15, 2021	Public Workshop presenting Draft CAP Document at Sacramento Environmental Commission Meeting.
Stakeholder Meeting	May 11, 2021	Meeting with Stakeholder Working Group.
Stakeholder Meetings	June 2021 through present	Numerous individual meetings with key stakeholders.
Public Hearing	October 25, 2021	Public hearing at Sacramento County Planning Commission presenting Final Draft CAP.
Public Workshop	November 10, 2021	Public meeting at Agricultural Advisory Committee presenting Final Draft CAP.
Board Workshop	March 23, 2022	Board of Supervisors workshop to discuss the Revised Final Draft CAP.

Notes: CAP = climate action plan, GHG = greenhouse gas, VMT = vehicle miles traveled.

Source: Ascent Environmental 2022.

D.2 COMMENT LETTERS RECEIVED FOR DRAFT CAP

Comment letters received by County staff during the 30-day comment period following publication of the Draft CAP and the 30-day comment period following release of the Final Draft CAP, as well as late comments received through May of 2022 are available for review on the County's webpage at: https://planning.saccounty.net/PlansandProjectsIn-Progress/Pages/CAP.aspx.

APPENDIX E – GHG EMISSIONS INVENTORY, FORECAST AND REDUCTION MEASURE QUANTIFICATION

This appendix describes the greenhouse gas (GHG) emissions inventories, target setting, and assumptions used for GHG reduction measure quantification for the Climate Action Plan (CAP).

E.1 COMMUNITY AND GOVERNMENT OPERATIONS GHG INVENTORIES

An emissions inventory provides a snapshot of the major sources of emissions in a single year, while also providing a baseline from which emission trends are projected. The inventory and forecasts are used to develop reduction targets consistent with State mandates that inform the GHG reduction strategies and measures. Inventories can also be updated periodically to track progress on GHG reductions compared to baselines.

In anticipation of preparing a CAP, the County updated its GHG emissions inventories for community and government operations (also described as "internal" operations). The details of this document were published to the County's website[1] and served as the baseline for the CAP. A baseline year of 2015 was selected, based on the data available at the time of preparation. The baseline inventories provide detailed accounting of the sources and quantities of GHG emissions generated from activities occurring in the unincorporated County.

The 2015 community GHG emissions inventory is summarized below in Table E-1 and shown in Figure E-1. The total 2015 emissions from all sectors in the unincorporated County inventory were 4,723,011 metric tons of carbon dioxide equivalents (MT CO_2e).

Table E-1: Sacramento County Community GHG Emissions Inventory - 2015

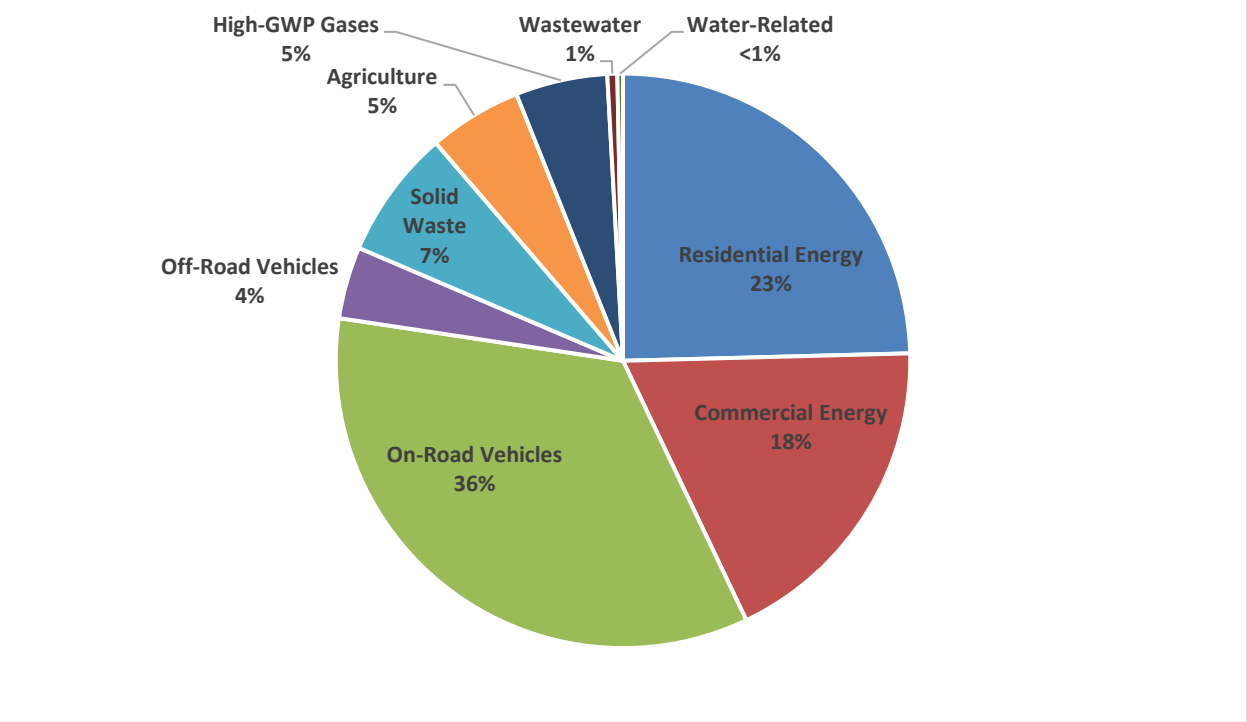
Sector	2015 GHG Emissions (MT CO_2e/year)
Residential Energy	1,086,580
Commercial Energy	843,168
On-Road Vehicles	1,695,127
Off-Road Vehicles	196,769
Solid Waste	352,909
Agriculture	254,899
High-GWP Gases	251,085
Wastewater	27,253
Water-Related	15,222
Total	**4,723,011**

Notes: MT CO_2e = metric tons of carbon dioxide equivalents, GHG = greenhouse gas, GWP = global warming potential.

Source: Ascent Environmental 2022.

[1] https://planning.saccounty.net/PlansandProjectsIn-Progress/Documents/Climate%20Action%20Plan/2015%20Greenhouse%20Gas%20Emissions%20Inventory%20and%20Forecasts_Rev.pdf

Figure E-1: Sacramento County Community GHG Emissions - 2015



Source: Ascent Environmental 2021

The 2015 government operation GHG emissions inventory is summarized below in Table E-2 and shown in Figure E-2. The total 2015 emissions from all sectors in the County's operations inventory were 123,397 MT CO_2e.

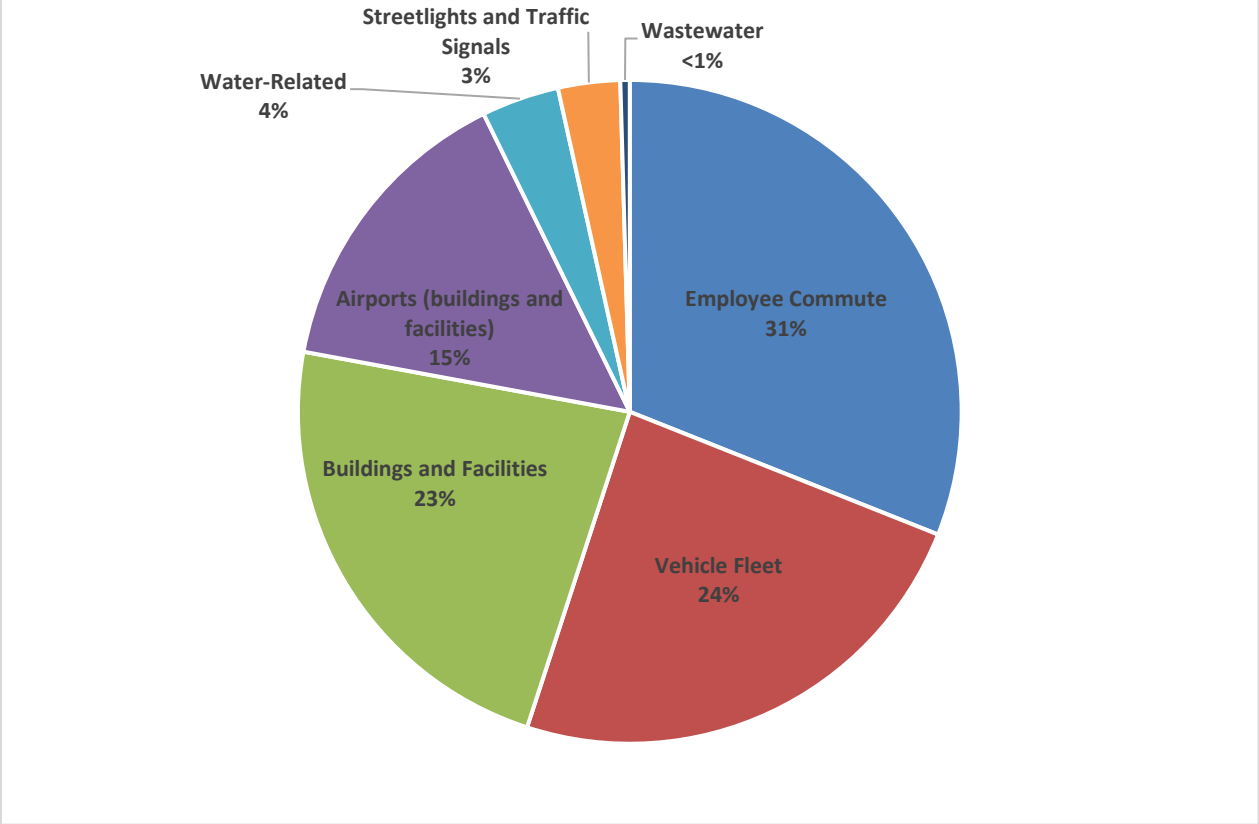
Table E-2: Sacramento County Government Operations GHG Emissions Inventory - 2015

Sector	2015 GHG Emissions (MT CO_2e/year)
Employee Commute	38,290
Vehicle Fleet	29,591
Buildings and Facilities	28,247
Airports (buildings and facilities)	18,310
Water-Related	4,665
Streetlights and Traffic Signals	3,729
Wastewater	565
Total	**123,397**

Notes: MT CO_2e = metric tons of carbon dioxide equivalents, GHG = greenhouse gas.

Source: Ascent Environmental 2022.

Figure E-2: Sacramento County Government Operations GHG Emissions Inventory - 2015



Source: Ascent Environmental 2021

E.2 FORECASTS

GHG emissions forecasts provide an estimate of future GHG levels based on a continuation of current trends in activity, population and job growth, and relevant regulatory actions by federal, State, and regional agencies that have been adopted. Emissions forecasts provide insight into the scale of local reductions needed to achieve GHG emission reduction targets. Emissions forecasts were prepared through 2030 for both the 2015 community and government operations emissions inventories. This forecast year was selected because it is consistent with the horizon year of the Sacramento County General Plan and the State's GHG reduction target year established by State law under Senate Bill (SB) 32. The forecast accounts for a variety of approved federal, State, regional and local policies that will further reduce business-as-usual emissions from the County, as shown in Table 2 of the CAP.

A comparison of the 2015 community baseline GHG emissions and the 2030 forecast is shown in Table E-3. A comparison of the 2015 government operations baseline GHG emissions and the 2030 forecast is shown in Table E-4. Based on the projections, community GHG emissions would be 30 percent below 2015 levels by 2030 and government operations emissions would be 12 percent below 2015 levels by 2030.

Table E-3: Comparison of Community GHG Emissions Inventory Baseline and Legislative-Adjusted BAU Forecast (MT CO_2e)

Sector	2015 Baseline	2030 Forecast
Residential Energy	1,086,580	493,311
Commercial Energy	843,168	300,450
On-Road Vehicles	1,695,127	1,463,349
Off-Road Vehicles[1]	196,769	253,857
Solid Waste	352,909	280,694
Agriculture	254,899	251,102
High-GWP Gases	251,085	245,175
Wastewater	27,253	19,248
Water-Related	15,222	2,526
Total	**4,723,011**	**3,309,712**
Percent change from 2015 (%)	-	**-30%**

Notes: Total may not add due to rounding. BAU = business-as-usual, MT CO_2e = metric tons of carbon dioxide equivalents, GHG = greenhouse gas, GWP = global warming potential.

[1] Emissions from the Off-Road Vehicles sector were estimated using the best available data provided by California Air Resources Board's OFFROAD2007 model. The increase in emissions from 2015 and 2030 is associated with growth in the County, despite improvements in off-road equipment technologies. Future updates to the County's inventory and forecasts will reflect further improvements as well as vehicle and equipment upgrades, resulting in reductions in the emissions intensities of off-road vehicles and equipment.

Source: Ascent Environmental 2022.

Table E-4: Comparison of Government Operations GHG Emissions Inventory Baseline and Forecast

Sector	2015 Baseline	2030 Forecast
Employee Commute	38,290	31,818
Vehicle Fleet	29,591	30,808
Buildings and Facilities	28,247	23,736
Airports (buildings and facilities)	18,310	15,920
Water-Related	4,665	3,498
Streetlights and Traffic Signals	3,729	2,796
Wastewater	565	597
Total	**123,397**	**109,172**
Percent change from 2015 (%)	-	**-12%**

Notes: Total may not add due to rounding. BAU = business-as-usual, MT CO_2e = metric tons of carbon dioxide equivalents, GHG = greenhouse gas.

Source: Ascent Environmental 2022.

E.3 GHG REDUCTION TARGETS

As directed in in the legislation SB 32, described in Appendix A, the State aims to reduce annual GHG emissions to 40 percent below 1990 levels by 2030. The County aims to, at a minimum, reduce its emissions in proportion to the State's goals. Establishing a GHG reduction target is also a requirement for creating a plan for the reduction of greenhouse gases eligible for CEQA streamlining under CEQA Guidelines 15183.5(c).

E.3.1 Community Target

A proportional per capita target for the CAP was developed that would be achieved in 2030 consistent with the State's goal. This is in alignment with the State's recommended Statewide per capita target of 6 MT CO_2e by 2030, adopted by the California Air Resources Board (CARB) in California's 2017 Scoping Plan (CARB 2017). For the purposes of target setting for the County, three non-applicable sectors were removed from the per capita target calculation. Forestry-related emissions from timber-harvesting in the Natural and Working Lands Sector were removed because this activity does not occur in the County. Large industrial and cap-and-trade sectors were removed because these activities are regulated by the State under CARB's cap-and-trade program. Applying the 2017 Scoping Plan's Statewide per capita target specifically to the sectors included in the County's GHG emissions inventory results in emissions of 4.8 MT CO_2e per capita by 2030, or 3,205,398 MT CO_2e, as shown in Table E-5. Comparing this figure to the community 2030 forecast of 3,309,712 MT CO_2e shows that the County's forecast emissions are 104,314 MT CO_2e over the target. This means the County needs to implement additional GHG mitigating strategies and measures to achieve the target aligned with the 2017 Scoping Plan. The gap between the adjusted County target and the GHG emissions forecast to occur without CAP implementation is shown in Figure E-3 below.

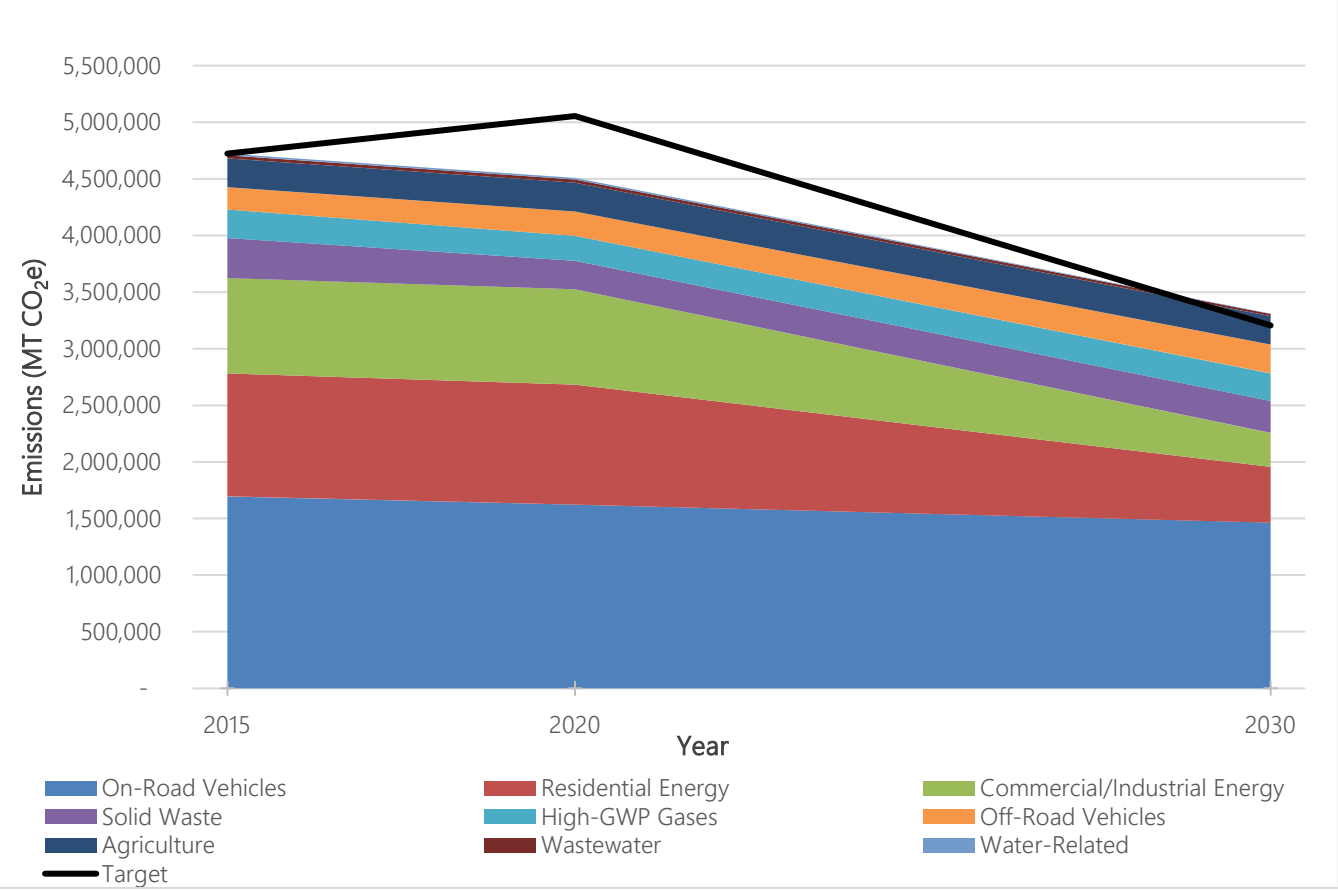
Table E-5: Sacramento County Community GHG Emissions, State Reduction Target

Source	2015	2030
Baseline Emissions and Legislative-Adjusted BAU Forecast (MT CO_2e)	4,723,011	3,309,712
Population	576,007	668,726
Adjusted State Target Per Capita Emissions (MT CO_2e/person)	N/A	4.8
Per Capita Annual Emissions aligned with State Target (MT CO_2e)	N/A	3,205,398
Per Capita GHG Emissions with Legislative Reductions (MT CO_2e/person)	N/A	4.95
Reduction Needed to Meet Target (MT CO_2e)	N/A	104,314

Notes: MT CO_2e = metric tons of carbon dioxide equivalent; N/A = not applicable; BAU = Business-As-Usual; GHG = greenhouse gas.

Source: Ascent Environmental 2022.

Figure E-3: Sacramento County Community GHG Forecast and Reduction Target



Source: Ascent Environmental 2022.

E.3.2 Government Operations Target

Because the County's 1990 emissions levels for internal operations were not estimated, a proportional target for the CAP was developed to compare with the estimated 2015 emissions inventory. To determine the reduction needed from 2015 emissions levels that would be equivalent to the State's targeted reduction from 1990 levels, the State's GHG inventories for 1990 and 2015 were compared. According to the inventories from CARB, the State emitted approximately 431 million MT CO_2e in 1990 and 440 million MT CO_2e in 2015, an increase of 2 percent over 1990 levels. Consequently, to reach 40 percent below 1990 levels, 2015 levels would have to be reduced by 40 percent. Thus, the County's 2030 government operations GHG emissions target is 73,348 MT CO_2e, as shown in Table E-6. The County would need to reduce annual emissions by 35,824 MT CO_2e in 2030, beyond the reductions provided by external policies at the federal, State, regional, and local levels. This gap in GHG reductions needed is shown in Figure E-4 below.

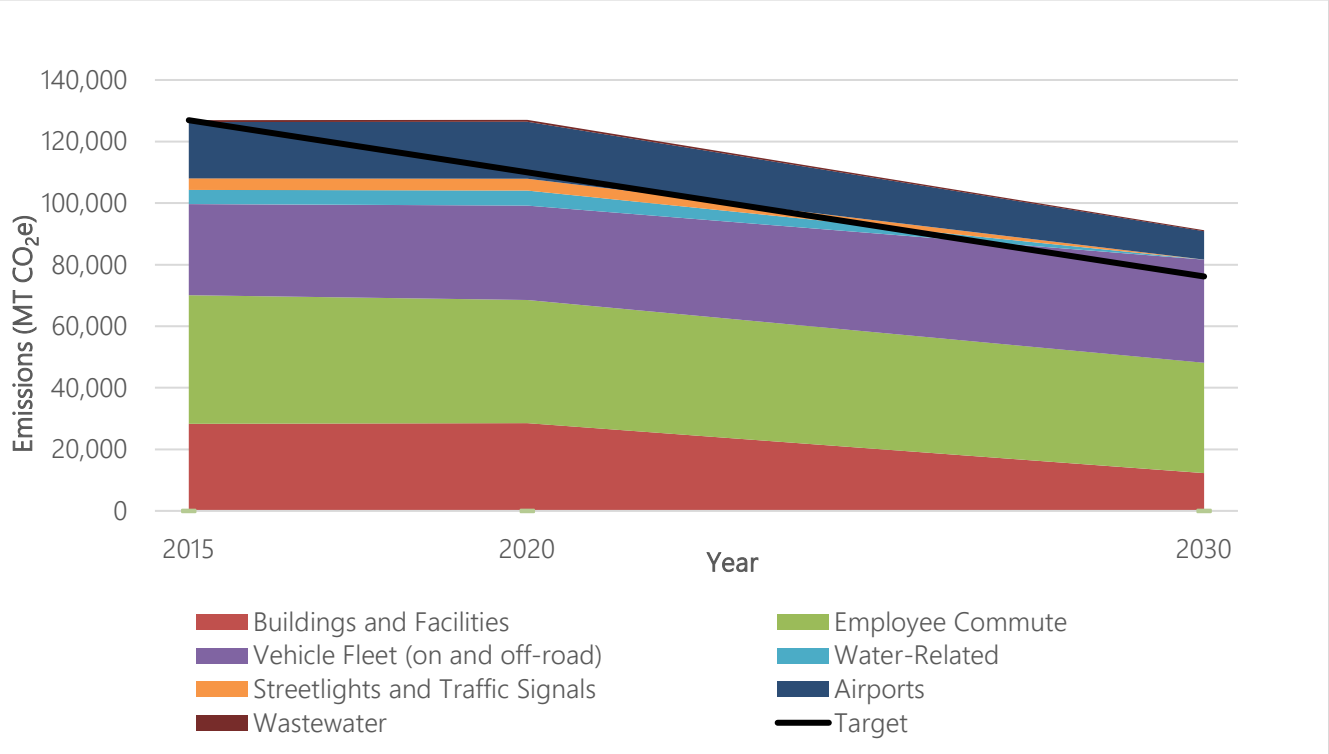
Table E-6: Sacramento County Government Operations GHG Emissions Reduction Targets

Source	2015	2030
Baseline Emissions and Legislative-Adjusted BAU Forecast (MT CO_2e)	122,247	109,172
Target Percent Reduction below Baseline (%)	N/A	40
Target Annual Emissions (MT CO_2e)	N/A	73,348
Reduction needed to meet Target (MT CO_2e)	N/A	35,824

Notes: MT CO_2e = metric tons of carbon dioxide equivalent; N/A = not applicable; BAU = business-as-usual; GHG = greenhouse gas.

Source: Ascent Environmental 2022.

Figure E-4: Government Operations GHG Forecast and Reduction Target



Source: Ascent Environmental 2021

E.4 QUANTIFIED GHG REDUCTION MEASURES

The quantified GHG reduction measures in Section 2 of the CAP will allow the County to close the community emissions gap and meet the 2030 community target aligned with the 2017 Scoping Plan, as well as make progress toward closing an emissions gap for government operations and advance toward community carbon neutrality goals described in the County's climate emergency resolution. Because the quantified measures included in the CAP will result in emissions reductions beyond the County's 2030 target, these measures will serve as an additional backstop to address uncertainty in the GHG reduction benefits of external policies.

SMUD's recently adopted 2030 Zero Carbon Policy serves as an example of how the County's GHG measures will address uncertainty. SMUD is the first public utility in California to adopt an aggressive plan to eliminate GHG emissions associated with electricity generation by 2030. While the County has full

confidence in SMUD's ability to meet their goals, contingencies have been considered in the development of the GHG reduction strategy that would respond to alternative outcomes.

For example, using building electricity data provided by SMUD the County estimated that SMUD's plan to transition to a zero-carbon electricity source would result in additional GHG reductions of 659,862 MT CO_2e in 2030. With the County's GHG reduction measures totaling 482,513 MT CO_2e, the SMUD Zero Carbon Policy could underperform and deliver less than the estimated reductions assumed for the County's GHG inventory forecast, but the County could stay on track to meet an emissions target of 4.8 MT CO_2e per capita in 2030 by implementing all quantified GHG reduction measures in the CAP. While this scenario is unlikely it has nonetheless been considered in the development of this Plan and external policy performance would continue to be evaluated as part of the Implementation and Monitoring protocols described in Section 4 of the CAP.

E.4.1 Modeling Assumptions for Quantified Community GHG Reduction Measures

Table E-7: Modeling Assumptions for Quantified Community GHG Reduction Measures

Measure Number	Measure Name	GHG Emissions Sector	GHG Reductions (MT CO_2e/year) in 2030	Calculation Assumptions
GHG-01	Promote and Increase Carbon Farming	Agriculture	146,934	GHG emissions reductions are calculated using annual per-acre carbon sequestration rates for several conservation practice standards from the USDA Natural Resource Conservation Service's/CDFA's COMET-Planner Tool. Applicable agriculture acres in 2030 were estimated using 2015 baseline data from the County's 2015 Crop and Livestock Report and an anticipated 1% decline per decade scaling factor. Assumed participation rates were derived using established examples and resources, such as the Marin County Climate Action Plan, the State's California 2030 Natural and Working Lands Climate Change Implementation Plan, and data from CDFA's Healthy Soils Program. Importantly, the calculations below appear to show that carbon farming practices are implemented on a total of 81,381 acres in 2030; however, some of the practices are not mutually exclusive and may be applied to the same lands (e.g., reduced till and compost application). Therefore, the actual total number of acres upon which these practices are applied may be less than 81,381 acres. Conservation Measure Carbon Sequestration Rate per COMET-Planner[1]/ (MT CO_2e/acre-year) / Participation Rates (%) / Acres / MT CO_2e Reduced Decrease Fallow Frequency or Add Perennial Crops to Rotation 0.26 / 30 / 27,515 / 7,154 Intensive Till to No Till or Strip Till on Irrigated Cropland 0.49 / 10 / 1,519 / 744

Measure Number	Measure Name	GHG Emissions Sector	GHG Reductions (MT CO_2e/year) in 2030	Calculation Assumptions
				Intensive Till to Reduced Till on Irrigated Cropland 0.059 / 20 / 3,038 / 179 Compost (C/N < or = 11) Application to Annual Crops 2.135 / 20 / 26,253 / 56,049 Compost (C/N > 11) Application to Annual Crops 4.55 / 10 / 13,126 / 59,725 Grazing Management to Improve Irrigated Pasture Condition 0.188 / 30 / 4,965 / 933 Compost (C/N > 11) Application to Grazed, Irrigated Pasture 4.461 / 30 / 4,965 / 22,149 [1] Carbon sequestration rates based on UDSA COMET-Planner. Available: http://bfuels.nrel.colostate.edu/health/COMET-Planner_Report_Final.pdf
GHG-02	Maintain and Enhance Urban Forest	Agriculture	1,681	GHG emissions reductions are calculated using the anticipated addition of trees associated with new construction based on historic trends, which is converted into CO_2 reductions using default carbon sequestration rates for trees in CalEEMod. Total trees planted 2017: 9,911 Total new houses 2017: 5,356 New trees per house: 1.850448 Forecasted new single-family houses by 2030: 25,669 Forecast number of new trees 2030: 47,498 Default Annual CO_2 accumulation per tree for Miscellaneous Trees (MT CO_2e/tree/year) (From Appendix A of CalEEMod v2016.3.1): 0.0354
GHG-04	Increase Energy Efficiency and Electrification of Existing Commercial/ Nonresidential Buildings and Facilities	Energy - Commercial	12,465	GHG emissions reductions are calculated from reductions in electricity use associated with energy efficiency upgrades, from reductions in natural gas use associated with the conversion of water and space heating to electric heat pump technologies, and from promoting energy conservation. The modeling assumes a 10% participation rate in efficiency upgrades, a 30% participation rate in electrification retrofitting programs, and a 10% participation rate in targeted outreach to encourage commercial businesses to reduce energy use. Sq ft per employee: 500, using average of 100,000 sq ft per 200 employees per Sac County development standards Estimated sq ft nonresidential existing buildings, 2030: 73,868,938 kWh per sq ft: 5.26 Therms per sq ft: 0.41 Electricity emissions factor: 0.0360 MT CO_2e per MWh Natural gas emissions factor: 0.00532 MT CO_2e per therm

Measure Number	Measure Name	GHG Emissions Sector	GHG Reductions (MT CO_2e/year) in 2030	Calculation Assumptions
				Part A. Energy Efficiency Upgrades Participation rate: 10% Total electricity savings (MWh): 7,617 Part B. Electrification Retrofit Program Participation rate: 30% Therms of natural gas consumption avoided through upgrades to heat pump water and space heating, 2030. Therms reduced are categorized by land use type based on existing building stock in unincorporated Sacramento County. Large Office: 547,118, Small Office: 101,303, Restaurant: 140,280, Grocery: 38,209, Hospital: 480,774, Hotel: 571,128, K-12 Schools: 171,261, College: 186,302, Retail: 90,002, Warehouse: 12,776. Total: 2,339,151 therms Electricity added through electrification (MWh): 11,250 Part C. Energy Conservation Percent savings per sq ft from conservation outreach: 1% per sq ft. Electricity savings (kWh): 0.05 per sq ft Natural gas savings (therms): 0.004 per sq ft Total electricity savings (MWh): 393 Total natural gas savings (therms) 28,073
GHG-05	Increase Energy Efficiency in New Commercial Buildings	Energy – Commercial	3,936	GHG emissions reductions are calculated using a 10% reduction in forecast electricity and natural gas consumption, associated with adoption of a CalGreen Tier 1 reach code for new commercial buildings. New commercial electricity (MWh): 399,049 New commercial natural gas (therms) 4,697,801 Electricity emissions factor: 0.0360 MT CO_2e per MWh Natural gas emissions factor: 0.00532 MT CO_2e per therm Percent energy reduction from adopting CalGreen Tier 1: 10% Electricity savings (MWh): 39,905 Natural gas savings (therms): 469,780
GHG-06	Increase Energy Efficiency and Electrification of Existing Residential Buildings	Energy - Residential	140,819	GHG emissions reductions are calculated from reductions in electricity use associated with energy efficiency upgrades, from reductions in natural gas use associated with the conversion of water and space heating to electric heat pump technologies, and from promoting energy conservation. Existing residential electricity consumption (MWh): 2,804,198 Existing residential natural gas consumption (therms): 69,610,572 Number of dwelling units (DU): 183,674 kWh per DU: 15,267

Measure Number	Measure Name	GHG Emissions Sector	GHG Reductions (MT CO_2e/year) in 2030	Calculation Assumptions
				Therms per DU: 379 Electricity emissions factor: 0.0360 MT CO_2e per MWh Natural gas emissions factor: 0.00532 MT CO_2e per therm Energy Efficiency and Electrification of Existing Residences Part A. Appliance Upgrades Number of single-family homes: 154,377 (2015 American Community Survey estimate) Number of multifamily homes: 29,297 (2015 American Community Survey estimate) Participation Rates 2030 Percent of DU: 10% Number of DU: 18,367.40 Energy Savings (kWh/DU) [Total kWh Saved 2030] Refrigerator / Freezer Recycling (950) [17,449,030] Variable speed pool pumps (1711) [31,426,621] Clothes Washer - Most Efficient (343) [6,300,018] Clothes Dryers - Emerging Tech (583) [10,708,194] Dishwasher (88) [1,616,331] Refrigerator - Average (93) [1,708,168] Whole House Fan (567) [10,414,315] Windows - Finance only (212) [3,893,888] Home Performance Program (4898) [89,963,525] Low Income Weatherization (1000) [18,367,400] Total electricity savings (kWh): 191,847,493 GHG emissions reduced from energy efficiency ($MTCO_2e$): 6,907 Part B. Electrification of Existing Residential 2030 Percent Electrification of Existing Buildings: 30% Number of single-family homes: 154,377 Number of multifamily homes: 29,297 Single-Family Housing Energy Savings (Annual Therms Avoided) [Annual kWh Added] Heat Pump Water Heater (189) [785] Heat Pump Space Heater (305) [2237] Electric Oven and Induction Cooktop (24) [502] Total Heat Pump Water Heater Savings (8,753,148) [36,355,666] Total Heat Pump Space Heater Savings (14,125,450) [103,602,070]

Measure Number	Measure Name	GHG Emissions Sector	GHG Reductions (MT CO_2e/year) in 2030	Calculation Assumptions
				Total Electric Oven and Induction Cooktop Savings (1,111,511) [23,249,101] Total annual natural gas avoided (therms): 23,990,108 Total annual electricity added (kWh): 163,206,837 Multifamily Housing Energy Savings (Annual Therms Avoided) [Annual kWh Added] Heat Pump Water Heater (99) [364] Heat Pump Space Heater (78) [544] Electric Oven and Induction Cooktop (17) [331] Total Heat Pump Water Heater Savings (870,136) [3,199,287] Total Heat Pump Space Heater Savings (685,561) [4,781,352] Total Electric Oven and Induction Cooktop Savings (149,417) [2,909,242] Total annual natural gas avoided (therms): 1,705,114 Total annual electricity added (kWh): 10,889,880 Total GHG emissions reduced from electrification: 137,356 MT CO_2e Part C. Energy Conservation Target DU participation in outreach program: 15% Target DU participation in monitoring program: 15% Percent savings per DU from aggressive outreach: 1% Percent savings per DU from in-home monitoring: 4% Energy Savings per DU from outreach: Electricity (kWh): 151.7 Natural gas (therms): 3.70 Energy Savings per DU from monitoring: Electricity (kWh): 606.8 Natural gas (therms): 14.8 Savings from outreach: Electricity (kWh): 4,179,670 Natural gas (therms): 101,858 Savings from monitoring: Electricity (kWh): 16,718,680 Natural gas (therms): 407,433 Total electricity savings (kWh): 20,898,351 Total natural gas savings (therms): 509,291 GHG emissions reduced from energy savings (MT CO_2e): 3,462

Measure Number	Measure Name	GHG Emissions Sector	GHG Reductions (MT CO_2e/year) in 2030	Calculation Assumptions
GHG-07	Eliminate Fossil Fuel Consumption in New Residential Buildings	Energy - Residential	48,587	GHG emissions reductions are determined by calculating the avoided GHG emissions associated with forecast natural gas consumption in newly constructed buildings in 2030. Single-Family Housing New single-family DU forecast: 23,210 2019 Title 24 average annual natural gas demand per DU (therms)[1]: 381 2019 Title 24 average annual electricity demand per DU (kWh)[1]: 5,004 All-electric average annual natural gas demand per DU (therms)[1]: 0 All-electric average annual electricity demand per (kWh)[1]: 9,292 Total natural gas savings (therms): 8,831,557 Total electricity added (kWh): 99,526,195 GHG reductions from all-electric single-family DU (MT CO_2e): 43,407 Multifamily Housing New multi-family DU forecast: 7,330 2019 Title 24 average annual natural gas demand per DU (therms)[2]: 146 2019 Title 24 average annual electricity demand per DU (kWh)[2]: 2,960 All-electric average annual natural gas demand per DU (therms)[2]: 0 All-electric average annual electricity demand per (kWh)[2]: 4,943 Total natural gas savings (therms): 1,071,862 Total electricity added (kWh): 14,534,597 GHG reductions from all-electric multifamily DU (MT CO_2e): 5,180 [1] Annual therms demand per DU based off a CEC prototype, single-family home modeled for compliance with 2019 Title 24 building energy efficiency code using CBECC-Res: 380.5 [2] Annual therms demand per dwelling based off a CEC prototype, 8-unit dwelling modeled for compliance with 2019 Title 24 building energy efficiency code using CBECC-Res: 146.23

Measure Number	Measure Name	GHG Emissions Sector	GHG Reductions (MT CO_2e/year) in 2030	Calculation Assumptions
GHG-08	Require Tier 4 Final or Cleaner Construction Equipment	Vehicles - Off-Road	6,370	Off-road construction and mining emissions (MT CO_2e): 127,399 Percent of equipment that are Tier 4 Final: 100% Average percent improvement in fuel efficiency with Tier 4 equipment: 5% Note: In future updates to the County's inventory and forecasts, data from CARB's OFFROAD models will reflect fleet turnover and upgrades as well as improvements to construction and mining technologies, which will result in reductions in vehicle and equipment emissions intensities.
GHG-10	Implement Electric Vehicle Infrastructure Program	Vehicles - On-Road	33,572	Number of new chargers: 2,486[1] Number of connections per charge: 2 Average charging hours per connection per day: 2.8 Number of hours of charge per year for all chargers (hours/year): 5,081,804 Average efficiency of EV LDV (kWh/100-mile): 34 Average efficiency of gasoline LDV (mpg): 42 GHG emissions per mile for average gasoline LDV (g/mi): 325 EV Charger Breakdown and Emissions % Installed / kW / kWh charged amount / Equivalent VMT / MT CO_2e Reduced Level 2 (low) 47% / 3.3 / 7,933,120 / 23,590,815/ 7,373 Level 2 (high) 47% / 6.6 / 15,866,240/ 47,181,629 / 14,746 DC Fast Charging 5% / 45 / 12,323,370 / 36,646,154 / 11,453 [1] The number of new EV chargers was determined using a combination of existing Sacramento County EV data from the California Open Data Portal, existing Sacramento County EV charger data from the Sacramento County EV Readiness and Infrastructure Plan, and the number of new EV chargers countywide needed to meet the State's EV targets.
GHG-11	Reduce Emissions from New Residential and Office/ Business Professional Development Vehicle Miles Traveled	Vehicles - On-Road	22,037	This measure assumes that all new development will demonstrate that project daily VMT per service population is 15% less than the forecasted VMT estimates provided by SACOG for the region, as specified in Sacramento County's Transportation Analysis Guidelines. By establishing VMT thresholds for new development, the policy works to limit new VMT in the County, while prioritizing low-VMT projects that promote more sustainable transportation modes such as walking, biking, transit, car-sharing, and the use of other innovative/emerging technologies.

Measure Number	Measure Name	GHG Emissions Sector	GHG Reductions (MT CO_2e/year) in 2030	Calculation Assumptions
GHG-12	Update Transportation System Management Plan for Nonresidential Projects	Vehicles - On-Road	15,570	This measure assumes that 4.2% of commute-related VMT would be reduced through a required Transportation System Management Plan. This reduction in VMT would result in a reduction in GHG emissions due to an increase in alternative modes of transportation. Implementation could be achieved through a plan check or identifying a Transportation System Management Plan specialist. *Reference: CAPCOA. 2010 (August). Quantifying Greenhouse Gas Mitigation Measures. Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/capcoa-quantifying-greenhouse-gas-mitigation-measures.pdf*
GHG-13	Revise Parking Standards for Nonresidential Development	Vehicles - On-Road	4,634	This measure assumes that limiting parking supply reduces commute-related VMT by 2.5%. Assumes a 50% build out of parking reduction plan by 2030. This reduction in VMT would result in a reduction in GHG emissions due to a decrease in single-occupancy vehicle use. *Reference: CAPCOA. 2010 (August). Quantifying Greenhouse Gas Mitigation Measures. Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/capcoa-quantifying-greenhouse-gas-mitigation-measures.pdf*
GHG-14	Improve Transit Access	Vehicles - On-Road	1,854	GHG reductions determined by calculating a 0.5% reduction to commute passenger VMT for 2030 using the LUT-5 methodology from CAPCOA's Quantifying Greenhouse Gas Mitigation Measures guidance. This assumes a low-range scenario with transit stations located within 3 miles of user. Commute VMT is 45% of the total for unincorporated Sacramento County under SACOG's MTP/SCS. GHG emissions factors per VMT derived from EMFAC emissions modeling for passenger vehicles. *Reference: CAPCOA. 2010 (August). Quantifying Greenhouse Gas Mitigation Measures. Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/capcoa-quantifying-greenhouse-gas-mitigation-measures.pdf*
GHG-15	Improve Pedestrian Network and Facilities	Vehicles - On-Road	1,390	GHG reductions determined by calculating a 0.5% reduction to commute passenger VMT for 2030 using the SDT-1 methodology from CAPCOA's Quantifying Greenhouse Gas Mitigation Measures guidance. Assumes a 75% build out of pedestrian plan improvements by 2030. Commute VMT is 45% of the total for unincorporated Sacramento County under SACOG's MTP/SCS. GHG emissions factors per VMT derived from EMFAC emissions modeling for passenger vehicles.

Measure Number	Measure Name	GHG Emissions Sector	GHG Reductions (MT CO_2e/year) in 2030	Calculation Assumptions
				Reference: CAPCOA. 2010 (August). Quantifying Greenhouse Gas Mitigation Measures. Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/capcoa-quantifying-greenhouse-gas-mitigation-measures.pdf
GHG-16	Implement Traffic Calming Measures	Vehicles - On-Road	927	GHG reductions determined by calculating a 0.25% reduction to commute passenger VMT for 2030 due to increased traffic calming improvements pursuant to SDT-5 methodology described in CAPCOA's Quantifying Greenhouse Gas Mitigation Measures guidance. Assumes 25% of streets and 25% of intersections improved. Commute VMT is 45% of the total for unincorporated Sacramento County under SACOG's MTP/SCS. GHG emissions factors per VMT derived from EMFAC emissions modeling for passenger vehicles. *Reference: CAPCOA. 2010 (August). Quantifying Greenhouse Gas Mitigation Measures. Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/capcoa-quantifying-greenhouse-gas-mitigation-measures.pdf*
GHG-17	Improve Bicycle Network and Facilities	Vehicles - On-Road	348	GHG reductions determined by calculating the VMT reductions from commute passengers using the SDT-5 methodology described in CAPCOA's Quantifying Greenhouse Gas Mitigation Measures guidance. This calculation assumes half of CAPCOA's suggested VMT reduction due to rural context. Commute VMT is 45% of the total for unincorporated Sacramento County under SACOG's MTP/SCS. GHG emissions factors per VMT derived from EMFAC emissions modeling passenger vehicles. *Reference: CAPCOA. 2010 (August). Quantifying Greenhouse Gas Mitigation Measures. Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/capcoa-quantifying-greenhouse-gas-mitigation-measures.pdf*
GHG-24	Increase Organic Waste Diversion	Solid Waste	39,186	GHG reductions determined by calculating the avoided CH_4 emissions associated with the landfilling of organic wastes. Calculations were based on the tonnage of commercial and residential generated waste, forecast from a 2015 baseline and scaled through 2030 using a population growth rate of 1.1% per year. CalRecycle Waste Characterization data for 2017 was used to determine the percentage of waste that is specifically organic. This was converted into GHG emissions using a conversion factor of 0.0128 MT CH_4 per ton. *Reference: CAPCOA. 2010 (August). Quantifying Greenhouse Gas Mitigation Measures. Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/capcoa-quantifying-greenhouse-gas-mitigation-measures.pdf*

Measure Number	Measure Name	GHG Emissions Sector	GHG Reductions (MT CO_2e/year) in 2030	Calculation Assumptions
GHG-25	Convert to Electric Irrigation Pumps	Water	2,204	Data provided by SMAQMD indicates that there were 101 diesel-powered irrigation pumps operating in Sacramento County in 2006. The CAP measure seeks to convert all of these to electric. Modeling assumed that 40% of these existing diesel pumps (n=40) could be converted to electric by 2030. GHG reductions were calculated by applying an emissions factor of 10.21 kg per gallon of diesel fuel from the Climate Registry default values to the estimated fuel consumption associated with these pumps.
Total GHG Reduction from Quantified Measures			**482,513**	

Notes: MT CO_2e = metric tons of carbon dioxide equivalents, GHG = greenhouse gas, carbon dioxide = CO_2, USDA = U.S. Department of Agriculture, CDFA = California Department of Food and Agriculture, CalEEMod = California Emissions Estimator Model, sq ft = square foot, DU = dwelling unit, MWh = mega-watt hour, kWh = kilo-watt hour, mpg = miles per gallon, SACOG = Sacramento Area Council of Governments, VMT = vehicle miles traveled, MTP/SCS = Metropolitan Transportation Plan/Sustainable Communities Plan, CH_4 = methane, SMAQMD = Sacramento Air Quality Management District, CEC = California Energy Commission, EV LDV = light duty electric vehicle, CARB = California Air Resources Board, g = gram, mi = mile.

Source: Ascent Environmental 2022.

E.4.2 Modeling Assumptions for Quantified Government Operations GHG Reduction Measures

GOV-EC-02 EXPAND TRANSIT SUBSIDY PROGRAM

Transit Subsidy Program	2015	2030
Participation rate	4%	10%
Employee Commute Emissions (MT Co_2e)	50,661	43,403
Percent Reduction in employees driving for increased participation in alternative modes	86%	80%
Effect of transit subsidy for part time employees on total employee commute activity	4%	
Total MT CO_2e adjusted for increase in participation rates	41,826	33,334
Total MT CO_2e with constant participation rate from 2015		35,834
GHG Reductions from GOV-EC-02 (MT Co_2e)		**2,500**

Note: MT CO_2e = metric tons of carbon dioxide equivalent. Assumes 86% of employees commute by car, remaining 14% broken down by 1% bike/ped, 4% transit, 8% commute (from commute survey results).

Source: Ascent Environmental 2021.

GOV-FL-01 EXPAND FLEET CONVERSION PROGRAM

Fleet Conversion Program	2015	2030
Average Annual VMT per Light Duty Auto vehicle (excluding police and emergency service vehicles)	7,375	
Number of EVs replacing LDA vehicles in the County's fleet	30	628.2
Total VMT of Evs that replaced Gasoline LDA's		**4,632,741**
EV Fuel Efficiency (kWh/100 miles)	31.0	
EV Emission Factor (g /mile)		-
Emissions from LDA (gasoline) g /mile (based on fleet data)		552.10
Saving per mile from switch from gasoline LDA to EV		552.10
GHG Reductions from Fleet Conversion		2,558
Designated Parking and Charging for EVs and Alternative Vehicles		
	2030	
Number of Chargers	30	
Number of Connections per Charge	2	
Average Charging hours per Connection per day	2.8	
Number of hours of charge per year for all chargers (h/year)	61,320	
Average Efficiency of EV LDV (kWh/100-mi) (1)	34	
Average Efficiency of Gasoline LDV (mpg)	42	
GHG Emissions per kWh in Sacramento (MT CO_2e/kWh)	0	
GHG Emissions per mi for average gasoline LDV (g /mi)	325	
Emissions reductions per EV mi (kg /mi)	0.965226058	

Percent Breakdown of Charger Types	Type of EV Charger	Charger Power (kW or kWh/h) (2)	Equivalent VMT (mi)	EV emissions (MT CO_2e)	Equivalent Gasoline emissions (MT CO_2e)	Emissions reductions (MT CO_2e)
0%	Level 1	1.4	-	-	0	-
50%	Level 2 (low)	3.3	300,874	-	97.65964	97.66
50%	Level 2 (high)	6.6	601,748	-	195.3193	195.32
0%	DC Fast Charging	45	-	-	0	-
					TOTAL	**292.98**
GHG Reductions from Fleet Conversion						**2,558**
GHG Reduction from EV Charging						**292.98**
Total GHG Reductions for GOV-FL-01						**2,851**

Notes: MT CO2e = metric tons of carbon dioxide equivalent, kwh = kilowatt hour, kg = kilogram.

Source: Ascent Environmental 2021, based on fueleconomy.gov, EMFAC 2014.

GOV-FL-02 USE RENEWABLE CNG FOR ON- AND OFF-ROAD FLEETS

Renewable Compressed Natural Gas for On- and Off-Road Fleet	2015	2030
Volume of LNG replaced with renewable LNG (gallons)		1,000,000
LNG Demand in On-Road Fleet (gallons)		955,094
LNG Demand in Off-Road Fleet (gallons)		16,624
Total LNG Displaced (gallons)		**971,718**
LNG emissions per gallon (kg /gal) (from the Climate Registry)	4.46	
Renewable LNG emissions per gallon (kg/gal) (assume biogenic)	0	
Emission Savings per gallon of LNG switched to renewable LNG (kg /gal)	4.46	
GHG Reductions from GOV-FL-02 (MT CO_2e)		**4,333.86**

Notes: kg = kilogram, MT CO_2e = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2021.

GOV-FL-03 USE RENEWABLE DIESEL FOR ON- AND OFF-ROAD FLEETS

Renewable Diesel for On- and Off-Road Fleet	2015	2030
Volume of Diesel replaced with renewable Diesel (gallons)		500,000
Diesel Demand in On-Road Fleet (gallons)		204,671
Diesel Demand in Off-Road Fleet (gallons)		282,596
Total Diesel Displaced		**487,267**
Diesel emissions per gallon (kg/gal) (from the Climate Registry)	10.21	
Renewable Diesel emissions per gallon (kg/gal) (assume biogenic)	0	
Emission Savings per gallon of LNG switched to renewable LNG (kg/gal)	10.21	
GHG Reductions from GOV-FL-03 (MT CO_2e)		**4,975.00**

Notes: kg = kilogram, MT CO2e = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2021.

GOV-BE-01 DEVELOP AND ADOPT GREEN BUILDING POLICY

Green Building Policy	2030
New Buildings	
Electricity consumption from new buildings (MWh)	10,304
Natural gas consumption from new buildings (therms)	235,571
Electricity reduction from CALGreen Tier 1 compliance	10%
Natural gas reduction from CALGreen Tier 1 compliance	10%
Reduced electricity consumption from new buildings (MWh)	1,030
Reduced natural gas consumption from new buildings (therms)	23,557
Existing Buildings	
Reduction policy for all existing municipal buildings	30%
Reduced electricity consumption (MWh)	20,533
Reduced natural gas consumption (therms)	814,630
Total Emissions Reductions	
Emissions reduction from reduced electricity consumption (MT CO_2e)	-
Emissions reduction from reduced natural gas consumption (MT CO_2e)	5,668
GHG Reductions from GOV-BE-01 (MT CO_2e)	**5,668**

Notes: MWh = megawatt hour, MT CO_2e = metric tons of carbon dioxide equivalent.

Source: Ascent Environmental 2021.

GOV-AR-01 REPLACE AIRPORT FLEET

Airport Fleet Electric Vehicle Replacement	2015	2030
Average annual mileage of transit bus per bus	30,000	30,000
Average emissions of CNG bus (MT CO_2e)	48	48
Electricity usage from electric bus (MWh)	64.5	64.5
Emissions factor electric buses (kWh/mile)	2.15	
Emissions from electric buses (MT CO_2e)		-
Number of CNG buses replaced by electric		15.00
GHG Reductions from GOV-AR-01 (MT CO_2e)		**713**

Notes: CNG = compressed natural gas; MWh = megawatt hour, kWh = kilowatt hour, MT CO_2e = metric tons of carbon dioxide equivalent

Source: Ascent Environmental 2021. Based on GREET Fleet Footprint Calculator; Foothill Transit Battery Electric Bus Demonstration Results (http://www.nrel.gov/docs/fy16osti/65274.pdf), http://ngvamerica.org/pdfs/CNG%20Transit%20Bus%20Survey.pdf

REFERENCES

California Air Resources Board. 2017 (November). *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target*. Adopted by the California Air Resources Board on December 14, 2017. Available: https://www.arb.ca.gov/cc/scopingplan/scopingplan.htm. Accessed March 31, 2021.

APPENDIX F: ADDITIONAL OPTIONS CONSIDERED FOR THE CAP

Sacramento County (County) carefully considered a wide variety of potential greenhouse gas (GHG) reduction strategies and measures in the process of developing the Climate Action Plan (CAP). These were evaluated to determine whether they could be feasibly implemented by the County as suggested and would further the goals of the CAP. These include measures identified by the team, as well as suggestions provided by the public.

F.1 STRATEGY OPTIONS

This section contains a description of the strategy options released with the Final Draft CAP and Draft Addendum in September of 2021. The County heard from various stakeholders about the merits of the strategy options through the public review process. In response, elements of the Communitywide Carbon Neutrality Strategy Option have been incorporated into this CAP. Specifically, the County added a target for communitywide carbon neutrality by 2030 that becomes effective upon approval of the Climate Emergency Response Plan described in the County's adopted climate emergency resolution, as identified in Communitywide Carbon Neutrality Strategy Option. The following description of the strategy options has been retained for context.

Strategy options described in this section entail changes to the underlying assumptions used to prepare the CAP, such as modified land uses or setting targets for GHG reduction that were not identified as part of the Phase 1 Strategy and Framework document and General Plan EIR mitigation which served as the basis for preparing this Phase 2 CAP. Because the selection of these options may have implications to resource areas beyond GHG emissions and could be incorporated into the CAP at the discretion of the County BOS, they have each been screened for impacts to other resources as part of the EIR addendum associated with this CAP.

F.1.1 Infill Development Focus

Under this proposed option the County would pursue a strategy that strongly encourages new growth to occur at sites that are designated as infill. While infill development is already encouraged as part of the County's General Plan (Land Use Strategy II, LU-68, LU-82) and in the CAP (GHG-23), this strategy option would revise the proposed CAP and introduce additional policies intended to promote an increased share of anticipated new development toward underutilized sites within existing urbanized areas of the County. Selection of this option would approve the CAP in its current form along with the following changes and additions.

- The Infill Development fee described in GHG-23 would be increased from $1,000 to $2,500 for each Dwelling Unit Equivalent.
- The fees collected from the infill program would be used for a competitive grant program specifically for compact, mixed-use affordable housing projects near transit stations, consistent with General Plan Policy LU-44.

- The Sacramento County Zoning code would be amended to include a definition for "Infill Development" that is aligned with the goals of General Plan Land Use Strategy II, which should include vacant lots within with UPA.
- Language would be inserted into CAP Sections 1.1 Climate Action Plan Purpose and Components and 4 Implementation and Monitoring specifying that the CAP should only be used for streamlining future GHG analyses under CEQA Guidelines Section 15183.5 for projects meeting the County's definition of infill.

F.1.2 Communitywide Carbon Neutrality

As described in Section 4 of the CAP, the Climate Emergency Resolution adopted by the BOS commits the County to take several steps to transition to a countywide carbon neutrality footprint by 2030. Under this option, the following sections of the CAP would be amended to include the following changes aimed at supporting a more immediate transition to carbon neutrality by 2030.

SECTION 1.3 GREENHOUSE GAS REDUCTION TARGETS FOR 2030

- Add to this section a target for communitywide carbon neutrality by 2030 that becomes effective upon BOS approval of the Climate Emergency Response Plan (CERP) described in the County's adopted climate emergency resolution.

SECTION 2 GHG REDUCTION STRATEGY

- Add a measure to the GHG Reduction Strategy that specifies the submittal of the CERP to the BOS for consideration no later than January 1, 2023. Specify that the CERP evaluate the feasibility of additional County actions for GHG reduction supplemental to those indicated in Section 2 of the CAP. These actions would be aimed at closing the emissions gap necessary to reduce countywide emissions to carbon neutrality by 2030. Actions that should evaluated for feasibility in the CERP would include but not be limited to:
  - Prohibiting issuance of business licenses to companies that provide fuels, equipment, and services that result in the combustion of fossil fuels.
  - Adopting an ordinance that requires all existing residential and non-residential buildings to undergo retrofitting to eliminate natural gas consumption when the property is sold to another party (point-of-sale).
  - Modified versions of the measures described in section F.2 of this appendix, that would allow the measures to become feasibile for implementation by the County.
  - Implementing toll roads on major County thoroughfares with congestion pricing to reduce GHG emissions from VMT associated with daily commuting.
  - Issue a moratorium on new building permits if countywide emissions are exceeding 2.0 $MTCO_2e$ per capita in 2026. This is based on the projection shown in Table 4.2-1 illustrating a linear drawdown of community GHG emissions from an observed baseline of 8.2 $MTCO_2e$ in 2015 to a carbon neutral level of 0 $MTCO_2e$ per capita in 2030.

Table F.1: Carbon Neutral GHG Reduction Projection

Year	MT CO_2e	County Population	MT CO_2e Per Capita
2015	4,723,011	576,007	8.2
2016	4,408,143	582,188	7.6
2017	4,093,276	588,370	7.0
2018	3,778,409	594,551	6.4
2019	3,463,541	600,732	5.8
2020	3,148,674	606,913	5.2
2021	2,833,807	613,095	4.6
2022	2,518,939	619,276	4.1
2023	2,204,072	625,457	3.5
2024	1,889,204	631,638	3.0
2025	1,574,337	637,820	2.5
2026	1,259,470	644,001	2.0
2027	944,602	650,182	1.5
2028	629,735	656,363	1.0
2029	314,867	662,545	0.5
2030	0	668,726	0.0

Source: Ascent Environmental 2021.

SECTION 4 IMPLEMENTATION AND MONITORING STRATEGY

- Assign the Climate Emergency Mobilization Task Force to begin immediate work on preparing the Climate Emergency Response Plan under guidance of the CEO.
- Expand the list of eligible Task Force participants to include professionals with backgrounds in sociology, law, environmental justice, energy, and economics.

F.1.3 Carbon Neutral New Development

Under this strategy option the CAP would be amended to add a new GHG reduction measure that would require future development projects needing an amendment to the Urban Policy Area (UPA) and/or Urban Services Boundary (USB) to demonstrate zero net GHG emissions from project construction and operation. To demonstrate this, a GHG analysis would be required for inclusion in project applications that calculates project GHG emissions during construction and full buildout and reduces these emissions to 0 MT CO_2e through advanced project designs that incorporate energy efficiency, renewable energy generation, clean transportation, carbon sequestration, and/or investments in initiatives with validated GHG reduction benefits. The GHG analysis would also calculate the loss of carbon sequestration capacity of the proposed development project area. The combination of these analyses would take into account the loss of carbon sequestration as well as the increase in GHG emissions associated with the development proposals.

The new measure would read as follows:

REQUIRE CARBON NEUTRAL NEW GROWTH

- The County will require development projects that apply for an amendment to the Urban Policy Area (UPA) and/or Urban Services Boundary (USB) to demonstrate that they at least achieve carbon neutrality. Such development projects shall include all feasible on-site GHG and VMT reduction measures and may include off-site measures from this CAP. The off-site measures shall be subject to review and verification by the County or a qualified third party. If approved, projects would be required to demonstrate that identified reductions occur during implementation. This measure does not prevent the County from imposing additional GHG reduction measures on a project based on the current state of climate science available at the time of approval.

Under existing General Plan policies, proposed master plans outside of the UPA and USB are already required to submit justification statements (LU-119) and demonstrate compliance with design and performance standards (LU-120) prior to the County considering approval of the project. A carbon neutral development standard identified in the CAP would become part of these existing requirements. Specifically, LU-120 states "the County shall only consider approval of a proposed UPA expansion and/or Master Plan outside of the existing UPA if the Board finds that the proposed project is planned and will be built in a manner that: meets all of the requirements per PC-1 through PC-10 and meets ONE of two alternative performance metrics: Alternative #1- Criteria-Based or Alternative #2 VMT/GHG Emissions Reduction Metric." Within these requirements PC-8, contained in the General Plan Land Use Element, specifies that the project must demonstrate "consistency with all applicable County adopted plans not sought to be amended by the proposed project." A plan consistency check at this stage could include a County adopted CAP that contains a measure requiring carbon neutrality in new development outside of the UPA established in the General Plan. Such a requirement could be supplemental to the existing Alternative #2 VMT/GHG metric, which addresses GHG emissions exclusively from the transportation sector of project construction and operations. To ensure that applicant-submitted carbon neutrality plans are proposing GHG reduction strategies with legitimate long-term benefits, the implementation and responsibility details of the CAP measure would specify the involvement of a third-party agency or registry body to assist County staff with reviewing that portion of the application.

F.1.4 Adaptation-Focused CAP

The CAP's GHG forecast shows that the County is already on track to meet the 2020 General Plan target without further action and making significant progress towards meeting a 2030 GHG target aligned with California's SB 32 target and the 2017 Climate Change Scoping Plan. Because counties are not required by State law to adopt either CAPs or GHG reduction plans, the County could pursue a strategy option that focuses on the adaptation measures contained in Section 3 of the CAP. This plan would remain responsive to the climate risks identified in the vulnerability assessment but would not adopt additional GHG reduction measures. Instead, the GHG reduction measures would be reported in an appendix for use if periodic re-inventorying of GHG emissions shows the 2030 target is no longer met and additional reductions are necessary. This would maintain the ability to retain CEQA streamlining.

Community and Municipal GHG reduction strategies currently contained in Section 2 would be moved from the main CAP document and placed into a separate appendix. The Climate Change Adaptation strategy in Section 3 and associated implementation measures in Section 4 would remain in the main CAP

document to comprise the County's primary strategy for addressing climate change. GHG reduction plans and programs contained in the appendix could then be considered for implementation on a case-by-case basis, contingent on the availability of staffing and funding. This option would not position the County to achieve the Climate Emergency Resolution's goal of carbon neutrality by 2030. This option would be consistent with the County's adopted General Plan and climate change mitigation described in the GP EIR. The adopted General Plan specifies that the CAP must work toward a 2020 GHG reduction goal but does not mention 2030 as a target year. General Plan Policy LU-115, which was added in response to GP EIR mitigation measure CC-1 states "it is the goal of the County to reduce greenhouse gas emissions to 1990 levels by the year 2020. This shall be achieved through a mix of State and local action." A 2020 target for GHG emissions was further discussed in a first-phase CAP adopted by the County in 2011 in compliance with GP EIR mitigation measure CC-2. The second-phase CAP now under consideration is required by CC-2 to contain information on measures and programs, timelines, economic analyses, and estimated reductions. This information would be included as part of the appendix containing GHG reduction strategy and measure options.

F.2 MEASURE OPTIONS

F.2.1 SMUD Greenergy - Residential

Encourage residential users to enroll in the Greenergy program, by providing a rebate of $72 to residents to offset the first year of enrollment in the program. To qualify, residents will be required to complete a form and submit one year of utility bills to the County to validate enrollment in the program.

REASONS FOR DISMISSAL

This measure lacks an identified funding source and would require development of a County program to administer the rebate and further develop the requirements and restrictions. This measure is also specific to a program that SMUD could change or suspend, at their discretion. Further, the Greenergy program will be obsolete by 2030 with SMUD's carbon neutral targets.

F.2.2 SMUD Greenergy - Commercial

Encourage commercial users to enroll in the Greenergy program or the SMUD Solar Shares Program to obtain 100 percent of their electricity use from renewable energy sources. To encourage this participation the County will support SMUD with marketing this program. Additionally, the county can provide information to SMUD about locations where solar development may be preferred and provide outreach to businesses about opportunities to develop solar on empty lots, parking lots and on building rooftops.

REASONS FOR DISMISSAL

Identification of preferable locations for solar development should occur in conjunction with an update of the Energy Element as was called for in the GP and its EIR in 2011. This measure is also specific to a program that SMUD could change or suspend, at their discretion. Further, the Greenergy program will be obsolete by 2030 with SMUD's carbon neutral targets.

F.2.3 Require All-Electric Construction for Other Building Types

Establish targets for when commercial and high-rise residential buildings should be required to go all electric. This could be tied to CEC cost-effectiveness determinations. A phase-in approach like this, linked to future CEC actions, provides more guidance for public and private actors looking to move development forward under the Plan, and provides enough specificity to determine when an action or ordinance is not in compliance with the Plan.

REASONS FOR DISMISSAL

Cost effectiveness for reach codes for all electric buildings has not been broadly demonstrated for all commercial building types. Precedents for local government ordinances to "ban" natural gas in commercial buildings contain language that allows exemptions based on technological, economic, and political factors.

F.2.4 Electric School Buses

The County will work with regional partners, such as the Board of Education, SMUD, SACOG, the SMAQMD, and local school districts, to find initial startup and continual operating funding for electric-powered school buses.

REASONS FOR DISMISSAL

The County's Office of Education is focused on curriculum development and training. School districts have greater discretion regarding electrification of school buses. This measure was dismissed because it was identified as undesirably ambiguous, with unspecified enforcement and schedule.

F.2.5 Park-and-Ride Lots

The County will work with cities, SACOG, and neighboring regions to increase presence of park-and-ride facilities near residential centers, in order to increase ridesharing.

REASONS FOR DISMISSAL

There is a lack of evidence that there is a deficit of parking near transit hubs, which could limit the effectiveness of this measure. Moreover, park-and-ride lots may be in conflict with emerging mobility technology and other CAP policies focused on reducing parking. The measure is also depended on the presence of functional transit near established residential areas.

F.2.6 Public Transportation for Tourists

Collaborate with the Sacramento Transit Authority, Sacramento Regional Transit District, AMTRAK, and the Federal Railroad Administration to bring tourists to, from and within Sacramento on public transportation.

REASONS FOR DISMISSAL

Connection to GHG reduction cannot be demonstrated. Unclear which County destinations would draw consistent tourism.

F.2.7 Limit Refrigerants in Stationary Air Conditioning With a Global Warming Potential Greater Than 750

Support implementation of the State's regulation regarding refrigerants with global warming potential values over 750.

REASONS FOR DISMISSAL

New State regulations approved in December 2020 cover the intent of this measure. This measure was dismissed from further evaluation because it would not result in GHG reductions beyond levels that compliance with State regulation would otherwise achieve.

F.2.8 Drought Tolerant Landscaping

The County will coordinate with water districts to develop County-specific incentives for drought-tolerant landscaping in new and existing residential developments.

REASONS FOR DISMISSAL

This measure unnecessarily incentivizes compliance with established State guidance for drought tolerant landscaping in new developments and extends the incentive to existing development. The County has limited ability to implement and track conversion of landscaping in existing development.

F.2.9 Existing Structure Reuse

The County will encourage the retention of existing structures and promote their adaptive reuse and renovation with green building technologies.

REASONS FOR DISMISSAL

This measure was dismissed because it was identified as undesirably ambiguous, with unspecified priorities for preservation. Further, the measure has limited GHG reduction potential and preservation of these structures is already covered by historic preservation regulations.

F.2.10 Reduce Urban Heat Island Effect

The County will reduce urban heat island effects through the following actions:

- Encourage solar parking canopies to provide shade in urban areas.
- Amend the Zoning Code to include a more robust shade requirement.

- Conduct parking lot shade enforcement through site inspection to ensure that 50 percent shading is achieved by 15 years (Zoning Code section 5.2.4.C).
- Work with business owners and residents to monitor and ensure landscaping and shading objectives are being met.

REASONS FOR DISMISSAL

This measure was dismissed because it was identified as undesirably ambiguous and duplicative of established County programs, including the zoning code and design review process.

F.2.11 Expedite, Reduce, and Exempt Permits

The County will expedite the permit process, reduce or waive fees, or exempt permits associated with water conservation installations in existing facilities.

REASONS FOR DISMISSAL

This measure was dismissed because permits are required where an underlying public health or safety concern creates a nexus for County oversight. It would not be appropriate to exempt a permit to incentivize a desired outcome. Additionally, fees are in place to recuperate costs of implementation. A separate program would be necessary to identify and procure funding to offset the cost of fee reductions that would be applied to permits that improve water conservation.

F.2.12 River-Friendly Landscaping

The County will collaborate with watershed organizations, school districts and others to seek funding to construct river-friendly community demonstration gardens throughout the Sacramento County Water Agency service area.

REASONS FOR DISMISSAL

This measure was dismissed because there is not a clear connection to substantial GHG reduction.

F.2.13 Rain Capture

The County will promote the use of rain barrels and rain gardens, which allow for capture of rainwater for reuse in landscaping.

REASONS FOR DISMISSAL

This measure was dismissed because the GHG reductions could not be substantiated. Further, other County departments already have similar programs. The County has already published guidance on this and included this in the municipal code.

F.2.14 Low Impact Development

The County will develop and adopt low impact development standards, policies, and update codes and ordinances to require low impact development for new development and redevelopment priority projects to reduce stormwater runoff.

REASONS FOR DISMISSAL

This is a requirement of compliance with the 2018 Stormwater Quality Design Manual. This measure is redundant and would not result in additional GHG reductions.

F.2.15 Water Conservation Regulations

The County will amend Section 5.2.4 of the Zoning Code to comply with the California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO) to ensure new development increases water conservation, as is stated in General Plan Policy CO-16.

REASONS FOR DISMISSAL

The County operates under, and is required to enforce, the MWELO anyway as it is now part of CALGreen. This measure is redundant and would not result in additional GHG reductions.

F.2.16 Electrification of Existing Buildings

By 2021, the County will develop policies or incentive programs in partnership with utilities, nonprofits, and the private sector, estimated to result in 25 percent of existing residential and small commercial buildings transitioning to all-electric by 2030.

REASONS FOR DISMISSAL

This measure is similar to two measures already included in the CAP. Through Measure GHG-06: Increase Energy Efficiency and Electrification of Existing Residential Buildings, the County will assist local utilities with increasing participation in residential retrofit and conservation programs to achieve a reduction in energy consumption, with a 2030 participation goal of 10 percent for energy efficiency upgrades, 15 percent for energy conservation through outreach and monitoring, and 30 percent for electrification. Through Measure GHG-04: Energy Efficiency and Electrification of Existing Commercial/Nonresidential Buildings and Facilities, the County will develop a program aimed at assisting local utilities with implementing commercial energy efficiency and electrification programs to achieve reductions in energy consumption, with the goal of 10 percent of existing businesses participate in energy efficiency upgrades, 10 percent for energy conservation through outreach and monitoring, and 30 percent for electrification.

F.2.17 Sustainable Land Use Strategy

Support infill growth that is consistent with the regional Sustainable Communities Strategy to ensure: 90 percent of the cities' growth is in the established and center/corridor communities and is 90 percent small-lot and attached homes by 2040.

REASONS FOR DISMISSAL

The County is a member of SACOG and is already participating the Sustainable Community Strategy. A CAP measure reinforcing the strategy is unnecessary and would not result in additional GHG reductions.

F.2.18 Encourage Infill Development in Transit Priority Areas, Designated-Green Zones, And in the County's Commercial Corridors

Between now and 2030, the County will focus its limited development resources on infill housing and mixed-use development in designated Commercial Corridors, transit-priority areas, and Green Means Go zones. This development is broadly characterized as three- to ten-story housing and mixed-use structures in transit-served areas.

REASONS FOR DISMISSAL

Not clear what "limiting development resources" entails. County staff reviews development proposals, but the resources (e.g. capital and labor) to develop projects typical comes from private entities. Limitations on types of development could inhibit the County's ability to meet housing needs identified in the 2030 General Plan. The County has already adopted a resolution identifying Green Zones in support of Green Means Go.

F.2.19 Increase the Number of Residents Near Parks And Open Space

Increase to 65 percent the proportion of residents within half a mile of parks and open space.

REASONS FOR DISMISSAL

This measure was dismissed from further analysis due to concerns with the feasibility of creating new parks and open areas within developed communities.

F.2.20 Measure Jobs Housing Balance

The County will encourage a balance between job type, the workforce, and housing development to reduce the negative impacts of long commutes and provide a range of employment opportunities for all county residents through Policies ED-3 and ED-8 of the General Plan Economic Development Element and associated implementation measures.

REASONS FOR DISMISSAL

This measure would encourage a jobs to housing balance through implementation of existing general plan policies related to sustainable development patterns and planning for mixed land uses in new growth areas. This measure was dismissed from further consideration due to concerns about necessity and feasibility in light of the State's goal to streamline housing development.

F.2.21 Green Job Training

The County will support the efforts of local colleges, universities, and community-based organizations to provide green job training in disadvantaged communities.

REASONS FOR DISMISSAL

This measure was dismissed from further consideration due to concerns about efficacy and feasibility. The County cannot, at this time, articulate what supporting green jobs training would entail.

F.2.22 Develop McClellan as a Research, Education, and Job Training Facility

Develop McClellan as a research, education and job training facility for low-income residents to learn skills and accept jobs in regenerative agriculture for home gardens and commercial enterprises, solar development and installation services, hydroponic food production, tree planting for food and carbon sequestration, green construction, staffing and running resiliency hubs for emergency response including extreme heat, flooding, wildfires and poor air quality, food or water scarcity.

REASONS FOR DISMISSAL

This measure was dismissed from further consideration due to feasibility, cost, and anticipated GHG reductions.

F.2.23 Renewable Energy Development Center

Partner with universities, community colleges and businesses to become a renewable energy development center that can consult to other communities locally and internationally. Develop expertise in green construction and green chemistry similarly that produce local jobs and bring revenue into Sacramento County for consulting services supplied outside of the County.

REASONS FOR DISMISSAL

This measure was dismissed from further consideration due to feasibility, cost, and anticipated GHG reduction.

F.2.24 Innovation Center at Mather Airfield

Assess and develop opportunities for Mather Airfield to become an innovative center for solar-powered (and other alternatives to fossil fuel energy generation) aircraft development, production and passenger flights.

REASONS FOR DISMISSAL

This measure was dismissed from further consideration due to feasibility and cost.

F.2.25 American River Preservation

Stop all development along the American River and preserve or reclaim the natural habitat on each side of the river to a prescribed distance to draw tourists seeking peace and tranquility away from urban congestion, to improve the quality of life in Sacramento and to eliminate carbon release and sequester carbon.

REASONS FOR DISMISSAL

This measure was dismissed from further consideration due to feasibility and cost. The adopted American River Parkway Plan already exists.

F.2.26 Preserve Lands Identified in the SSHCP Voluntary Conservation Targets

Prioritize work to ensure that the blue oak woodland and associated habitats conservation goal in the northeast portion of the SSHCP Plan area laid out in the Appendix J "above and beyond" conservation" targets are realized. This will have the benefit of preserving important GHG sequestration resources while also providing protection for the only large remaining connectivity corridor to join the south and the north county in the eastern portion of the county.

REASONS FOR DISMISSAL

This measure was dismissed from further consideration due to feasibility and cost.

F.2.27 Connected Open Space System

The County will ensure that new development increases connections and removes barriers to open space, and increases green and open spaces including trails, in all new communities, connecting with existing communities through Policies OS-11 and OS-12 of the General Plan Open Space Element and associated implementation measures.

REASONS FOR DISMISSAL

General Plan Policies OS-11 and OS-12 currently require that the County establish trail connections and linkages within the County and across jurisdictional boundaries that are compatible with existing land uses and seek to establish greenbelts to serve as habitat corridors and community separators. This measure would not provide any enhanced potential for the County to enforce these existing requirements and was dismissed from further consideration.

F.2.28 Electrification of Agriculture

Require 100 percent of agricultural equipment to be converted to electric and 100 percent electrification of irrigation pumps by 2030.

REASONS FOR DISMISSAL

This measure was dismissed because it is not feasible for the County to mandate conversion of private equipment.

F.2.29 County Composting Program

Establish a County Composting Program that incorporates the community food waste and green waste which can then provide quality compost for the community and the County's use.

REASONS FOR DISMISSAL

This measure was dismissed because it is similar in intent to MEASURE GHG-02: INCREASE ORGANIC WASTE DIVERSION in the CAP, implementation of which would require the County to increase local capacity for composting and processing of organic wastes.

These GHG reduction strategies and measures would be implemented by Sacramento County to reduce emissions from internal operations.

F.2.30 Produce Energy on County Property

Produce 3 GW of new distributed energy resources on County property in the first three years of the CAP.

REASONS FOR DISMISSAL

Already covered by General Plan Policies PF-76, PF-77, and Measure GOV-BE-02.

F.2.31 Buy Clean Policy

The County will adopt a buy clean policy pursuant to AB 262 for the County to purchase construction materials from manufacturers that have invested in cutting their GHG emissions for all County projects.

REASONS FOR DISMISSAL

This recommendation describes legislation, AB 262, that is applicable State government agencies. Measures GOV-FL-01, GOV-FL-02, GOV-FL-03, GOV-WA-03, and GOV-BE-01 will commit the county to making procurement choices for vehicle flees and fuels, water equipment and green buildings that result in reduced GHG emissions.

F.2.32 Energy-Efficient Taxiway Lighting

The County will install and maintain LED taxiway lighting and signage during major taxiway renovations and upgrades.

REASONS FOR DISMISSAL

This measure was dismissed from further consideration because it is continuation of existing practice and would not result in substantial GHG reductions.

F.2.33 Solar Power at Sacramento International Airport

The County will continue to procure at least 30 percent of airport electricity demand from renewable energy sources.

REASONS FOR DISMISSAL

This measure was dismissed from further consideration because it is continuation of existing practice and would not result in substantial GHG reductions.

F.2.34 Replace Turf with Plants that are Low Water Use

Replace turf with natives and plants that reduce water demands, not just maintaining turf more efficiently.

REASONS FOR DISMISSAL

The County had adopted the MWELO which contains standards for drought tolerant vegetation types. The intent of this measure is covered by CAP Measure GOV-WA-02 requires the County to evaluate irrigation practices for existing turf to achieve water savings.

F.2.35 Engage in Research on the Effects of a Warmer Climate on the Agricultural Industry

- Subsidize research efforts on breeding crops that are resilient to high heat and low-chill winters, shading of crops and installation of light reflectors, and reducing rates of tilling to promote soil health and combat increased temperatures as recommended by the Climate Change Consortium and the California Climate and Agriculture Network (CalCAN) (CDFA 2013; CalCAN 2011).
- Engage in research on the potential effects of a warmer climate on the agricultural industry as well as the resulting challenges and opportunities with existing organizations and groups including, but not limited to, CalCAN. Challenges facing the agricultural industry are loss of chill hours, increased populations of or new species of pests, and higher rates of evapotranspiration. Conversely, a warmer climate could produce opportunities for Sacramento County to grow crops that were previously unsuitable to the historical climate.

REASONS FOR DISMISSAL

This measure was dismissed from further analysis due to concerns related to the County's ability to feasibly implement a measure that requires subsidizing and participating in scientific research.

F.2.36 Map Critical Infrastructure in Previously Burned Areas and in Locations Vulnerable to Wildfires and Upgrade Infrastructure Where Applicable

- Map locations of communication, energy, public service, and transportation infrastructure in previously burned areas and in areas that are vulnerable to wildfires.

- In cases where existing communication, energy, public service, and transportation infrastructure are located in previously burned areas, work with providers to allocate resources to repair damaged infrastructure (e.g., replace signage and guardrails, repair roads, reconnect electrical wiring).
- In cases where existing communication, energy, public service, and transportation infrastructure are found to be vulnerable to wildfires, work with providers to bolster and/or upgrade associated infrastructure to be more resilient to wildfire damage (e.g., use of materials that are resistant to high heat levels).

REASONS FOR DISMISSAL

This measure was dismissed from further analysis due to concerns related to the County's ability to feasibly implement a measure that requires upgrade of infrastructure that is not owned or operated by the County.

F.2.37 Establish An Underground Utilities Program

- Partner with SMUD and PG&E to establish an Underground Utilities Program to underground overhead power lines in appropriate areas of the unincorporated County to increase the resiliency of the energy grid, particularly in existing communities.

REASONS FOR DISMISSAL

This measure was dismissed from further discussion because other measures, such as enhanced above ground design and construction standards, preventative monitoring, infrastructure inspections and maintenance, may already serve the intended goal and would be more cost-effective than establishing a new undergrounding utilities program. Secondly, SMUD's System Enhancement Strategic Directive already offers undergrounding or permeant relocation of existing primary lines when feasible and determined to be in the public's interest.

REFERENCES

CalCAN. *See* California Climate and Agriculture Network.

California Climate and Agriculture Network. 2011 (March). *Ready…Or Not? An Assessment of California Agriculture's Readiness for Climate Change.* Available: http://calclimateag.org/wp-content/uploads/2011/03/ready-or-not-full-report.pdf. Accessed: January 12, 2017.

California Department of Food and Agriculture. 2013. *Climate Change Consortium for Specialty Crops: Impacts and Strategies for Resilience*. Available: https://www.cdfa.ca.gov/environmentalstewardship/pdfs/ccc-report.pdf. Accessed: January 12, 2017.

CDFA. *See* California Department of Food and Agriculture.

APPENDIX G: GHG REDUCTION MEASURE COST ANALYSIS

Costs and benefits can be an important consideration for communities to determine the resources needed to implement GHG reduction measures. A qualitative cost-benefit analysis is included for GHG community measures in Table G-1 and for government operations measures in Table G-2. This analysis includes a high-level assessment of the administrative costs for the County to implement the measures, considering staff time and resources needed to create policies and enforce actions associated with the measure. The total staff time and resources needed are estimated and reported using a ranking of low ($), medium ($$) or high ($$$), focusing on measures where information could be obtained. The analysis also describes the costs and/or benefits of these measures to the community based on a review of academic research, white papers, and articles and cites the sources used to obtain this information. Tables G-3 and G-4 provide information on SMUD energy efficiency and decarbonization incentives.

Table G-1: Cost Analysis of Community GHG Reduction Measures

Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
GHG-01	Promote and Increase Carbon Farming	$$$		
GHG-02	Maintain and Enhance Urban Forest	$	A 25 foot tree reduces annual heating and cooling costs of a typical residence by 8 to 12 percent, producing on average a $10 savings per household. A mature tree canopy reduces air temperatures by 5-10° F, influencing the internal temperatures of nearby buildings	https://www.naturewithin.info/Policy/EconBens-FS3.pdf
GHG-03	Support Urban-Rural Agricultural Connections	$		
GHG-04	Increase Energy Efficiency and Electrification of Existing Commercial/Nonresidential Buildings and Facilities	$$	Retro-commissioning costs up to $0.40 per square foot but saves around $0.27 sq ft from 15% energy savings with a payback period of 0.7 years. Annual non-energy savings, such as extended equipment life and improved air quality are valued at approximately $0.26 sq ft.	Rules of Thumb Energy Efficiency in Buildings, EPA, 2016 https://www.epa.gov/sites/production/files/2016-03/documents/table_rules_of_thumb.pdf
GHG-05	Increase Energy Efficiency and Electrification of New Commercial/Nonresidential Buildings and Facilities	$	Incremental cost increases for bringing a medium size office building 10 percent above the 2016 code were $51,988. The largest contributor to these costs are upgrades to higher efficiency windows. Study based on IOU utility rates in 2016 showed that CALGreen Tier 1 in Sacramento's Climate Zone 12 were cost effective in the long-term. To support a reach code this study would need to be recreated to consider new 2019 energy codes and SMUD utility rates.	https://efiling.energy.ca.gov/GetDocument.aspx?tn=223015-5 (page 142)

Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
GHG-06	Increase Energy Efficiency and Electrification of Existing Residential Buildings	$$$	Costs for building efficiency retrofits are highly variable, but SMUD offers a wide range of rebates to offset these costs. See Table G-3	https://www.smud.org/en/Rebates-and-Savings-Tips/Rebates-for-My-Home
GHG-07	Eliminate Fossil Fuel Consumption in New Residential Buildings	$$$	Incremental cost increases for electrifying new residential construction are $3,081 for single family and $3,088 per unit for multi-family. Cost savings are achieved by eliminating natural gas connections and bill reductions. These savings offset incremental costs, in the long term and lead to cost effectiveness for single-family electrification, according to a 2018 study in the city of Palo Alto.	https://cityofpaloalto.org/civicax/filebank/documents/66742
GHG-08	Require Tier 4 Final Construction Equipment	$$$	Manufacturers have estimated the cost increases for Tier 4 equipment to be between 2 and 7 percent of the total purchase price of a given machine. The incremental cost to reach Tier 4f from Tier 3 is estimated to be less than $785 for heavy duty vehicles. Off-road equipment rated at the higher end of the power range shows similar cost numbers. (ICCT 2018)	http://www.rentalmanagementmag.com/Art/tabid/232/ArticleId/18896 https://www.theicct.org/sites/default/files/publications/Non_Road_Emission_Control_20180711.pdf
GHG-09	Establish Program to Trade in Fossil Fuel–Powered Landscaping Equipment for Electric Equipment	$$	AGZA estimates for a single commercial-grade electric leaf blower, a busy contractor can expect a return on investment as early as 12 months. After that, the savings that come from eliminating gas and oil alone range from $800 to $1,600 per year. If you include maintenance costs, the savings become even greater. " Comparison of lawnmower types based on 10 year total cost of ownership: Gas push mower: $725, Corded electric push mower: $359, Cordless electric push mower: $506	American Green Zone Alliance (AGZA) 2015, Can Electric Equipment Revolutionize Landscape Maintenance? We Do the Math: Will an Electric Mower Trim Lawn Care Costs? https://www.wisebread.com/we-do-the-math-will-an-electric-mower-trim-lawn-care-costs
GHG-10	Implement Electric Vehicle Infrastructure Program	$$$	-The electric vehicle market continues to grow where public and workplace charging infrastructure is the most extensive. -Costs to produce a cost-effectiveness report that allows above code ordinances to be adopted. -Costs for EV chargers: Level 1 $300-$1,500 Level 2 $400-$6,500	Pike, E. 2016 Plug-In Electric Vehicle Infrastructure Cost-Effectiveness Report - City of Oakland - https://energy-solution.com/wp-content/uploads/2016/09/PEV-Infrastructure-Cost-Effectiveness-Summary-Report-2016-07-20b.pdf https://www.nrdc.org/sites/default/files/electric-vehicle-cost-benefit-analysis_2017-09-27.pdf https://www.next10.org/sites/default/files/evs-ca-grid.pdf

Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
			- The cities with the highest electric vehicle sales have seen the implementation of abundant, wide-ranging electric vehicle promotion programs involving parking, permitting, fleets, utilities, education, and workplace charging.	https://luskin.ucla.edu/sites/default/files/Non-Residential%20Charging%20Stations.pdf
GHG-11	Reduce Emissions from New Residential and Office/Business Professional Development Vehicle Miles Traveled	$$$	-Reductions in negative externalities associated with traffic congestion. - Increased pedestrian activity can lead to more opportunities for walk-by or pass-by visits to retail businesses. -High levels of traffic congestion has a negative effect on city growth and employment growth -Higher density planning that reduces VMT can allow for the development of employment hubs with higher economic output across all employment sectors	https://ncst.ucdavis.edu/research-product/economic-benefits-vehicle-miles-traveled-reducing-placemaking-synthesizing-new
GHG-12	Update Transportation System Management Plan for Nonresidential Projects	$$	Investment in retiming traffic signals may result in a decrease in travel time from between 5% to 10% for a corridor at a small fraction of the cost of roadway widening. Benefit-to-cost ratios range from 55:1 to 75:1.	http://www.metrolinx.com/en/regionalplanning/rtp/technical/TSM.PDF
GHG-13	Revise Parking Standards for Nonresidential Development	$	"Minimum parking requirements bundle the cost of parking spaces into the cost of development, and thereby increase the cost of all the goods and services sold at the sites that offer free parking (Shoup 1999) Minimum parking requirements have been shown to decrease land values by 30 percent based on studies in two California communities. Parking requirements for multifamily buildings can reduce affordability. (Litman 2016)"	"Shoup 1999 , http://shoup.bol.ucla.edu/Trouble.pdf Litman 2016 http://www.vtpi.org/park-hou.pdf"
GHG-14	Improve Transit Access	$$	An increase in transit ridership will provide revenues for transit agencies	http://www.dot.ca.gov/trafficops/tm/docs/Park_and_Ride_Program_Resource_Guide.pdf (pg 8)
GHG-15	Improve Pedestrian Network and Facilities	$$	In one study, retail properties with a Walk Score® ranking of 80 were valued 54 percent higher than properties with a Walk Score® ranking of 20. Similar findings have been observed across all types of properties. A study of 15 U.S. cities found homes in more walkable neighborhoods to be worth $4,000 to $34,000 more than those in less walkable neighborhoods.	http://www.ipenproject.org/documents/conferences_docs/active-cities-full-report.pdf

Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
GHG-16	Implement Traffic Calming Measures	$$	Surveys of small businesses indicate that traffic calming measures, particularly reduced traffic speeds contribute to increased business. Calming measures encourage local residents to shop in their own neighborhoods.	https://web.archive.org/web/20200507084956/https://cedik.ca.uky.edu/files/ecoeffectsofdowtowntrafficcalming.pdf
GHG-17	Improve Bicycle Network and Facilities	$$$	In one U.S. city, a $70 million investment to revitalize a river greenway stimulated $2.5 billion in residential, commercial, retail, sports and entertainment projects along the corridor. Likewise, businesses along a trail on the Atlantic coast of the United States attributed 30 percent of their gross revenues to being located along the trail.	https://nacto.org/wp-content/uploads/2016/02/2014_Buehler-and-Hamre_Economic-Benefits-of-Capital-Bikeshare.pdf
GHG-18	Improve Fuel Efficiency Standards	$$	CAFE standards save consumers $7,300 in fuel costs and a net savings of $4,600 over the lifetime of a new vehicle, and $700 annually in fuel costs, according to a consumer reports study. - Purchase of new, more fuel efficient vehicles by businesses and consumers within the county contributes to more sales tax revenues.	https://consumersunion.org/wp-content/uploads/2013/06/FuelEconomyStandards.pdf
GHG-19	Establish EV Parking Code	$	The electric vehicle market continues to grow where public and workplace charging infrastructure is the most extensive. -Costs to produce a cost-effectiveness report that allows above code ordinances to be adopted. Costs for EV chargers: Level 1 $300-$1,500 Level 2 $400-$6,500	NREL 2015 November Costs Associated With Non-Residential Electric Vehicle Supply Equipment ICCT 2016, Leading Edge of Electric Vehicle Market Development in the United States; an analysis of California Cities"
GHG-20	Establish Safe Routes to School	$	Reduced fuel costs, Decreased traffic congestion in neighborhoods, Decreased number of accidents and fatalities leading to reduced health care costs.	Safe Routes to School National Partnership (2012) Economic Benefits of Safe Routes to School https://www.saferoutespartnership.org/resources/webinar/economic-benefits-srts
GHG-21	Update Community and Corridor Plans	$$	A ULI study on the fiscal impacts of TOD showed TOD developments require less funding for public services. TOD project apartments generated between $1.13 and $2.20 in tax and nontax revenues for their respective jurisdictions for every $1 spent on public services for the residents and employees.	https://web.archive.org/web/20190512232554/ttps://arlingtonva.s3.dualstack.us-east-1.amazonaws.com/wp-content/uploads/sites/31/2017/01/ULI_WashBalt_TODFiscalReport_Jan2017.pdf

Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
GHG-22	Connect Key Destinations	$	Increased productivity from employees by avoiding commutes on congested freeways (Lewis 2000) Businesses connected to transit nodes have access to a larger pool of qualified labor, increasing employee retention and reducing recruitment costs. Costs associated with planning and designing connections. May include costs for acquiring easements and constructing new trails in urbanized settings.	Lewis, David, Khalid Bekka et al. Transit Benefits 2000 Working Papers: A Public Choice Policy Analysis. Federal Transit Administration Office of Policy Development, 2000. Center for Transit Oriented Development (2011) https://www.apta.com/resources/reportsandpublications/Documents/Economic-Impact-Public-Transportation-Investment-APTA.pdf
GHG-23	Incentivize Infill Development	$	Higher upfront capital costs can be offset by higher sales and rental prices, and developers willing to hold properties for longer periods can take advantage of rising property values spurred by successful redevelopment projects. As infill becomes more prevalent, more lenders are developing products and services to help overcome financing challenges associated with mixed-use projects. Overall, developers are learning how to create profitable projects that meet a growing demand for housing and offices in walkable neighborhoods near transit, cultural attractions, restaurants, and other amenities.	Smart Growth and Economic Success https://www.epa.gov/sites/production/files/2014-06/documents/developer-infill-paper-508b.pdf
GHG-24	Increase Organic Waste Diversion	$	A cost benefit analysis for an organic waste diversion policy in New York State showed net benefits of $36.50 per ton of waste for composting, and $54.16 per ton of waste for anaerobic digestion	https://s3.amazonaws.com/dive_static/diveimages/Benefit-Cost-Analysis-of-Potential-Food-Waste-Diversion-Legislation.pdf
GHG-25	Convert to Electric Irrigation Pumps	$$$	Electric systems tend to have a longer life with fewer repair and labor expenses. (Amosson, et al. 2011) Electricity prices fluctuate somewhat with natural gas prices, but they tend to be more stable overall (Amosson, et al. 2011)	Amosson, 2011 http://amarillo.tamu.edu/files/2011/10/Irrigation-Bulletin-FINAL-B6113.pdf

Source: Ascent Environmental, 2021.

Table G-2: Cost Analysis of Government Operations GHG Reduction Measures

Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
GOV- EC-01	Establish Employee Transportation Program	$	Can be used to attract and retain employees. County as a large employer in the region can have an influence on achieving the benefits of community VMT reduction. May reduce the number of parking spaces needed at county facilities.	http://vtpi.org/tdmecodev.pdf
GOV-EC-02	Expand Transit Subsidy Program	$$	Employees can receive up to $260 per year for commuting as pretax fringe benefit according to the National Center for Transit Research.	https://www.nctr.usf.edu/programs/clearinghouse/commutebenefits/
GOV-EC-03	Determine Feasibility of Employee Shuttle System	$	County as a large employer in the region can have an influence on achieving the benefits of community VMT reduction.	
GOV-EC-04	Expand Secure Bicycle Storage Facilities	$$	Bicycle lockers cost between $1,280 to $2,680 with an average of $2,090 per unit.	http://www.pedbikeinfo.org/cms/downloads/Countermeasure_Costs_Summary_Oct2013.pdf
GOV-EC-05	Provide Carpool-at-Work Incentives	$	Some organizations use monetary prizes to encourage carpooling, but there are other, non-monetary solutions that can be offered as well including preferred parking and setting up a rideshare matching system within the organization's internal network. The county benefits from carpooling through increased productivity and reduced mileage reimbursement costs from employees that would overwide travel in single occupant vehicles to projects.	http://www.cleanairpartnerstx.org/resources/Carpool%20Incentive%20Programs%20-%20EPA.pdf
GOV-FL-01	Expand Fleet Conversion Program	$$$	Light duty electric fleet vehicles (sedans, SUVs and light trucks) are on average 87 percent more expensive than internal combustion engine equivalents when purchased new ($23,384 vs $43,800). However, EV's are also 4.3 times more fuel efficient when gas and electricity are converted into equivalent units. When gas and electricty costs are compared EV's are about 75 percent less expensive to fuel annually (avg. $880 vs $211/yr). Maintenance costs for EVs are about 35 percent less annually (avg. $1260 vs $819) due to less moving parts. The payback period for light duty EV's is estimated to be: Sedans = 25 years, SUVs =13 years and Light Pickups = 14 years. Lowering the initial costs of initial purchase through rebates, grants or bulk purchasing could help lower the payback period.	Calculated by Ascent using results from the City of Minneapolis' Electric Vehicle Study, Final Report October 2017 https://lims.minneapolismn.gov/Download/RCA/2361/10_Municipal%20Fleet%20Electric%20Vehicle%20Study.pdf
GOV-FL-02	Use Renewable CNG for On- and Off-Road Fleets	$	Retail costs for CNG average $2.47 per gallon (DOE). The pricing of renewable CNG is tied to the commodity prices of natural gas, plus additional premiums for production from mixed solid waste, landfill, wastewater treatment, or dairy. These premiums are offset by credits for production from the CA Low Carbon Fuel Standard	DOE 2018, https://www.afdc.energy.gov/uploads/publication/alternative_fuel_price_report_july_2018.pdf Feasibility of Renewable Natural Gas Study UC Davis

Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
			and EPA Renewable Fuel Standard programs to help bring the retail price to the same level as non-renewable versions.	2017 https://steps.ucdavis.edu/wp-content/uploads/2017/05/2016-UCD-ITS-RR-16-20.pdf Waste-to-Fuel Sacramento CleanWorld Sacramento BioDigester Case Study, 2017 https://www.afdc.energy.gov/uploads/publication/waste_to_fuel.pdf
GOV-FL-03	Use Renewable Diesel for On- and Off-Road Fleets	$	Renewable diesel (also referred to as Biodiesel or B99/B100) is slightly less expensive (-$0.18/gallon) than diesel on the west coast according to the Department of the Energy $3.69 v $3.87/gallon). However, B99/B100 also produces 10 percent less energy per gallon, resulting in increased fuel consumption. This can be accounted by adjusting to a price per energy equivalent. When adjusted on an energy-equivalent basis B99/B100 is slightly more expensive per gallon than diesel at $4.06, +$0.19/gallon	Alternative Fuels Price Report DOE, July 2018 https://www.afdc.energy.gov/uploads/publication/alternative_fuel_price_report_july_2018.pdf
GOV-BE-01	Develop and Adopt Green Building Policy	$$	Costs of retrocommissioning (RCx) needed to achieve the 30 percent energy reduction can range from $0.13 to $0.50 per sq. ft. based on an evaluation of 14 projects in California. Implementation is ~30 percent of the cost, ~70 percent is planning and monitoring. Benefits come in the form of energy savings ranging from $0.11 to $.72 per sq ft.	https://www.documents.dgs.ca.gov/green/eeproj/retrocommfactsheet.doc
GOV-BE-02	Use Solar Power for County Buildings	$$	County has existing agreement with SMUD for solar shares. Additional solar beyond what is available through SMUD can be developed on-site. Commercial installs estimated at $1.85 /sq ft. for commercial rooftop up to $3.00 sq ft for parking lot solar canopies. Costs offset by on-bill credits for energy savings or through negotiated power purchase agreements.	https://www.nrel.gov/docs/fy17osti/68925.pdf
GOV-BE-03	Provide Employee Green Building Training	$	Costs for CALGreen Certification exam are $205 per employee. CALBO Class I Tier I Memberships are $375 per employee. Many LEED training materials are available for free though the US Green Building Council. Utility or state sponsored green building trainings are generally free of charge.	CalGreen Certification - https://www.iccsafe.org/certification-exam-catalog/#examinfo150279 CALBO - https://members.calbo.org/ap/Membership/Application/Z9pQ81r8 SMUD - https://www.cvent.com/c/calendar/ab92b1d7-0e44-4480-b830-cb3b956c29a5 LEED - https://www.usgbc.org/resources/grid/leed

Measure Number	Measure Name	Administrative Costs	Community Cost Considerations	Sources
GOV-AR-01	Replace Airport Fleet	$$$	See Measure GOV-FL-01 and GOV-FL-02 for comments on costs and benefits for fleet conversion.	
GOV-WA-01	Develop Water Efficiency Policy	$$	Cost of measures varies based on implementation strategy. Water reduction can be translated to cost savings using energy intensity factors and local utility rates.	http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5356 https://www.smud.org/en/Rate-Information/Business-rates#4c57fb9f-1738-4224-993c-cc6b19e5e882-29f2a01c-7566-4ece-a674-27338339f76e
GOV-WA-02	Conduct Turf Landscape Irrigation Audit	$	Water reduction can be translated to cost savings using energy intensity factors and local utility rates.	http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5356 https://www.smud.org/en/Rate-Information/Business-rates#4c57fb9f-1738-4224-993c-cc6b19e5e882-29f2a01c-7566-4ece-a674-27338339f76e
GOV-WA-03	Use Water-Efficient Equipment	$$	Cost of measures varies based on implementation strategy. Water reduction can be translated to cost savings using energy intensity factors and local utility rates.	http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5356 https://www.smud.org/en/Rate-Information/Business-rates#4c57fb9f-1738-4224-993c-cc6b19e5e882-29f2a01c-7566-4ece-a674-27338339f76e
GOV-ST-01	Convert Streetlights	$	Costs can be quantified using DOE's Streetlight Retrofit Cost Analysis tool. Costs for and LED retrofit program for the City of Los Angeles in 2013 estimated at $407.14 per streetlight, including equipment, labor and administration. Energy savings estimated at $53.47 per light annually. Maintenance savings estimated at $17.85 per light annually. Payback period of 5 to 7 years.	https://www.energy.gov/eere/ssl/downloads/street-and-parking-facility-lighting-retrofit-financial-analysis-tool City of LA Retrofit Program https://photos.state.gov/libraries/finland/788/pdfs/LED_Presentation_Final_June_2013.pdf

Source: Ascent Environmental, 2021.

Table G-3: SMUD Residential Electrification Incentives

Program	Total Possible Incentive	Base Incentive	HP HVAC	HPWH	Induction cooktop/range	Bonus
Single Family - New Construction	$5,000	$2,250	$950	$800	$1,000	Battery Storage
Single Family - Existing	$8,750	$0	$3,000	$2,500	$750	Panel & Efficiency
Multifamily - New Construction	$1,750	$1,250	yes	yes	$500	x
Multifamily - Existing	$2,500	n/a	$1,000	$1,000	$500	Energy Efficiency
HP-HVAC Equipment Efficiency	$3,000	n/a	$3,000	n/a	n/a	Energy Efficiency
HPWH Equipment Efficiency	$2,500	$2,500	n/a	yes	n/a	n/a
Panel/Wiring Upgrade	$2,500	n/a	$500	$500	$500	$1,000
Induction Energy Efficiency	$750	$750	n/a	n/a	yes	x

Source: SMUD, 2021.

Table G-4: SMUD Integrated Design and Express Energy Solutions

Measure	Total Possible Incentive
Single-zone and multi-zone mini-split inverter driven heat pumps	$500 per ton of cooling capacity
Packaged and split system heat pumps (Commercial systems 5-20 tons are available)	$550 per ton of cooling capacity
Variable refrigerant flow (VRF) multi-zone systems	$550 per ton cooling capacity for single mode unit $1,000 per ton of cooling capacity for units for units with heat recovery
Engineering and permitting support for units with supplemental heat	$750 per project site
Electrical Infrastructure Support Panel improvements or upgraded circuits to support electric resistance heat.	$1000 per unit
Commercial induction range	$450 per hob
Residential-style heat pump water heater 50-80 gallon capacity	$1,500 per unit
Commercial-style heat pump water heater 80-120 gallon capacity	$4,000 per unit
Split-system heat pump water heater 80-120 gallon capacity	$3,000 per unit
Other gas-to-electric heat pump space heating solutions. Complex electrification of water-source heat pumps, heat recovery and customized solutions.	Contact SMUD custoretrofit@smud.org
Performance-based approach based on energy modeling	$100,000 incentive cap for energy efficiency $150,000 incentive cap for electrification $10,000 all-electric design team incentive
Custom Retrofit Program - Go-Electric, Retrocommissioning, pump energy assessment, refrigeration, process improvement, HVAC and lighting.	$100,000 incentive cap for energy efficiency $150,000 incentive cap for electrification $10,000 all-electric design team incentive

Source: SMUD 2021

APPENDIX H – GLOSSARY

°F - degrees Fahrenheit

2022 Scoping Plan – The State of California's Climate Change Scoping Plan

AB – Assembly Bill

Adaptation - The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate harm or exploit beneficial opportunities. In natural systems, human intervention may facilitate adjustment to expected climate and its effects.

Adaptive capacity - The ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences.

APG – Adaptation Planning Guide

BAC – Building Assistance Center

BP&I - Sacramento County Building Permits and Inspections

BRI - Business Resiliency Initiative

CA DWR – State of California Department of Water Resources

CAL FIRE - California Department of Forestry and Fire Protection

CalCAN - California Climate and Agricultural Network

CalEEMod - California Emissions Estimator Model

CALGreen - California Green Building Standards Code

CalOES - Governor's Office of Emergency Services

CAP – Climate Action Plan

CARB - California Air Resources Board

CEC - California Energy Commission

CEO – County Executive Office

CEQA – California Environmental Quality Act

CERP - climate emergency response plan

CH_4 - methane

CNRA - California Natural Resources Agency

CNG – compressed natural gas

CO_2e – carbon dioxide equivalents

Commercial – a category of development comprised of non-residential buildings that include rail, offices, warehouses, restaurants, and other business-oriented uses.

County – Unincorporated Sacramento County

CRCRC – Capital Region Climate Readiness Collaborative

DGS - Sacramento County Department of General Services

DHS - Sacramento Department of Health and Human Services

DPS – Department of Personnel Services

DU - dwelling unit

DUE - dwelling unit equivalent

DWMR - Sacramento County Department of Waste Management and Recycling

DWR - Sacramento County Department of Water Resources

EO – Executive Order

EPA - U.S. Environmental Protection Agency

EV – electric vehicle

EV LDV - light duty electric vehicle

FEMA – Federal Emergency Management Agency

GHG – Greenhouse Gas

GIS – Geographic Information System

HPS – High-pressure sodium (lighting type)

kg - kilogram

kWh – kilowatt hour

LEAP - Local Early Action Planning

LED – Light emitting diode (lighting type)

LHMP – Local Hazard Mitigation Plan

Metro Fire - Sacramento Metropolitan Fire District

mpg - miles per gallon

MT – metric ton

MTP/SCS = Metropolitan Transportation Plan/Sustainable Communities Plan

Multi-family - a category of development comprised of two-, three-, or four-family dwellings, townhouses, rowhouses, individual mobile homes within a mobile home park, apartments or other multiple-family dwellings including condominiums as defined in the Sacramento County Zoning Code.

MV - mercury-vapor

MWELO - California Department of Water Resources' Model Water Efficient Landscape Ordinance

MWh - mega-watt hour

PER - Sacramento County Planning & Environmental Review

PG&E – Pacific Gas and Electric Company

PIO – Public Information Officer

PV – Photovoltaic Solar

RCP - representative concentration pathway

RD – reclamation district

REAP - Regional Early Action Planning

Reclamation – US Bureau of Reclamation

RP – Regional Parks

RWA – Regional Water Authority

SACDOT- Sacramento County Department of Transportation

SacOES - Sacramento County Office of Emergency Services

SACOG - Sacramento Area Council of Government

SacRT – Sacramento Regional Transit

SAFCA - Sacramento Area Flood Control Agency

SB – Senate Bill

SCAS – Sacramento County Airport System

Sierra CAMP - Sierra Climate Adaptation and Mitigation Partnership

Single-family – a category of development comprised of detached dwellings including primary residence mobile homes not within a mobile home park, as defined in the Sacramento County Zoning Code.

SM - Sustainability Manager

SMAQMD - Sacramento Metropolitan Air Quality Management District

SMUD - Sacramento Municipal Utility District

sq ft = square foot

State – State of California

SWRCB – State Water Resources Control Board

TSM – Transportation System Management

UPA – Urban Policy Area

USDA – U.S. Department of Agriculture

USACE – US Army Corps of Engineers

USB – Urban Services Boundary

UHIE – Urban Heat Island Effect

VMT – vehicle miles traveled

Vulnerability - The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.

ZEV - zero emission vehicle

APPENDIX I: CLIMATE ACTION PLAN CONSISTENCY REVIEW CHECKLIST

I.1 INTRODUCTION AND PURPOSE

The Sacramento County Climate Action Plan (CAP) outlines the actions the County will undertake to achieve greenhouse gas (GHG) emissions reductions. As part of CAP implementation, the CAP Consistency Review Checklist (Checklist) has been developed to ensure that new development in the County appropriately incorporates all applicable GHG reduction measures from the CAP on a project-by-project basis. Implementation of these measures will ensure that new development is consistent with the CAP's strategies toward achieving the County's identified GHG reduction targets.

The Checklist, in conjunction with the CAP, provides a streamlined review process for proposed new development projects that are subject to discretionary review that triggers environmental review pursuant to the California Environmental Quality Act (CEQA). Analysis of GHG emissions and potential climate change impacts from new development is required under CEQA. The CAP is a plan for the reduction of GHG emissions in accordance with CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to cumulative GHG emissions may be determined to be less than significant if it complies with the applicable measures in a "plan for the reduction of GHG emissions" (i.e., the CAP). Under these provisions, if a project can show consistency with applicable GHG reduction measures, the level of analysis for the project required under CEQA with respect to GHG emissions can be reduced considerably (i.e., a detailed analysis of project-level GHG emissions and potential climate change impacts is not needed).

If a project is determined to require environmental review pursuant to CEQA, a completed Checklist must be submitted to the County as part of the 884 review process. This Checklist is designed to assist the applicant and the County in identifying the minimum CAP-related requirements specific to the proposed project. However, the final determination of a project's consistency with the Checklist will be made by County staff before the end of the 884 review period. As a result, it may be necessary to supplement the completed Checklist with supporting materials, calculations, or certifications to demonstrate full compliance with the CAP and/or Checklist requirements.

The CAP includes a GHG reduction target of 4.8 metric tons of carbon dioxide equivalents per capita by 2030. Projects subject to CEQA that are unable to demonstrate compliance with applicable GHG reduction measures for new development shall provide project-specific GHG reductions including quantification that demonstrates how they will achieve the GHG reduction target. The GHG reduction target may be modified following the establishment of a 2030 carbon neutrality target through the development of the Climate Emergency Response Plan.

Projects requiring discretionary review that cannot demonstrate consistency with the CAP using this Checklist would be required to prepare a separate, more detailed project-level GHG analysis as part of the applicable CEQA document.

Section A. General Project Information

Projects required to complete this Checklist must first provide the following information:

Project Name and Control Number:	
Assessor's Parcel No(s):	
Property Address/Location:	
Existing General Plan/ Zoning designations for the project site (as stated in the Sacramento County General Plan and Zoning Ordinance. Please contact staff if you are unsure of the correct designations):	
Gross Acres:	
Project Description: (submit separate attachments if necessary)	
Existing Land Use of the Property: (General Description)	
Identify all applicable proposed land uses:	
Single-Family Residential (indicate # of single-family units):	
Multi-Family Residential (indicate # of multi-family units):	
Commercial (total square footage):	
Industrial (total square footage):	
Other (describe):	

Section B: General Plan Land Use Consistency

The first step in determining CAP consistency for a discretionary development project is to assess the project's consistency with the land use assumptions in the County's General Plan and zoning designations, which were used to calculate the future GHG emissions forecasts and targets for the CAP. If the proposed project requiring CEQA is consistent with both applicable General Plan and zoning designations, the proposed project may be determined to be within the scope of emissions covered under the CAP. If the project is not consistent with the existing General Plan and zoning designations, it is possible that the land use changes required for the project could still be consistent with the growth projections used in the CAP depending on the level of the proposed changes. The questions below must be completed, as applicable, to determine whether the project is consistent with the County's General Plan and zoning designations and related GHG emissions forecasts and targets. All projects, including those that are consistent with the General Plan land use and zoning designations, must complete Section C to demonstrate consistency with the CAP.

1. Are the proposed land uses in the project consistent with the existing General Plan land use and zoning designations? *If "Yes", Questions 2, 3, and 4 below are not applicable and the project shall proceed to Section C of the Checklist.* *If "No", proceed to Question 2 below.*	Yes ☐	No ☐
2. Is a General Plan amendment and/or rezoning required for the project? *If "No", Questions 3 and 4 below are not applicable and the project shall proceed to Section C of the Checklist.* *If "Yes", proceed to Question 3 below.*	Yes ☐	No ☐
3. Is amendment to the Urban Policy Area (UPA) and/or Urban Services Boundary (USB) required for the project? *If "No", proceed to Question 4 below.* *If "Yes", the applicant must conduct a full GHG impact analysis for the project as part of the CEQA process. STOP*	Yes ☐	No ☐
4. If the proposed project is not consistent with the General Plan land use or zoning designations, does the project include a land use plan and/or zoning designation amendment that would result in an equivalent or less GHG-intensive project when compared to the existing designations? *Methodology: Compare the maximum buildout of the existing designation and the maximum buildout of the proposed designation using the California Emissions Estimator Model (CalEEMod).* *If "Yes", attach to this Checklist the estimated project emissions under both existing and proposed designation(s) for comparison. Proceed to Section C of the Checklist.* *If "No", the applicant must conduct a full GHG impact analysis for the project as part of the CEQA process. The project shall consider the incorporation each of the applicable measures identified in Section C to mitigate cumulative GHG emissions impacts. STOP*	Yes ☐	No ☐

Section C: CAP Measures

The completion of this Checklist will document a project's compliance with the GHG reduction measures in the County's CAP that are applicable to new development. The compliance requirements apply to development projects that include discretionary review, require environmental review, and, therefore, are not exempt under CEQA.

To demonstrate consistency with the CAP, all applicable Checklist questions must be answered "Yes," and documentation provided that substantiates how compliance would be achieved. For measures for which a "Yes" is indicated, the features must be demonstrated as part of the project's design and described. All applicable requirements in the Checklist will be included in the conditions of approval for issuance of building permit stage of project approval.

If any questions are marked with a "No," the project cannot be determined to be consistent with the CAP, and project specific GHG analysis and mitigation would be required.

If any questions are marked "N/A" (meaning "not applicable"), a statement describing why the question is not applicable shall be provided to the satisfaction of the Office of Planning and Environmental Review or building official.

1. ENERGY EFFICIENCY

Checklist Requirement by Project Type	Corresponding CAP Measure	Yes	No	N/A
a) For **single-family and/or multi-family residential additions or alterations** where the building's conditioned area increases in volume or size, would the new portion of the project comply with CALGreen Residential Tier 2 energy efficiency standards?[1,2]	GHG-06	☐	☐	☐
b) For **single-family and/or multi-family residential additions or alterations** where the building's conditioned area increases in volume or size, would the electrical panel or branch circuit support electric-powered HVAC and water heating equipment in the future?[1,2]	GHG-06	☐	☐	☐
c) For **single-family and/or multi-family residential,** would new appliances requiring a permit be electric?[2]	GHG-06	☐	☐	☐
d) For **nonresidential additions or alterations** ≥ $200,000 building permit valuation or ≥ 1,000 square feet, would the project comply with CALGreen nonresidential Tier 1 energy efficiency standards for additions and alterations?[1,2,3]	GHG-04	☐	☐	☐
e) For **nonresidential additions or alterations** ≥ $200,000 building permit valuation or ≥ 1,000 square feet, would new space or water heating appliances be electric? *If "N/A", please provide explanation below for the limited exemptions for specific uses as identified in the CAP. These are available only for building permits filed on or before December 31, 2025, provided that the associated GHG emissions are offset through an accredited local carbon offset program.*	GHG-04	☐	☐	☐

If "N/A" has been checked for this question, please provide a statement explaining why the measure is not applicable.

_____

_____

_____

Notes:

1. Refer to Section 301 of CALGreen for specific requirements in the code which apply to additions and alterations.
2. Requirement applies to building permit applications filed on or after adoption of a reach code with a target of January 1, 2023, or 6 months after the availability of a cost-effectiveness study prepared by the California Statewide Codes and Standards Reach Codes Team (Statewide Reach Codes Team), whichever is later, for buildings that are three stories or less, and building permit applications filed on or after January 1, 2026, or 6 months after the availability of a cost-effectiveness study prepared by the Statewide Reach Codes Team, whichever is later, for buildings that are four stories or more.
3. For Energy Budget calculations as part of CALGreen Tier 1 standards, high-rise residential (four stories or higher) and hotel/motel buildings are considered nonresidential buildings.

   Verification that the requirements of this Checklist section are being met will be conducted during the issuance of building permits for the project.

2. ALL-ELECTRIC RESIDENTIAL BUILDINGS STANDARD

Checklist Requirement	Corresponding CAP Measure	Yes	No	N/A
a) For **new residential projects** (single-family and multi-family residential units), would the project or a portion of the project be subject to building permitting (i.e., building permits issued) on or after January 1, 2023? [1] *If "Yes", proceed to question b of this Checklist requirement.* *If "No", the project must include pre-wiring for all-electric appliances and equipment to allow future conversion.* *If "N/A", please provide explanation below.*	GHG-07	☐	☐	☐
b) Would the project or portions of the project be designed and constructed to comply with County's residential all-electric buildings standard?	GHG-07	☐	☐	☐

If "N/A" has been checked for this question, please provide a statement explaining why the measure is not applicable.

_____

_____

_____

Notes:

1. Although the County has not yet developed a residential all-electric buildings standard, the County will develop such a standard prior to January 1, 2023, or 6 months after the availability of a cost-effectiveness study prepared by the Statewide Reach Codes Team, whichever is later, pursuant to Measure GHG-07 in the CAP. For purposes of CAP compliance, all new residential projects that include phases for which building permitting would begin after adoption of the residential all-electric buildings standard, compliance must be included as a condition of approval and included as a mitigation measure in the project's environmental document (as applicable). Such projects or phases thereof must be designed and built to use exclusively electric appliances for the lifetime of the building. Alternatively, all buildings designed and built as part of the project would need to achieve a Total Energy Design Rating (Total EDR) and Energy Efficiency Design Rating (Efficiency EDR) of zero, consistent with the standards in Title 24, Part 6 of the California Code of Regulations.

   Verification that the requirements of this Checklist section are being met will be conducted during the conditions of approval for the project.

3. ALL-ELECTRIC COMMERCIAL/NONRESIDENTIAL BUILDINGS AND FACILITIES STANDARD

Checklist Requirement	Corresponding CAP Measure	Yes	No	N/A
a) For **new commercial/nonresidential projects**, would the project or a portion of the project be subject to building permitting (i.e., building permits issued) on or after January 1, 2023 if three stories or less, OR on or after January 1, 2026 if four stories or more?[1] *If "Yes", proceed to question b of this Checklist requirement.* *If "N/A", please provide explanation below for the limited exemptions for specific uses as identified in the CAP. These are available only for building permits filed on or before December 31, 2025, provided that the associated GHG emissions are offset through an accredited local carbon offset program.*	GHG-05	☐	☐	☐
b) Would the project or portions of the project be designed and constructed to comply with County's nonresidential all-electric buildings standard?	GHG-05	☐	☐	☐

If "N/A" has been checked for this question, please provide a statement explaining why the measure is not applicable.

_____
_____
_____

Notes:

1. Although the County has not yet developed a nonresidential all-electric buildings standard, the County will develop such a standard prior to January 1, 2023, or 6 months after the availability of a cost-effectiveness study prepared by the Statewide Reach Codes Team, whichever is later, pursuant to Measure GHG-05 in the CAP. For purposes of CAP compliance, all new nonresidential projects that include phases for which building permitting would begin after adoption of the nonresidential all-electric buildings standard, compliance must be included as a condition of approval and included as a mitigation measure in the project's environmental document (as applicable). Such projects or phases thereof must be designed and built to use exclusively electric appliances for the lifetime of the building.

   Verification that the requirements of this Checklist section are being met will be conducted during the conditions of approval for the project.

4. TIER 4 CONSTRUCTION EQUIPMENT

Checklist Requirement	Corresponding CAP Measure	Yes[1]	No	N/A
a) For the construction of new residential and nonresidential projects, would all off-road construction equipment used during construction include Environmental Protection Agency certified off-road Tier 4 or cleaner diesel engines if electric-powered, hybrid, or alternatively fueled construction equipment is infeasible or unavailable?	GHG-08	☐	☐	☐

If "N/A" has been checked for this question, please provide a statement explaining why the measure is not applicable.

_____
_____
_____

Notes:

1. By answering "yes", the applicant is agreeing to the requirements of this checklist question. During the project's grading permit approval stage, the applicant would be required to provide a list of all pieces of construction equipment that would be used in project construction including equipment manufacturer, equipment model number, type of equipment, and engine model year.

   Verification that the requirements of this Checklist section are being met will be conducted during the issuance of building permits for the project.

5. ELECTRIC VEHICLE SUPPLY EQUIPMENT

Checklist Requirement by Project Type	Corresponding CAP Measure	Yes[1]	No	N/A
a) For the construction of **multifamily dwelling units**, would the project provide 100 percent "EV Ready"[2] parking spaces to exceed 2022 CALGreen Tier 2 Standards?	GHG-19	☐	☐	☐
b) For new developments designated as **commercial**, would the total required parking spaces support future EVSE[3] charging consistent with 2022 CalGreen Tier 2 Standards (Section A5.106.5.3.2)?	GHG-19	☐	☐	☐

If "N/A" has been checked for this question, please provide a statement explaining why the measure is not applicable.

_____

_____

_____

Notes:

1. By answering "yes" to these Checklist questions, it is understood that the project will be in compliance with Measure GHG-19. Upon the update of the County's Building Code and Development Standards regarding EV infrastructure, this Checklist question may need to be modified to reflect the updated compliance mechanisms as defined in the ordinance. Design and installation of Electric Vehicle Supply Equipment (EVSE) as part of this measure will be consistent with all applicable standards established in CALGreen Section 4.106.4.2 for multifamily dwellings and CALGreen Section 5.106.5.3 for nonresidential buildings.
2. "EV Ready" is defined as a parking space that is pre-wired with a dedicated 208/240 branch circuit installed in the wall that originates at the electrical service panel or sub-panel with a 40-ampere minimum overcurrent protection device and terminates into a cabinet, box, or enclosure, in a manner approved by the building official.
3. For the purpose of this Checklist, EVSE is defined by Article 625 of the California Electrical Code.

   Verification that the requirements of this Checklist section are being met will be conducted during the issuance of building permits for the project.

6. VEHICLE MILES TRAVELED THRESHOLD

Checklist Requirement	Corresponding CAP Measure	Yes	No	N/A
a) For development projects required to conduct a traffic analysis in accordance with the County's Transportation Analysis Guidelines, would the project: a. achieve a 15 percent reduction in per capita vehicle miles traveled (VMT) compared to the baseline conditions as defined in the County's Transportation Analysis Guidelines; or b. include sufficient VMT reduction measures to achieve a 15 percent reduction in per capita VMT compared to baseline conditions as defined in the County's Transportation Analysis Guidelines?	GHG-11	☐	☐	☐
b) Please provide sufficient information as part of the Checklist submittal to verify the project meets the requirements for this question. Information provided shall be consistent with the methodology included in the County's Transportation Analysis Guidelines and demonstrate that, at full build out, the project would generate VMT equal to or less than the limit of the project type's. The per capita VMT limits for each project type are shown in Table 3-3 of the County's Transportation Analysis Guidelines. Demonstrating compliance with this Checklist question can be achieved by referring to the project's traffic analysis within the CEQA document or a discussion of the project's VMT generation as part of the traffic analysis conducted for the project.				
c) Please check the appropriate box to indicate what information if being included as part of the Checklist submittal: ☐ Provide the portion of the project application which demonstrates that the project would generate VMT equal to or less than the limit of the project's General Plan land use designation. ☐ Provide the portion of the traffic analysis conducted for the project which demonstrates that the project would generate VMT equal to or less than the limit of the project type. Additional calculations should be provided to demonstrate the project's consistency with this measure, if this information is not explicitly stated in the traffic analysis.				
If "N/A" has been checked for this question, please provide a statement explaining why the measure is not applicable. _____ _____ _____				
Notes: Verification that the requirements of this Checklist section are being met will be conducted during the conditions of approval for the project.				

7. TRANSPORTATION SYSTEM MANAGEMENT PLAN

Checklist Requirement	Corresponding CAP Measure	Yes	No	N/A
a) For the construction of nonresidential projects that would include ≥ 200 employees,[1] would the project: a. include a Transportation System Management Plan consistent with Section 5.9.6.F of the County's Zoning Code[2] that has been reviewed and approved by the County Planning Director; or b. demonstrate through the requirements of CAP Checklist 5 that the project would achieve a 15 percent reduction in VMT below the existing conditions baseline or include sufficient VMT reduction measures to achieve a 15 percent reduction in VMT below the existing conditions baseline?	GHG-12	☐	☐	☐

If "N/A" has been checked for this question, please provide a statement explaining why the measure is not applicable.

_____
_____
_____

Notes:

1. Trip Reduction Requirements are triggered for any commercial, industrial, or other uses expected to employ 200 or more persons, as determined by either actual employee projections or equivalent development size pursuant to Section 5.9.6 of the County's Zoning Code.
2. The County will update Section 5.9.6.F of the County's Zoning Code regarding development of a Transportation System Management Plan similar to the requirements in this Checklist question and pursuant to GHG-12 in the CAP. By answering "yes" to this Checklist question, it is assumed that the project will be in compliance with GHG-12 by completing a Transportation System Management Plan. However, upon adoption of the County's forthcoming Transportation System Management Plan zoning code update, this Checklist may need to be modified to reflect the updated compliance mechanisms as defined in the ordinance.

   Verification that the requirements of this Checklist question are being met will be conducted during the issuance of building permits for the project. For projects which choose option (b) for this question, verification that the requirements of this Checklist question are being met will be conducted during the conditions of approval for the project.