



County of San Diego | June 2024

Draft **Final** 2024 Climate Action Plan



Summary of Updates to the Public Draft Climate Action Plan

Section	Page	Updates to Public Draft	Reason for Updates
Global		Changed implementation supplemental information name of “Cost Benefit Analysis” and “Disproportionate Impact to Communities” to “Cost Effectiveness and Disproportionate Cost Analysis”	Updates for clarification and terminology consistency
		Changed name of “Carbon Farming Program” and “Carbon Farming Pilot Program” to “Climate Smart Land Stewardship Program”	
		Minor formatting updates and grammatical corrections	
		Edited Energy sector vision statement	In response to comments received during public review regarding electric buildings
		T-3.1a: Edited action description	In response to comments received during public review regarding hydrogen fuel
		T-5.1a: Edited action description	In response to comments received during public review regarding bicycle parking
		E-2.2: Edited action description	In response to comments received during public review regarding heat pumps and electrically-powered appliances
		E-2.2b: Edited action description	In response to comments received during public review regarding weatherization
		E-2.2c: Edited action description	In response to comments received during public review regarding building electrification
		E-3.2c: Edited action description	In response to comments received during public review regarding partnerships
		W-1.1: Edited action description	Updates to standardize performance outcome regarding water use intensity
		W-3.1: Edited action outcomes	Correction
Preface: Acknowledgements		Added acknowledgements	New section added

Chapter 1: Introduction	4	Added additional examples of regional collaboration	In response to comments received during public review regarding the regional Priority Climate Action Plan
	9	Added and clarified the role of the County's Sustainable Land Use Framework project on future land use changes and impacts to the CAP	In response to comments received during public review regarding land use changes
	13	Added discussion on how the Safety Element increases climate resiliency	In response to comments received during public review regarding resiliency
Chapter 2: Community Outreach and Engagement	14	Added discussion on career training and licensing/certification	In response to comments received during public review regarding workforce training
	18	Updated photo of CAP cover page	Correction
Chapter 3: GHG Emissions Inventory, Projections, and Reduction Targets	19	Changed "free rain barrels" to "free/discounted rain barrels"	Terminology consistency
	38	Added footnote to Figure 10 (County GHG Emissions Projections and Targets) to reference Figure 13 (Greenhouse Gas Emissions Reductions from CAP Implementation)	In response to comments received during public review
Chapter 4: GHG Emissions Reduction Measures	44	Clarified monitoring occurs as part of the CAP's Annual Monitoring Report	In response to comments received during public review
	46	Added footnote to Figure 13 (Greenhouse Gas Emissions Reductions from CAP Implementation) to reference Figure 10 (County GHG Emissions Projections and Targets)	In response to comments received during public review
	47	Updated photo of CAP measure page	Correction
	49	Strategy: Decarbonize the On-Road and Off-Road Vehicle Fleet: Edited strategy description	In response to comments received during public review regarding: multi-family residential properties; energy resiliency; and hydrogen fuel
	52	T-3: Edited measure description	In response to comments received during public review regarding multi-family residential properties

	53	Strategy: Support Active Transportation and Reduce Single-Occupancy Vehicle Trips: Edited strategy description	In response to comments received during public review regarding neighborhood electric vehicles
	56	T-6: Edited measure description	In response to comments received during public review regarding the Regional Plan's Five Big Moves
	65	Edited Energy sector description	In response to comments received during public review regarding: heat pumps; light pollution; and workforce training
	66	Strategy: Increase Building Energy Efficiency, Renewable Energy, and Electrification in the Unincorporated Area and County Operations: Edited strategy description	In response to comments received during public review regarding implementation pathways; microgrids; and regional collaboration
	67	E-1: Edited measure description	In response to comments received during public review regarding electrically powered appliances; and renewable energy
	68	E-2: Edited measure description and equity based outcomes	In response to comments received during public review regarding electrically powered appliances; air quality; and workforce development
	78	Strategy: Increase Solid Waste Diversion in the Unincorporated Area and in County Operations: Edited strategy description	Correction regarding County operation's diversion rate
	79	SW-1: Edited measure description	Correction regarding County operation's diversion rate
	89	Edited Water and Wastewater sector description	In response to comments received during public review regarding potable water
	90	Strategy: Decrease Potable Water Consumption In the Unincorporated Area and County Operations: Edited measure description	Correction change "rebates" to "incentives" and "rain barrels" to "rain barrel equivalents"; Updated number; Added clarification that programs are subject to change
	93	Strategy: Increase Stormwater Collection, Water Pumping, and Wastewater Treatment Efficiency: Edited strategy description	Correction regarding rebate applicability

	94	W-3: Edited measure description	In response to comments received during public review regarding energy recovery systems
	99	Edited Agriculture and Conservation sector description	Clarification in response to comments received during public review
	100	Strategy: Preserve Natural Lands and Improve Land Management Practices to Protect Habitat and Increase Carbon Storage: Edited strategy description	In response to comments received during public review regarding health co-benefits
	102	A-2: Edited measure description	In response to comments received during public review regarding soil health
	105	A-4: Edited measure description	In response to comments received during public review regarding co-benefits
Chapter 5: Implementation and Monitoring	115	Added and clarified description of implementation supplemental information	In response to comments received during public review regarding CAP implementation
	116	Added discussion of regional collaboration in CAP implementation	In response to comments received during public review regarding the regional Priority Climate Action Plan
	117	Added and clarified how measures will be monitored	In response to comments received during public review regarding CAP monitoring
	143	Table 13: Added note about funding sources	In response to comments received during public review regarding CAP implementation
	146	Table 14: Corrected appendix name, updated text to add clarification, and added hyperlink	Correction and clarification
Chapter 6: Glossary	147	Added glossary	New section added
Back Cover Page		Added photo of skate park at Lindo Lake County Park	Photo change

Land Acknowledgement

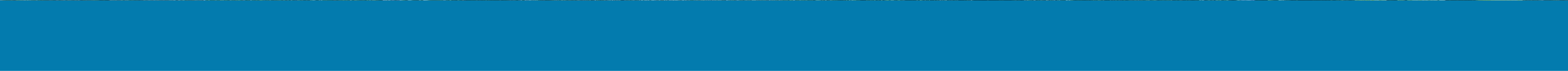
The County of San Diego acknowledges the harmony that existed among the land, nature and its original peoples, who have since endured displacement, persecution, and systemic oppression. We pay our respect to the unceded territory and homelands of the 18 federally recognized tribes in our region – the most in any county in the United States, from four cultural groups, the Kumeyaay/Diegueño, the Luiseño, the Cupeño, and the Cahuilla. As climate change increasingly threatens the region, its peoples, and its cultural identities, we aspire to learn from Traditional Ecological Knowledge to create greater harmony with our natural environment and preserve the health of our planet.

Acknowledgements

This community-informed Climate Action Plan (CAP) – in its development and implementation – places public input at its foundation and signifies a collaborative community effort that will lead to direct investments in our unincorporated communities and build a sustainable future for all residents in San Diego County. The CAP is the result of a multi-year process developed by the County’s Sustainability Planning Division within Planning & Development Services. We extend our sincere gratitude to the many people who were foundational in shaping the CAP, including the Board of Supervisors, the County’s Executive Leadership Team and inter-departmental Sustainability Task Force, the countless County staff across the County’s four business groups, and the technical consultant teams. We also want to thank the thousands of residents who shared their voices throughout the CAP’s development and helped to create a plan that centers equity and environmental justice. We also recognize the invaluable contributions of the County’s diverse network of environmental, business and labor, development, and industry and agriculture professionals and organizations that have been generous in sharing their time and ideas.



Borrego Springs wildflowers



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Main cover photos, clockwise:
Certified farmers' market; Electric vehicle charging; Bicycle parking at the Lakeside Library Branch; Hikers on the Helix Flume Trail near El Monte County Park

Appendices:

1. Community Outreach and Engagement
2. Co-Benefits Evaluation Tool
3. Unincorporated County of San Diego 2019 Greenhouse Gas Emissions Inventory and Projections
4. County of San Diego Local Government Operations Greenhouse Gas 2019 Inventory and Projections
5. County of San Diego Climate Action Plan Update: Greenhouse Gas Reduction Targets and Gap Analysis – Technical Memorandum
6. Carbon Stock Estimates for Unincorporated San Diego County
7. Climate Action Plan Combined Measure Workbook
8. CAP Consistency Checklist and Guidelines for Determining Significance for Climate Change
9. Equity Implementation Framework
10. Implementation Cost Analysis
11. Cost Effectiveness and Disproportionate Cost Analysis *Appendix to be available prior to Final CAP adoption*

Executive Summary

Throughout California, local governments are developing Climate Action Plans (CAPs) to address the urgent need to mitigate climate change and achieve a sustainable future. The climate emergency presents both a challenge and an opportunity for the County of San Diego (County) to be a leader in the effort to address climate change. Now more than ever, the San Diego region is experiencing the effects of climate change from extreme weather and heat events to prolonged drought and wildfire seasons. The effects of climate change impact the lives of residents in the unincorporated area and disproportionately affect residents of frontline communities. These communities, often communities of color and low-income, experience the most immediate and worst consequences of climate change and bear a greater burden from its impacts.

In response to the climate emergency, the County has developed this CAP to implement bold climate actions that reduce greenhouse gas (GHG) emissions and establish actions to achieve a goal of net zero carbon emissions by 2045. These efforts are guided by vision statements that describe what an equitable, net zero emissions future would look like and are implemented through measures and actions that reduce GHG emissions from activities occurring within the unincorporated area and from County operations.

Public input is at the foundation of the CAP. Through robust, equitable community outreach and engagement, this community-informed CAP reflects the lived experiences and voices of residents living in the unincorporated area. In its development, outreach and engagement activities emphasized participation from individuals and groups who are most impacted by climate change, including youth, older adults, low-income communities, and communities of color, and paid particular attention to addressing institutional and structural barriers to their participation, such as language accessibility and the digital divide. These community perspectives are reflected in the CAP measures and actions.



Vince Ross Village Square in Fallbrook

In addition to GHG emission reductions, implementation of CAP measures and actions will result in equitable investments and opportunities to create healthy, complete communities and family-supporting green careers. The CAP will provide important benefits to the residents, the environment, and economy by advancing environmental and social justice through preserving the environment, reducing health disparities, increasing access to green jobs, and improving quality of life. The CAP aligns with multiple County initiatives that, collectively taken, will make the unincorporated area and County operations more sustainable, healthy, and resilient.

GHG Emissions in Unincorporated San Diego County

The CAP uses the 2019 GHG emissions inventory to set a baseline of GHG emissions and project future emissions. The CAP starts with the year 2019 to measure GHG emissions because it's the most recent year with complete GHG emissions data prior to the early 2020 COVID-19 pandemic. Estimated GHG emissions generated from community activities in the unincorporated area and from County operations in 2019 were approximately 2.9 million metric tons of carbon dioxide equivalent (MTCO₂e). These emissions come from the following nine emissions categories:

- a) On-road transportation (45%)
- b) Electricity (20%)
- c) Natural gas (16%)
- d) Solid waste (6%)
- e) Agriculture (4%)
- f) Propane (4%)
- g) Off-road transportation (2%)
- h) Water (1%)
- i) Wastewater (1%)

GHG Emissions Reduction Targets

- ▶ 1,683,156 MTCO₂e in 2030 or 43.6% below 2019 levels
- ▶ 434,185 MTCO₂e in 2045 or 85.4% below 2019 levels

GHG Emissions Aspirational Goal

- ▶ Net zero emissions by 2045

The CAP sets its emissions reduction targets based on the 2019 GHG emissions inventory, projections of emissions into the future, targets set by the State of California (State), and direction from the County Board of Supervisors (Board). This CAP establishes emission reduction targets of 43.6% emissions reductions below 2019 levels by 2030 and 85.4% below 2019 levels by 2045 which will be achieved through CAP measure implementation. Additionally, the CAP establishes a goal to reach net zero emissions by 2045 and outlines actions the County will take to reach this long-term goal.

Strategies to Reduce GHG Emissions

To reach the 2030 and 2045 targets, the CAP establishes nine strategies, 21 measures, and 70 actions that the County must take to reduce GHG emissions from five emissions reduction sectors: Built Environment and Transportation; Energy; Solid Waste; Water and Wastewater; and Agriculture and Conservation. CAP measures also include supporting actions that will put us on a path to the long-term goal of net zero emissions. Reaching the 2030 and 2045 targets and long-term goal will require regional collaboration with stakeholders, and the County will continue to foster partnerships to move towards a net zero emissions future.

Built Environment and Transportation

The Built Environment and Transportation sector refers to the emissions that occur from the way our communities are oriented and how we move about them. Through implementation of CAP measures within this sector, the County will increase opportunities to make walking, biking, and using public transit safe and viable transportation options. For trips that do require a vehicle, the County will prioritize actions that support the transition to zero-emission vehicles for everyone. Strategies to reduce emissions within the sector include:

- a) Decarbonize the on-road and off-road vehicle fleet
- b) Support active transportation and reduce single occupancy vehicle trips

Energy

The Energy sector refers to energy (e.g., electricity, natural gas, propane) used in buildings. Through implementation of CAP measures within this sector, the County will ensure all County facilities are reducing emissions through Zero Net Energy construction, building electrification, and on-site renewable generation; and develop policies and programs for new and existing development to transition to renewable energy powered buildings. The strategy to reduce emissions within the sector includes:

- a) Increase building energy efficiency, renewable energy, and electrification in the unincorporated area and County operations

Solid Waste

The Solid Waste sector refers to emissions associated with waste in the landfill. Through implementation of CAP measures within this sector, the County will implement a set of programs and policies to achieve Zero Waste within County operations and the unincorporated area. In addition to waste diversion, the County will also enact and incentivize additional gas capture and other best management practices at waste processing facilities and landfills. Strategies to reduce emissions within the sector include:

- a) Increase solid waste diversion in the unincorporated area and County operations
- b) Increase availability of sustainable solid waste facilities in the unincorporated area and County operations

Water and Wastewater

The Water and Wastewater sector refers to the emissions that occur due to the energy used for extracting, treating, transferring, and distributing water to our communities, businesses, and agricultural lands. Through implementation of CAP measures within this sector, the County will ensure all County facilities are installing water efficiency and water reuse systems wherever feasible; new development meets certain water efficiency standards and explores reuse opportunities; existing development is mandated and/or incentivized to increase water efficiency and reuse (through building permits); and County programs are expanded to reduce emissions associated with wastewater. Strategies to reduce emissions within the sector include:

- a) Decrease potable water consumption in the unincorporated area and County operations
- b) Increase stormwater collection, water pumping efficiency, and wastewater treatment

Agriculture and Conservation

The Agriculture and Conservation sector refers to emissions associated with livestock, application of fertilizer, and the use of petroleum- or diesel-powered equipment. Additionally, this sector is uniquely positioned to capture and store carbon in soils, plants, and crops through a myriad of practices referred to as carbon farming. Through implementation of CAP measures within this sector, the County can support agriculture to reduce emissions, increase carbon storage on agricultural and natural lands, and provide complementary benefits, such as the creation of green careers, a strengthened local, sustainable food system, and development of programs that support sustainable farming and land conservation practices. Strategies to reduce emissions within the sector include:

- a) Preserve natural lands and improve land management practices to protect habitat and increase carbon storage
- b) Support climate-friendly farming practices and preserve agricultural land

Implementation and Monitoring

Successful CAP implementation will require coordination between County departments, cooperation with regional partners, identification of funding sources, and integration of CAP actions with other County planning initiatives and administrative procedures.

Implementation of the CAP includes a combination of regulations, programs, incentives, and outreach and educational activities to reduce GHG emissions. To address equity in CAP implementation, a **Cost Effectiveness and Disproportionate Cost Analysis (Appendix to be available prior to Final CAP adoption)** was prepared to understand how some populations or local communities may experience disproportionate costs or impacts from climate change and CAP implementation, and an Equity Implementation Framework (Appendix 9) was developed to prioritize climate action in frontline communities and ensure equity based outcomes and co-benefits are realized equitably throughout the unincorporated area.

The CAP will be regularly monitored to evaluate the effectiveness of CAP measures and actions, update the emissions inventory, and make adjustments to keep on track towards the emissions reduction targets and goals. The CAP is intended to be a living document and will be updated at least every five years to reflect and respond to changing technology, federal and State regulations, demographics, and market conditions to be effective.



Julian Elementary School garden



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Public art in Fallbrook

Vision for Net Zero Emissions

BUILT ENVIRONMENT AND TRANSPORTATION



Vision Statement

Complete communities that leverage the unique characteristics of the unincorporated area, support critical services and amenities such as local businesses, parks, and libraries, include accessible options such as sidewalks and bike lanes, and where infrastructure to support public transportation and zero-emission vehicles is widely available.

T-1: Reduce fleet and small equipment emissions in County operations

- T-1.1** Implement the County's 2019 Electric Vehicle Roadmap and 2023 Green Fleet Action Plan to reduce fleet emissions 35% by 2030 and 100% by 2045
 - T-1.1a** Use alternative fuel and/or zero-emission construction equipment in County projects to reduce emissions from medium- and heavy-duty vehicles and equipment.
 - T-1.1b** Adopt a County Operations anti-idling policy to reduce emissions from vehicle idling.
- T-1.2** Amend Board policy to require 100% of landscaping equipment used on County property to be zero-emissions by 2030.

T-2: Increase the use of low-carbon and zero-emission landscaping and off-road construction equipment in the unincorporated area

- T-2.1** Develop a program by 2026 to provide residents and businesses incentives to purchase alternative fuel and/or zero-emission construction and landscaping equipment to reduce emissions 3% by 2030.
- T-2.2** Develop and adopt a landscaping equipment ordinance to require the use of zero emission landscaping equipment by 2030 and zero emission construction equipment by 2045 in the unincorporated area.

T-3: Install electric vehicle charging stations and provide incentives for zero-emissions vehicles in the unincorporated area

- T-3.1** Increase the use of electric and other zero-emission vehicles in the unincorporated area by:
 - Installing 2,040 publicly available electric vehicle charging stations by 2028.
 - Requiring the electrification of loading docks and idling reduction in new commercial and industrial development by 2030.
 - Amending the County's Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar electric vehicle charging infrastructure installations and preferential parking for ZEVs for new multi-family residential and non-residential construction.
 - Developing a program by 2026 to incentivize EV purchases and school bus electrification.
- T-3.1a** Support the transition to **clean** hydrogen fuel for medium- and heavy-duty vehicles by increasing access to hydrogen fueling infrastructure through streamlined permitting processes and other efforts in the unincorporated area.

- T-3.1b** Continue to collaborate with regional partners to increase investments in zero-emission vehicles and infrastructure in the unincorporated area.
- T-3.1c** Continue updating the EV Consumer Guide website to serve as a regional resource for consumer-friendly and up-to-date information on EV-related topics and available incentives.

T-4: Reduce emissions from County employee commutes

- T-4.1** Expand County Benefit Program by 2026 to provide County employees with tax-free transportation benefits, alternative work schedules, and expand part-time or full-time teleworking options to reduce vehicle miles traveled from employee commutes by 40% in 2030 and 64% in 2045.
 - T-4.1a** Provide educational programs and campaigns to encourage County staff to walk, bike, and take transit.
- T-4.2** Develop a rebate program by 2026 for County employees to purchase electric vehicles, bicycles, and scooters for commute use.

T-5: Improve County roadways to encourage walking, biking, rolling to/from transit and destinations and increase transportation efficiency

- T-5.1** Implement the County's Active Transportation Plan to install 345 miles of sidewalk and 315 miles of bikeways by 2030 to encourage alternative modes of transportation in the unincorporated area.
 - T-5.1a** Develop educational materials to encourage residents and businesses to use **and provide access** to alternative modes of transportation **(e.g., safety information, increased access to bicycle parking)**.
 - T-5.1b** Use improved materials and engineering designs to make walking and transit easier.
- T-5.2** Develop a countywide Safe Routes to Schools program to reduce vehicle miles traveled to schools by 1.2% by 2030.

T-6: Support transit and transportation demand management to reduce single occupancy vehicle trips in the unincorporated area

- T-6.1** Develop a program to provide free transit passes and/or free trips in the unincorporated area to reduce vehicle miles traveled in the unincorporated area by 1.2% by 2030.
- T-6.2** Increase access to Transit Priority Areas by 5% in the unincorporated area and implement transit-supportive roadway treatments such as traffic signal communication and curb extensions along County-maintained roadways to optimize traffic flow for transit and pedestrians by 2030.
 - T-6.2a** Adopt a Transportation Demand Management ordinance to include pre-approved options for new development to reduce single occupancy vehicle trips in the unincorporated area.
 - T-6.2b** Evaluate options for increasing transit service to unincorporated communities.
- T-6.3** Increase access to first/last mile transportation services and connections (e.g., neighborhood electric vehicles, microtransit, bike/scooter-share) to reduce vehicle miles traveled by 7% within the unincorporated area by 2030.

ENERGY



Vision Statement

Renewable, carbon-free energy systems power efficient, electric buildings, rely on distributed energy resources through resilient local energy production and storage, and result in lower emissions and energy costs.

E-1: Develop policies and programs to increase energy efficiency, renewable energy use, and electrification in County Operations

E-1.1 Implement the County Facilities Zero Carbon Portfolio Plan to achieve 90% reduction in operational carbon emissions by 2030 through building electrification and zero net energy construction, energy efficiency, energy management, and renewable energy use and generation.

E-2: Develop policies and programs to increase energy efficiency and electrification in the unincorporated area

- E-2.1 Amend the County's Code of Regulatory Ordinances by 2026 to require all-electric equipment in new residential, commercial, and industrial construction to reduce energy emissions from new development in the unincorporated area.
- E-2.2 Increase energy efficiency and reach 30% electrification in residential and 17% electrification in non-residential existing development in the unincorporated area by 2030 by:
- Amending the County's Code of Regulatory Ordinances to require (Tier 2) CALGreen or similar energy efficiency requirements for existing development projects with qualifying improvements.
 - Adopting a Building Energy Performance Standard by 2026 for commercial and multi-family residential properties.
 - Developing a program by 2026 to incentivize building electrification and energy efficiency (e.g., electrically powered appliances, heat pumps).
- E-2.2a Develop and distribute materials to assist renters with implementing energy efficiency improvements.
- E-2.2b Develop a voluntary energy assessment/benchmarking program for existing development to identify opportunities for energy efficiency improvements (e.g., weatherization, insulation, equipment replacement/upgrades).
- E-2.2c Develop a program (e.g., incentives, streamlined permitting, education) to phase out propane use for existing buildings.
- E-2.2d Develop a program to increase energy resiliency in the unincorporated area to ensure continued access to electricity and services during extreme weather events.

E-3: Develop policies and programs to increase renewable energy use, generation, and storage in the unincorporated area

- E-3.1 Amend the County's Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar renewable energy requirements for new residential and non-residential construction to increase renewable energy generation in new development.
- E-3.2 Expand and implement the County's streamlined solar permitting process to install 5,002 kW of renewable energy on existing development by 2030 and 12,505 kW by 2045.
- E-3.2a Develop a program to incentivize renewable energy on low-income homes.
- E-3.2b Work with partners to promote and support on-site renewable energy generation and storage to increase renewable energy generation and use in the unincorporated area.
- E-3.2c Support local job training program for solar installation through partnerships to support green economy workforce development.
- E-3.3 Develop a program to provide 100% renewable energy to residents and businesses participating in San Diego Community Power by 2030 in the unincorporated area.

SOLID WASTE



Vision Statement

County-wide culture of avoiding, recycling, or composting waste, where emissions associated with landfills have been eliminated, and people have equitable access to recycling and compost facilities, opportunities for economic development, and are encouraged to reuse and share materials.

SW-1: Achieve zero waste in County operations

- SW-1.1 Adopt a County Operations zero waste policy by 2030 to achieve zero waste (90% diversion).
- SW-1.1a Revise the County's Environmentally Preferred Purchasing policy (B-67) to increase the effectiveness and enforcement of the policy.
- SW-1.1b Educate County staff on zero waste practices to encourage greater participation and develop monitoring tools to track waste diversion.

SW-2: Achieve zero waste within the unincorporated area

- SW-2.1 Update the County's Strategic Plan to Reduce Waste by 2028 to include strategies to achieve 80% diversion by 2030 and zero waste (90% diversion) by 2045.
- SW-2.1a Monitor and evaluate contamination rates in waste, recycling, organics containers, and establish educational programs to reduce contamination and increase the effectiveness of recycling efforts.
- SW-2.1b Support materials reuse events for the unincorporated area.
- SW-2.1c Educate the public about zero waste and encourage use of low carbon materials.

SW-3: Improve waste management practices at County-owned solid waste facilities to reduce emissions

- SW-3.1 Expand landfill gas systems at County-owned landfills to exceed State requirements by 10% by 2045.

SW-4: Improve waste management practices in the unincorporated area to reduce emissions and increase waste diversion

- SW-4.1 Conduct a feasibility study by 2027 and implement a landfill gas system pilot project at privately managed landfills by 2030 to exceed State requirements by 10% by 2045 in the unincorporated area.
- SW-4.1a Incentivize the development of new composting/anaerobic digestion facilities and on-farm digesters to divert compostable waste from landfills in the unincorporated area.
- SW-4.1b Study options to expand existing and/identify new opportunities to manage hard to recycle materials in the unincorporated area through additional hauler services, drop-off locations and/or Center for Hard to Recycle Materials.

WATER AND WASTEWATER

Vision Statement



Water quality and adequacy is maintained, and emissions associated with the transportation of water are reduced through indoor and outdoor water conservation programs, efficient delivery pipelines, and reuse of stormwater and wastewater.

W-1: Develop policies and programs to increase water efficiency, retention, recycling, and reuse to reduce potable water consumption in County operations

W-1.1 Implement the County's Water Efficiency Plan to require water-efficiency measures in new and existing County buildings/operations to reduce potable water use intensity by 28% by 2030.

W-2: Develop policies and programs to increase indoor and outdoor water conservation (including water efficiency, retention, recycling, and reuse) in new and existing development in the unincorporated area

- W-2.1 Amend the County's Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar water efficiency requirements and reduced outdoor water use for landscaping requirements for new development to reduce potable water consumption from new development by 17% in the unincorporated area.
- W-2.2 Amend the County's Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar water efficiency requirements for existing development projects with qualifying improvements.
- W-2.3 Update the Green Building Incentive program by 2026 to include incentives for water efficiency, conservation, and reuse improvements for new and existing development to reduce potable water consumption in the unincorporated area.
 - W-2.3a Collaborate across County departments to streamline and simplify graywater capture permitting process to reduce potable water use in the unincorporated area.
 - W-2.3b Develop and distribute materials to assist renters with implementing water efficiency and conservation improvements.
- W-2.4 Implement the Waterscape Rebate Program to incentivize water efficiency and conservation to reduce outdoor water consumption in the unincorporated area.

W-3: Develop programs to increase stormwater and wastewater treatment efficiency to reduce imported potable water use in the unincorporated area

- W-3.1 Increase wastewater treatment efficiency through the East County Advanced Water Purification Program to produce 12,900 acre feet of water each year by 2030.
 - W-3.1a Evaluate Waterscape Rebate Program septic system improvements for opportunities to reduce wastewater emissions in the unincorporated area.

AGRICULTURE AND CONSERVATION

Vision Statement



Natural and agricultural lands are preserved, invested in, and optimally managed to capture carbon, support the local food and farming community, maintain biodiversity, and provide access to healthy outdoor spaces.

A-1: Acquire and manage conservation lands to preserve natural lands and maximize carbon storage potential in the unincorporated area

- A-1.1 Acquire 11,000 acres of conservation lands by 2030 and 1,000 acres per year thereafter to preserve land in perpetuity.
- A-1.2 Develop a Habitat Restoration Resource Management Framework for County-owned land by 2030 and restore 80 acres per year thereafter to increase carbon storage.
 - A-1.2a Partner with tribal governments to incorporate tribal ecological knowledge and apply indigenous land management practices to contribute towards habitat restoration efforts on County land.

A-2: Develop a tree planting program that expands canopy across the unincorporated area and prioritizes underserved communities

- A-2.1 Expand the County's existing tree planting initiative and implement an Equity Driven Tree Planting Program to plant 70,560 trees by 2030 and 6,650 trees per year thereafter on County property and in the unincorporated area.
 - A-2.1a Develop a program to preserve native trees in the unincorporated area.
 - A-2.1b Educate the public on the benefits and maintenance of native, fire-resistant, and drought-tolerant tree plantings.
- A-2.2 Implement the County's Landscaping Ordinance to require tree planting in new single family residential development in the unincorporated area.

A-3: Preserve agricultural lands to prioritize carbon storage and balance economic and development goals

- A-3.1 Implement the Purchase of Agricultural Conservation Easement (PACE) Program to preserve 6,058 acres of agricultural land by 2030 and 400 acres per year thereafter.

A-4: Incentivize carbon farming to expand carbon storage capacity on agricultural land and support climate-friendly farming practices in the unincorporated area

- A-4.1 Develop a Climate Smart Land Stewardship Program by 2026 to increase carbon sequestration on 3,000 acres by 2030 and 36,214 acres by 2045.
 - A-4.1a Support the local food system through development of a food sourcing policy that prioritizes contracts with local, equitable, and sustainable food suppliers in County operations.
 - A-4.1b Evaluate opportunities to increase farmworker housing in the unincorporated area to reduce emissions from farmworker transportation.
 - A-4.1c Evaluate options to incentivize voluntary alternative manure management and livestock feed projects to reduce manure management and enteric fermentation emissions in the unincorporated area.
 - A-4.1d Evaluate options to incentivize the voluntary reduction of the use of synthetic fertilizers in the unincorporated area.

A-5: Reduce greenhouse gas emissions from agricultural operations

- A-5.1 Develop a program by 2026 to incentivize a transition to cleaner fuels and the efficient use of energy to reduce agricultural operations emissions in the unincorporated area.
- A-5.1a Partner with the local utility to advocate for agricultural pump rates that would incentivize electrification.



Provence House at the Sweetwater Summit Regional Park in Bonita

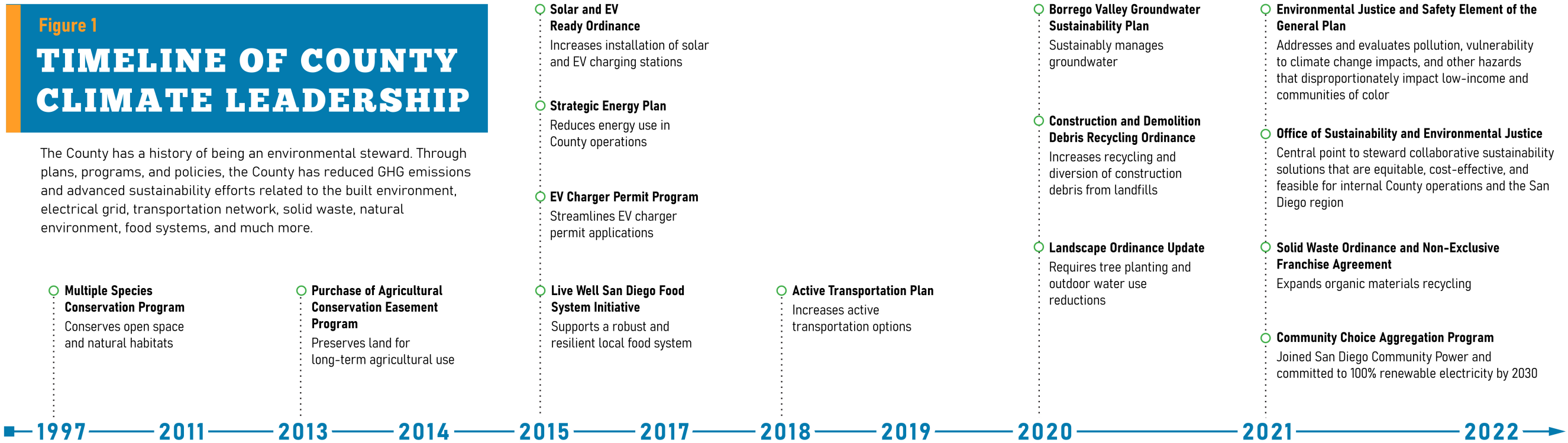


Sustainable landscaping at the North County Regional Center in Vista

Figure 1

TIMELINE OF COUNTY CLIMATE LEADERSHIP

The County has a history of being an environmental steward. Through plans, programs, and policies, the County has reduced GHG emissions and advanced sustainability efforts related to the built environment, electrical grid, transportation network, solid waste, natural environment, food systems, and much more.



Under Development

Butterflies Habitat Conservation Plan

Protects sensitive butterfly species and habitats

Regional Decarbonization Framework

Identifies community-driven partnerships, programs, and policies to support decarbonization

Sustainable Land Use Framework

Identifies principles of sustainable development to inform future land use decisions

Equity-Driven Tree Planting Program

Increases tree planting in frontline communities

North County Multiple Species Conservation Plan

Conserves open space and natural habitats in North County

Climate Smart Land Stewardship Program

Reduces and sequesters GHG emissions through carbon farming efforts

Departmental Sustainability Plans

Commitments and strategies for the County's departments and offices to advance sustainability in County operations



01

Introduction

*Boulder Oaks County Preserve near
Ramona*

1. Introduction

1.1 Framework for our Future: Bold Climate Action

The climate emergency presents both a challenge and an opportunity for the County of San Diego (County) to be a leader in the effort to address climate change. From extreme weather and heat events to prolonged drought and wildfire seasons, climate change is already being felt in San Diego. Its growing intensity adversely affects the region's expansive and diverse landscape and disproportionately impacts residents in frontline communities who experience the most immediate and worst impacts of climate change and are often communities of color and low-income. To address these challenges, local governments and public agencies throughout California and beyond are implementing innovative policy and programming solutions that reduce greenhouse gas (GHG) emissions and address community needs for equity, environmental justice, clean air and water, neighborhood resilience, economic opportunities, and improved health outcomes.

In response to this climate emergency, the County Board of Supervisors (Board) approved policy guidelines in January 2021 to achieve bold climate action and establish actions to achieve a goal of net zero carbon emissions by 2035-2045 – consistent with State of California (State) targets. The County's *"Framework for our Future for Bold Climate Action"* sets a foundation for this Climate Action Plan (CAP) to reduce GHG emissions and lessen the impacts of climate change in our community. As directed by the Board, this CAP meets and exceeds State targets for GHG emission reductions and establishes actions to reach net zero carbon emission by 2035-2045. It is comprehensive, shaped by community input, and utilizes the latest data and modeling scenarios available. Through its implementation, CAP investments will prioritize environmental justice and achieve equitable outcomes for communities and populations in San Diego that have been historically left behind and most impacted by climate change.

The CAP is a multi-objective plan that sets policy and programmatic commitments to reduce GHG emissions through the implementation of measures

and establishes actions to reach net zero carbon emissions by 2045 in the unincorporated area of the county and in County operations. In addition to GHG emission reductions, CAP measures will also provide important benefits to the environment and our residents, including preserving the environment, reducing health disparities, increasing access to green jobs, improving quality of life, and advancing environmental and social justice. The CAP aligns with multiple County initiatives that, collectively taken, will make the unincorporated area and County operations more sustainable, healthy, and resilient.

1.2 The Climate Emergency

The San Diego region, like many parts of California and beyond, are beginning to experience the effects of climate change. Long-term shifts in temperatures and global climate patterns have led to hotter summers and colder winters and are increasing the likelihood of weather-related natural disasters like wildfires and drought. There is well-established scientific consensus that human activity is responsible for the increase of heat trapping GHGs in the atmosphere, causing average global temperatures to rise over time. The *United Nations (UN) Intergovernmental Panel on Climate Change (IPCC)*, the leading international body that provides policymakers scientific information and options for addressing change, states that short-term actions to limit GHG emissions will significantly reduce projected climate change related losses and impacts to ecosystems, such as decreased water availability, food security, and loss of natural habitat and biodiversity.

Without immediate, intentional, large-scale action to reduce GHG emissions, climate change has the potential to harm current and future generations' safety, public health, economic opportunity, and quality of life.



1.3 Fundamentals of Climate Planning

Climate planning requires action from all levels of government. Federal and State climate regulations and goals guide and provide examples for regional and local government actions to reduce GHG emissions.

At the national level, Executive Order 14057: *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*, signed by President Biden in December 2021, sets goals of reaching 100% carbon pollution-free electricity by 2035 and a net zero emissions economy by 2050 for federal operations. In addition, federal investments to tackle climate change, such as the Inflation Reduction Act and Bipartisan Infrastructure Law, are leading the push to advance environmental justice, strengthen energy security and green the grid, lower energy costs for households, strengthen the nation's resilience, and reduce air pollution.

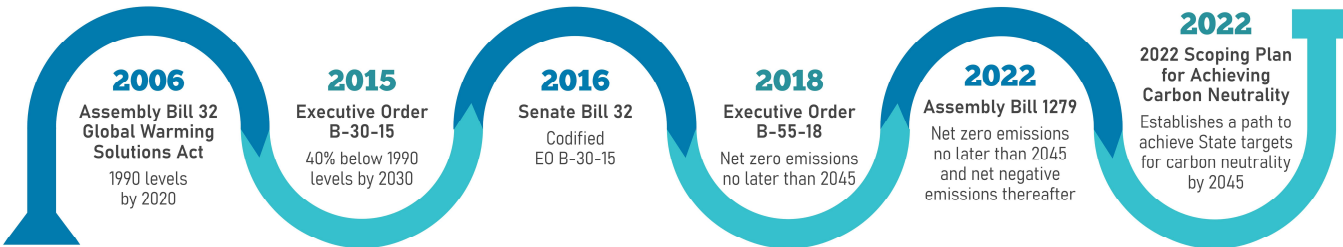
In California, Senate Bill (SB) 32, signed in 2016, sets the State's 2023 GHG emissions reduction target of 40% below 1990 levels and Assembly Bill (AB) 1279 expands the State's climate action goals to achieve net zero carbon emissions or be "carbon neutral" as soon as possible and ensure that statewide anthropogenic emissions (e.g., emissions from burning fossil fuels, land use development) are reduced to at least 85% below 1990 levels **by 2045**. Figure 2 illustrates a timeline of major State legislation, administrative, and regulatory actions that guide the County's CAP in reducing GHG emissions locally.

Through the development and implementation of policies and programs that address local conditions, regional agencies and local governments can show

leadership and advance federal and State efforts to deliver emission reductions beyond State policy with additional benefits that support a local green economy, preserve the environment, and reduce health disparities. **Examples of such regional action and collaboration include the County's Regional Decarbonization Framework (RDF), the Accelerate to Zero Emissions Collaboration, and SANDAG's regional Priority Climate Action Plan**, which bring together local governments and public agencies, nonprofits, universities, and businesses to prepare plans and implement programs that move the San Diego region toward zero carbon emissions. The County partners with these stakeholders through outreach, education, advocacy, and collaboration to advance best practices and advocate for our residents' priorities. Through this collaboration and coordination, the County can bring funding and resources to the region to support future long-range emissions reduction efforts within the unincorporated county, as well as highlight the climate action efforts that are occurring across the San Diego region.

At the local government level, this CAP establishes strategies and measures the County will take to reduce GHG emissions generated from current and future activities within the county's unincorporated areas and emissions generated by County facilities and operations. The CAP reduces GHG emissions in alignment with statewide targets and advances the vision and guiding principles of the County's General Plan, which accommodates future growth while retaining or enhancing the unincorporated county's rural character, economy, environmental resources, and unique communities.

Figure 2 Major Climate Legislation in the State of California



Accelerate to Zero Emissions: A Regional Collaboration to Promote Zero-Emission Vehicles

Since 2020, the County has collaborated with regional partners to advance zero-emission vehicles (ZEV) in the region as a founding member of the *Accelerate to Zero Emissions (A2Z) Collaboration*. Comprised of local and regional governments, industry, academia, and local community-based organizations in the San Diego region, the A2Z Collaboration is developing a vision for and implementing a San Diego Regional Electric Vehicle (EV) Strategy that will accelerate investment in ZEVs and EV infrastructure to reduce air pollution and GHG emissions and address climate change. The A2Z Collaboration brings together key stakeholders in the region to attract public and private investment and advance equitable access to EVs and charging stations across the region.

1.4 Unincorporated San Diego County

The unincorporated area of the county is characterized by its vast size, rural nature and dispersed development patterns, and diverse natural habitats. The unincorporated area is home to 23 Community Planning Areas that vary in land use and density and are represented by 28 Community Planning and Sponsor Groups. In general, these communities include a core of local-serving commercial uses, services, schools, and public facilities surrounded by residential neighborhoods. They range from semi-suburban residential neighborhoods that transition in scale and density from adjoining incorporated cities to low-density rural communities surrounded by hillsides, deserts, and agricultural lands.

In total, the unincorporated area encompasses approximately 2.3 million acres, or 3,570 square miles with a 2019 population of 479,844 residents.

Much of the unincorporated county's land, in excess of 90%, is open space or undeveloped and contains several large federal, state, and regional parklands in the eastern portion of the county. In addition, the San Diego region is home to 18 federally recognized tribes located across the eastern portions of the county. As a result, only 35%, or about 807,000 acres of the unincorporated county, is privately owned.

San Diego is recognized as one of the most biologically diverse counties in the United States due to the wide variety of vegetation, animals, and habitats found across the region's microclimates, topography, soils, and other natural features. In the unincorporated area, inland valleys and hills blanketed with chaparral and oak woodlands give way to mountains that rise more than 5,000 feet above sea level before dropping into the desert.

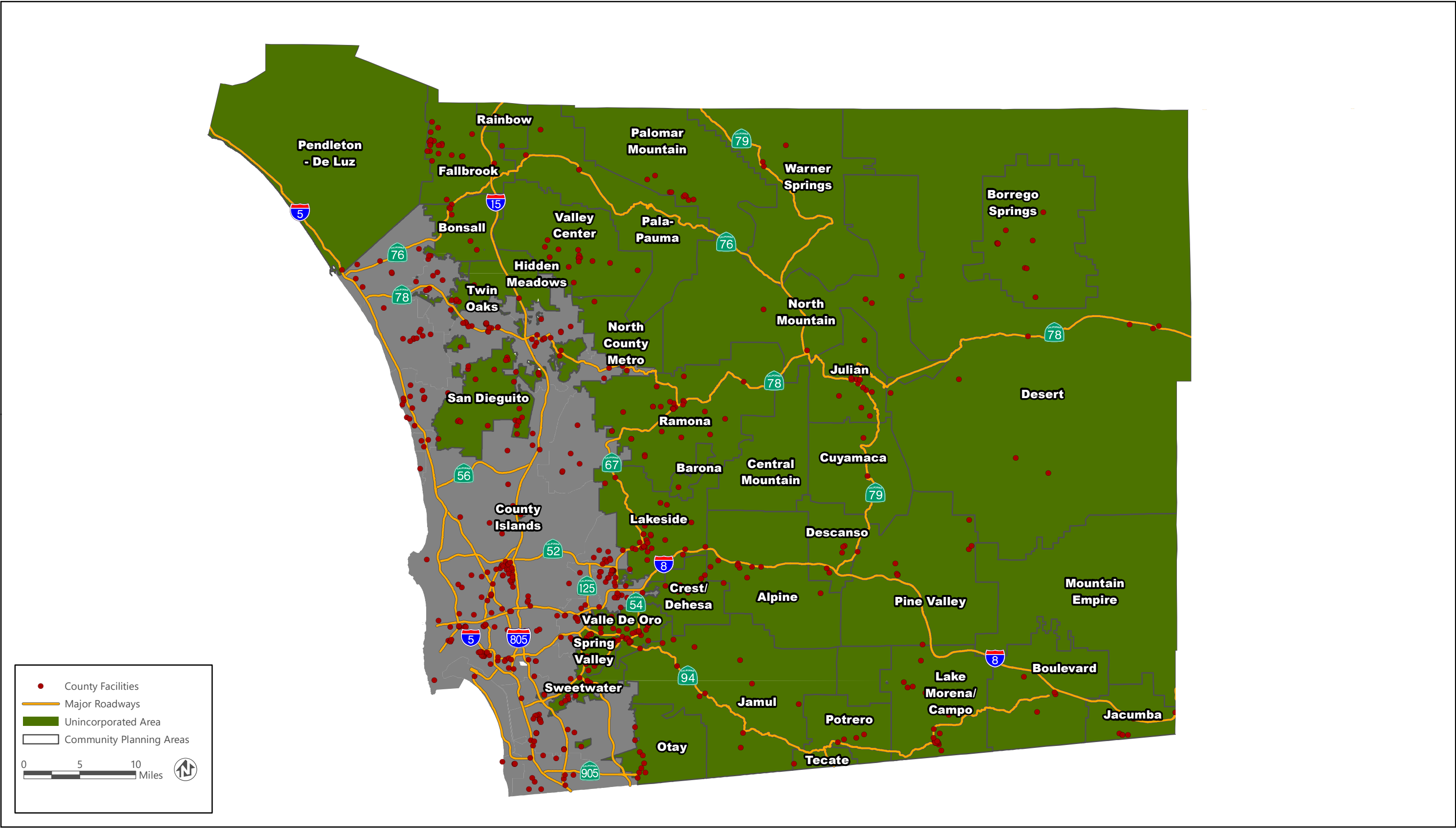


The unincorporated area's diverse natural landscape, including deserts, inland valleys and hills, and agricultural lands.

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Alfalfa feed in Escondido

Figure 3 County of San Diego Influence and Jurisdictional Control



County of San Diego’s Influence and Jurisdictional Control

The Climate Action Plan reduces GHG emissions generated from activities within the unincorporated area, where the County has land use jurisdiction, and emissions generated by operating County fleet and facilities, as seen in Figure 3.

The unincorporated portion of the county encompasses 3,570 square miles. A large portion of this area is covered by federal (including military installations), State, and Tribal lands that are outside the County’s jurisdiction. About 35%, or 807,000 acres, of the unincorporated county is privately owned and is divided into 23 Community Planning Areas under the County’s land use jurisdiction.

In addition to privately owned land, the County also has influence over the approximately 430 County facilities that are located throughout the region, including those within incorporated cities. Operating these facilities results in GHG emissions associated with water and energy use and fuel consumption.

1.5 The County’s General Plan

The *County’s General Plan*, updated in 2011, provides a policy framework and long-range vision for growth in the unincorporated area. It establishes goals, policies, and programs to foster healthy, livable, and sustainable communities and provides a guide for future land use, housing, and economic development. When the General Plan was updated in 2011, growth capacity was shifted from the eastern backcountry areas to western communities, guiding development closer to existing infrastructure and services and helping to protect the county’s natural resources and maintain the character of its communities. The General Plan includes specific goals and policies aimed at reducing GHG emissions by encouraging growth in a compact and efficient manner, using renewable energy to power buildings, improving waste recycling, and increasing access to sustainable transportation.



Native plant landscaping

The CAP is a mitigation measure for GHG emissions that was adopted with the General Plan’s Environmental Impact Report in 2011. The CAP must reduce GHG emissions associated with existing and future development anticipated to occur in the unincorporated area as described in the General Plan. Therefore, development projects that are consistent with the General Plan and this CAP are eligible for streamlined analysis of GHG emissions impacts under California Environmental Quality Act (CEQA). See Chapter 5 for additional information.

Additionally, the County has also initiated the Sustainable Land Use Framework (Framework) project, which may lead to outcomes that result in land use changes in the future. This multi-step process seeks to explore sustainable development principles that take into consideration other State and regional initiatives (e.g., San Diego Association of Government’s (SANDAG) Regional Transportation Plan (RTP) Sustainable Communities Strategy). If General Plan land uses were to change as an outcome of the Framework or other County land use and housing efforts, GHG emissions associated with General Plan implementation would change as well. Since the CAP is a tool for mitigating GHG emissions from implementation of the General Plan, any changes in land use and its associated GHG emissions from the General Plan would be addressed in the next update to the CAP.

1.6 Leading with Equity to Create Healthy, Prosperous, and Resilient Communities

Increasingly, communities are acknowledging the social, economic, and environmental benefits associated with climate action planning and implementing programs and policies that reduce GHG emissions.

Board Directed County Sustainable Leadership

REGIONAL DECARBONIZATION FRAMEWORK

The County’s *Regional Decarbonization Framework* promotes public and private interests working together to move the entire San Diego region toward zero carbon emissions in transportation, buildings, energy, food systems, and land use by mid-century. The RDF helps policymakers work in harmony with community, industry, environmental, business, and labor groups to realize distinct and tangible actions that respond to the specific needs of cities and the unincorporated areas of the county.

DEPARTMENTAL SUSTAINABILITY PLANS

As of 2023, the County continues to be one of the largest organizations in the San Diego region, with over 20,000 employees and an annual budget surpassing \$8 billion. The County has the opportunity to contribute to a greener future by adjusting its own operations and practices. All 40+ County departments have developed Sustainability Plans by reviewing current practices and identifying opportunities to implement new strategies that are in addition to the measures included in this CAP to reduce our carbon footprint now and into the future.

SUSTAINABLE LAND USE FRAMEWORK

The County is developing a *Sustainable Land Use Framework* to inform how the County’s communities can grow and evolve in a healthy, resilient, and equitable way. The Framework will help the County more effectively navigate how to balance housing production, sustainability, conservation, resiliency, and equity, and may lead to outcomes that result in changes in land use. This effort is supportive of other State and regional efforts to develop sustainable communities, such a SANDAG’s Regional Transportation Plan/Sustainable Communities Strategy.

Climate action planning intersects with all areas of our society: housing, healthy places and public health, climate adaptation and resilience, workforce development, and more. By taking climate action, we can simultaneously clean the air we breathe, protect biodiversity and ecosystems, create new “green collar” careers and support workforce training, increase walkability, improve health outcomes, and promote and advance equity outcomes.

Frontline Communities

Frontline communities are historically marginalized communities that experience the most immediate and worst impacts of climate change and other injustices and are often communities of color and low-income.

When we talk about climate change and climate actions, it’s important to center the needs of individuals and communities who are at the frontline of climate change impacts, such as the County’s Environmental Justice Communities. As described in the General Plan *Environmental Justice Element*, these communities and populations have historically been impacted by poverty, lack of services, and unequal distribution of economic and social opportunities like access to high-paying careers, healthcare, or education. As a result, these communities are most at risk from the threat of heat, industrial pollution, poor air quality, wildfires, and more.

The County is committed to addressing equity, and environmental and climate justice, and supporting communities disproportionately impacted by environmental burdens and related health problems across the region. During the CAP update process, as described in Chapter 2, addressing procedural, distributional, and structural equity were an integral part of community engagement efforts and the measure development process. The CAP uses a *Cost Effectiveness and Disproportionate Cost Analysis (Appendix to be available prior to Final CAP adoption)* to understand how some populations or local communities may experience disproportionate costs or impacts from CAP implementation. The CAP then applies an Equity Implementation Framework (Appendix 9) to prioritize climate action in frontline communities

and ensure equity based outcomes and co-benefits are realized equitably throughout the unincorporated area.

Beyond the CAP, the County's *Office of Sustainability and Environmental Justice* (OSEJ) is a central point internally and externally for the County to steward collaborative sustainability solutions that are equitable, cost-effective, and feasible. It is uniquely positioned, focusing on both regional initiatives and County operations. OSEJ strives to reduce disparities and expand opportunities in traditionally undeserved communities as it works to achieve zero carbon emissions and safeguard the health of the region's people and natural resources. Additionally, the *Office of Equity and Racial Justice* (OERJ) identifies and addresses systemic bias and disparities to create equitable solutions with County departments and communities.

Environmental Justice Policy and Planning at the County

In 2021, the County adopted an Environmental Justice Element (EJ Element) as part of the General Plan. The EJ Element has goals, objectives, policies, and actions that address pollution and other environmental hazards that disproportionately impact low-income communities and communities of color. EJ Element implementation includes developing programs to monitor progress, prioritizing funding for Environmental Justice Communities, establishing cross-sector and multi-jurisdictional partnerships to address environmental justice issues, and other actions.

While tribal lands are outside of the County's land use jurisdiction and the emissions from their activities and sources are not included in this CAP's GHG inventory and measures, we acknowledge our relationship with tribal nations and the importance of Tribal Ecological Knowledge to understand and respect cultural history, strengthen personal connections with the local environment, and preserve natural habitats. The County will continue to strengthen partnerships with our local tribal

nations and elevate the voices of Indigenous people to ensure that they are fully represented in the implementation of this plan.

Housing and Complete Communities

Housing production and climate action are deeply intertwined. Decades of sprawl development compounded by an emphasis on auto-centric infrastructure has required more driving to meet daily needs for residents and encroached into wildfire prone areas in the unincorporated area. This dispersed development pattern has led to increased GHG emissions and traffic congestion, poorer air quality, and greater wildfire risk to homes and businesses.

Housing location and type (e.g., detached single family housing, townhome, apartment, condominium) have a significant impact on reducing GHG emissions and creating complete communities. Strategically planning for new housing that meets housing demand and is located in or near places with existing infrastructure services, such as in the County's rural villages, will provide opportunities for residents to live closer to where they work or frequently visit and making walking, bicycling, rolling, or taking transit viable transportation options. In turn, these communities will have the added benefits of conserving undeveloped open space, protecting environmental and agricultural resources, increasing access to public services and community amenities, and improving quality of life.

CAP implementation will streamline housing production in sustainable locations and lead to investments that help build complete communities through parks, transportation, energy, and other important infrastructure. To ensure that these types of public investments do not displace residents, the County has outlined goals and policies in the General Plan's *Housing Element and Environmental Justice Element* so that current and future residents reap the benefits of a more sustainable unincorporated area.

The County is also preparing a *Housing Blueprint* that will guide the County's ongoing response to the housing affordability crisis and help to meet our housing needs while aligning with the County's core values of integrity, belonging, excellence, access, sustainability, and equity. The County is developing a *Sustainable Land Use Framework* to inform how the County's communities can grow and evolve in a

healthy, resilient, and equitable way. Taken together, these efforts contribute towards State and regional actions that will increase access to affordable and sustainable housing such as the Regional Housing Needs Allocation and SANDAG's Regional Transportation Plan/Sustainable Communities Strategy.

Healthy Places

Our health and quality of life are linked to the environment in which we live. Across the unincorporated area, access to clean air and water and community amenities like parks and fresh food outlets help residents stay active, reduce incidents of poor health like circulatory and cardiovascular disease, asthma, and other respiratory illnesses, and increase overall personal health. Access to a healthy environment often varies based on neighborhood and income, with communities of color and low-income communities disproportionately having less access to healthy food options and recreational opportunities and increased exposure to traffic and poor air quality.

One of the ways neighborhoods and communities can support healthy places is by supporting local, healthy food production and providing sidewalks, bicycle lanes, parks and trails, and other services and infrastructure investments. Through CAP implementation, the County supports these investments in our unincorporated communities to reduce GHG emissions, and in the process contribute to the better health of residents. CAP measures prioritize action in our frontline communities to ensure all residents have healthy transportation and food systems and benefit from a sustainable and equitable future.

Climate Resilience

The ability to prepare for changing conditions and withstand, respond to, and recover rapidly from disruptions. For example, implementing nature-based solutions and building improvements, like planting trees and native landscaping and installing green roofs, can help mitigate extreme heat.

Climate Adaptation

The process of adjustment to actual or expected climate change and its effects. An example of adapting to wildfires in the unincorporated area includes strengthening critical electrical and transportation infrastructure and ensuring defensible space around building structures to reduce or prevent future damage.

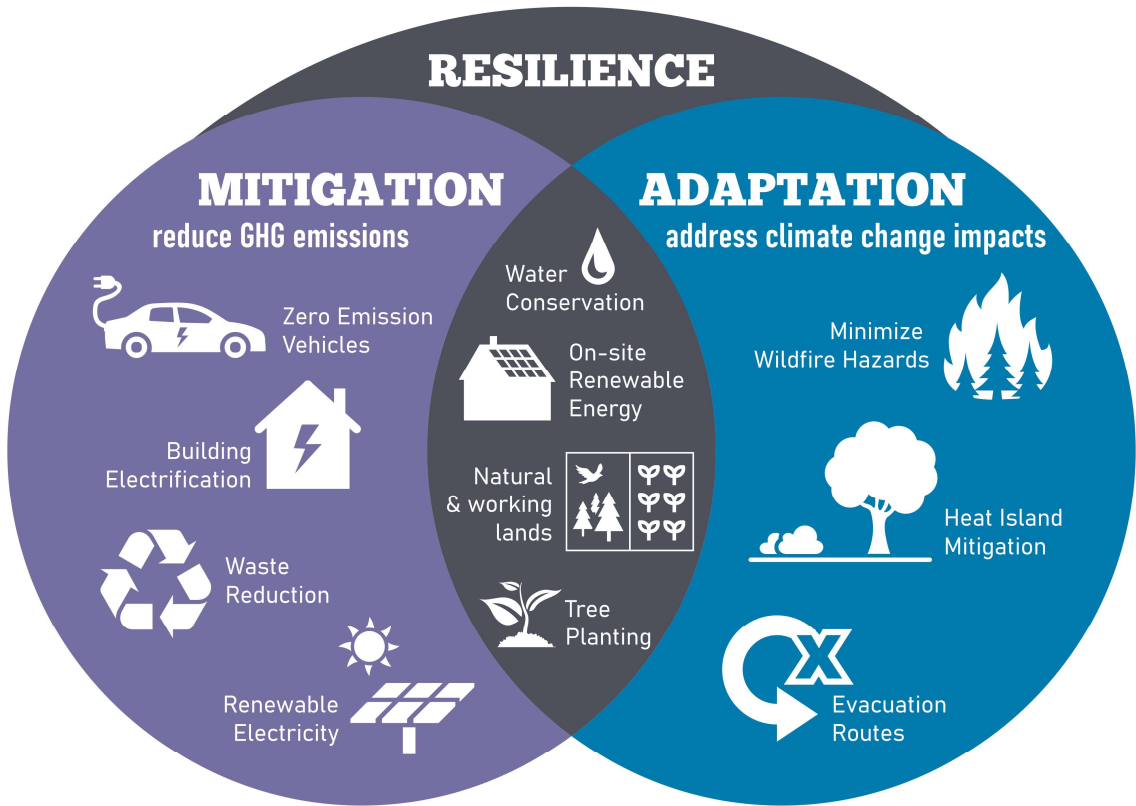


Descanso Town Hall

In addition to the CAP, the County Office of Emergency Services' *Multi-Jurisdictional Hazard Mitigation Plan* is a countywide plan that identifies risks and ways to minimize damage from natural and human-caused disasters on a region wide basis. Within the unincorporated area, the County General Plan's *Safety Element and Vulnerability Assessment and Adaptation Report* identifies goals and strategies to increase resiliency from climate-related issues (e.g., extreme heat, drought, fire) and protect populations and public infrastructure that are most vulnerable to the effects of climate change.

Increasing resilience and adapting to climate change does not only mean responding to the climate related disasters and emergencies we know are coming. It also means strengthening personal and neighborhood-level resilience and adaptation during normal times, particularly in frontline communities, so that all communities and populations are better able to prepare for inevitable shocks and stressors (e.g., unstable housing and food insecurity).

Figure 4 Climate Resilience, Adaptation, and Mitigation



Dictionary Hill in Spring Valley

Workforce Development

The County's efforts to address climate change creates an opportunity to not only lower GHG emissions but to do so in ways that support the region's workers. Implementing CAP measures, such as increasing access to clean transportation and renewable energy technologies, will transition investments away from carbon-based fuels towards cleaner energy sources. These new industries will require a skilled workforce and help us grow a strong green economy. In turn, a green economy can bring benefits, such as high-quality careers, new funding to transition existing skills and expand workforce training opportunities in climate-related fields, and an improved quality of life. The climate actions included in the CAP can help ensure ongoing demands for new services, giving employers certainty needed to invest in training, retraining, and hiring more skilled workers.

Through CAP implementation, the County can lead the way by investing in career training that promote licensing/certification and safety standards, programs to support the transition to a green economy and workforce, and innovative partnerships and pilot programs that create local opportunities. Implementation of CAP measures and associated investments will lead to new economic and workforce opportunities and provide many community and economic benefits with equity at the forefront.

To ensure an inclusive and equitable green economy, the CAP uses an Equity Implementation Framework (Appendix 9), an Implementation Cost Analysis (Appendix 10), and a Cost Effectiveness and Disproportionate Cost Analysis (Appendix to be available prior to Final CAP adoption) to evaluate the economic impacts of CAP measures and ensure equity-driven outcomes are achieved. As the CAP is implemented, the County will continue to explore various avenues to ensure strong cross-sector partnerships, collaboration with trusted community organizations, and identify adequate funding sources to reduce costs and support the local economy. Recognizing the value of green careers, a robust focus on growing a green economy can help shape the unincorporated area with a sustainable green economy that supports emerging technology and local workforce development.

The CAP works in tandem with the Regional Decarbonization Framework (RDF), which is helping the transition to a green economy and supporting workforce development at the regional level. The foundational three-part publication for the RDF includes *Putting San Diego County on the High Road: Climate Workforce Recommendations for 2030 and 2050*. This Workforce Development Study is a comprehensive regional strategy to address the workforce needs resulting from labor market changes related to decarbonization. The study documents and evaluates the local policy tools within the electric, transportation, buildings, and land use sectors to support improved worker and career outcomes and offers recommendations for a just transition into regenerative and restorative careers in infrastructure, resource management, and resiliency. Just transition workforce development provides equitable training opportunities to help workers move towards careers in sustainability and resilience. In addition, the County's OSEJ convenes regional partners to advance workforce development and the creation of family-supporting green career opportunities.



02

Community Outreach and Engagement

CAP Update outreach with youth at
the Lakeside Library Branch

2. Community Outreach and Engagement

A community-informed CAP places public input at its foundation. By creating meaningful opportunities for all members of the public to participate, and through extensive engagement with residents, community organizations, and regional stakeholders, a community-informed CAP reflects the lived experiences and voices of the community and builds collective support for its actions.

Equitable stakeholder engagement has guided the CAP Update process to produce a community-informed CAP that reduces GHG emissions while also demonstrating progress on co-benefits (e.g., green job creation, community health and air quality improvements) and addressing equity, all priorities expressed by stakeholders.

2.1 Procedural, Distributional, and Structural Equity

Procedural equity—creating transparent, fair, and inclusive outreach and engagement processes—was an integral part of CAP Update community engagement efforts. Encouraging participation from individuals and groups that may be underrepresented or underrecognized in the County’s planning processes was critical to the CAP Update process. This was accomplished through various approaches, including public workshops, focused stakeholder and broad community meetings, County participation at community events, and an online and hard copy survey, to solicit diverse feedback so that many different perspectives were considered and included in the CAP. Outreach and engagement activities paid particular attention to

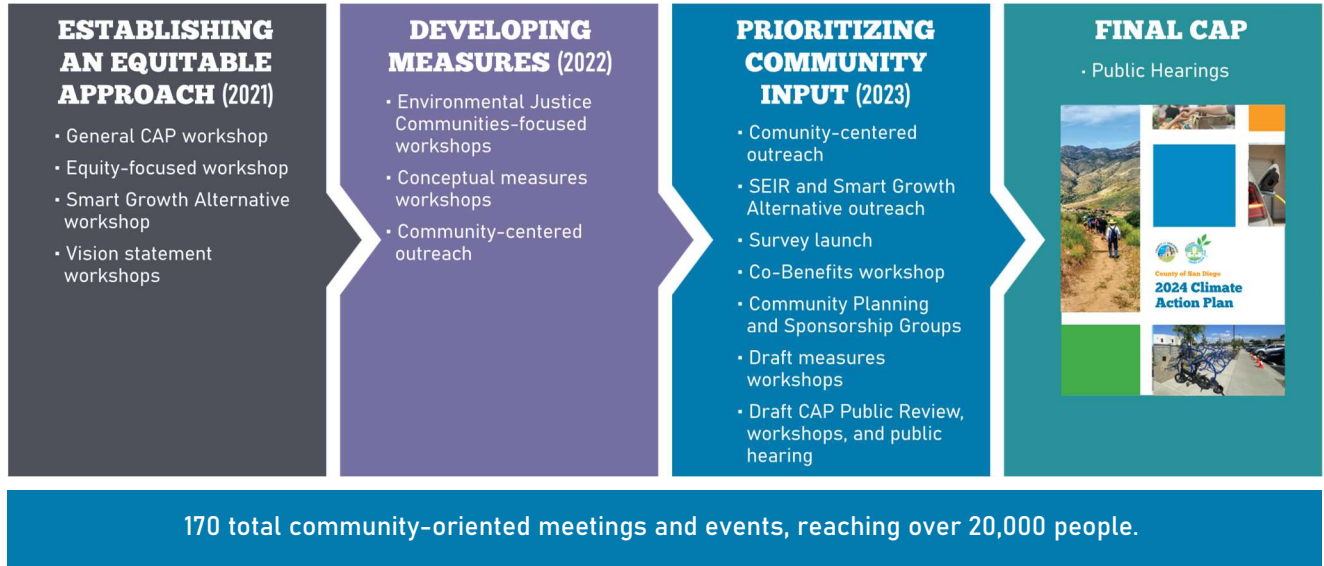
addressing institutional and structural barriers to participation. For instance, all workshops were held with dual-interpretation and all written materials were available in Spanish, with additional languages available upon request. A prepaid postcard survey was developed to collect input to address the “digital divide” and meetings were held outside of standard business hours to further encourage participation.

This outreach and engagement approach helped to inform distributional and structural equity elements of the CAP. Distributional equity prioritizes the fair distribution of resources and benefits to communities that will experience the greatest impacts of climate change and structural equity considers the historical underpinnings that have led to inequities to avoid future unintended negative consequences. The CAP’s GHG reduction measures include equity-based outcomes that identify ways measures can be implemented to ensure the process and/or outcomes emphasize equity. Structural equity has shaped this CAP to include policy and program commitments that not only address climate change but also support other societal issues that are of interest to frontline communities, e.g., improving public health and creating more family-supporting career opportunities. This process is demonstrated through the display of co-benefits scores for each CAP measure (described further in this chapter and in detail in Appendix 2) to show how measures achieve additional beneficial outcomes that are prioritized by our stakeholders and communities.



Procedural Equity	Distributional Equity	Structural Equity
Creating outreach, engagement, and involvement processes that are transparent, fair, and inclusive.	Prioritizing the fair distribution of resources and benefits to communities that will experience the greatest impacts of climate change.	Considers the historical underpinnings that have led to economic, social, and racial inequities to develop plans that seek to avoid future unintended negative consequences.

Figure 5 Developing a Community-Informed Climate Action Plan



2.2 Community Engagement Phases

The CAP Update process included three community engagement phases that built upon each other to inform development of the CAP (Figure 5). The first phase laid the groundwork for the CAP and established our commitment to an equitable engagement process. The second phase focused on the GHG reduction measures and implementing actions that would be included in the CAP. The third phase looked to collate all the information collected and determine how best to integrate findings into the Draft CAP. Feedback received during public review of the Draft CAP will be integrated into the Final CAP. More information on the activities and outcomes of each phase are included below.

Establishing an Equitable Approach

In 2021, we hosted general overview and equity-focused workshops on the CAP Update process to introduce the project and gain an understanding of what community members thought an equitable approach to updating the CAP looked like. A workshop was also conducted to gain input on the smart growth alternatives to be included in the Supplemental Environmental Impact Report (SEIR). In addition, we hosted workshops that focused on creating vision statements that establish a collective definition of what a net zero emissions future looks like for each of the CAP emissions reduction sectors. Sector vision statements guided the development of GHG reduction strategies and measures and are presented in Chapter 4. Outreach activities during this initial phase of the CAP Update set the stage for how we

approached the project and how we included stakeholder input in the CAP. Equity was a guiding principle throughout the CAP Update process and we continued to seek feedback on how to engage with stakeholders and include community perspectives in the CAP.

Developing Measures

From the end of 2021 into 2022, we began collecting public input on what actions the public would like to see the County take to address climate change through the implementation of CAP measures. This included talking with residents in frontline communities, such as the County’s identified Environmental Justice Communities (Spring Valley, Sweetwater, North El Cajon, and North Lemon Grove), to ensure these voices were heard from early on. These specific in-person events helped to elevate the concerns of our Environmental Justice Communities as we began to develop CAP measures.

With the guidance from the Environmental Justice Communities, we held a workshop series to collect feedback on conceptual measures that could be included in each of the five emissions reduction sectors. In addition, we presented the vision statements back to stakeholders to get their perspective on how well the statements captured ideas established at previous workshops and made revisions accordingly. For example, the vision statement for the Energy sector that was presented at the workshop was, “Renewable, carbon-free energy systems power efficient buildings and result in lower emissions and energy costs.”

Figure 6 Themes Heard During Community Outreach



Stakeholders identified that the vision statement should also refer to distributed energy resources and local energy production and storage. Using this input, we revised the vision statement to say, “Renewable, carbon-free energy systems power efficient, electric buildings, rely on distributed energy resources through resilient local energy production and storage, and result in lower emissions and energy costs.” Similar edits were made to the other vision statements. In this phase, we also kicked off our community-centered outreach described in detail later in this chapter.

Prioritizing Community Input

From 2022 through 2023, we continued and ramped up our community-centered outreach, launched a CAP Update survey, and held a workshop on co-benefits to gather input on what outcomes, in addition to GHG reductions, stakeholders want to see from CAP implementation. We also continued outreach on the SEIR and smart growth alternatives (see Chapter 5 of the SEIR for a summary of this outreach), and offered CAP Update presentations to all the Community Planning Groups & Sponsor Groups throughout the unincorporated area. We held a final series of workshops on an overview of the CAP Update and what to expect with a release of the Draft CAP, ahead of public review.

Final CAP

During the public review period, we hosted in-person and online office hours to provide the public with an opportunity to receive hands-on support while reviewing and providing input on the document. Additionally, we launched an interactive web platform that allowed individuals to leave direct comments on the document and review comments left by others. These various phases lead to informing the final version of the CAP to be adopted by our Board of Supervisors.

2.3 Community Engagement in Practice

General Workshops

The CAP Update process included a total of 18 virtual and in-person workshops held over the course of three years from 2021 through 2023. The workshops offered stakeholders an opportunity to provide input during each phase of the CAP Update development process, as described in Section 2.2. In-person workshops were hosted at sites within the unincorporated community, such as at County

libraries, parks, and community centers. Both virtual and in-person workshops included a variety of ways for participants to engage and provide input including polling, small group discussions, sessions for question and answer, and open public comment.



Children gardening at Julian Elementary School

Community-Centered Outreach

Our approach for inclusive community engagement included an effort to conduct community-centered outreach—emphasizing outreach to populations who are most impacted by climate change including youth, older adults, low-income communities, and communities of color. Ensuring these different perspectives were included in the CAP Update process was an important step in demonstrating our commitment to procedural, distributional, and structural equity and centering feedback from frontline communities in the CAP.

Throughout our community-centered outreach, public engagement methods were tailored for each group to reduce barriers to participation. Putting procedural equity into practice, efforts were made to address convenience, literacy, digital divide, and language accessibility, among other barriers.

Table 1 Community-Centered Outreach

YOUTH	OLDER ADULTS	LOW-INCOME COMMUNITIES AND COMMUNITIES OF COLOR
Staff reached out to 20 high schools in the unincorporated area to offer a lesson on the CAP and collect responses from youth on what actions they would like to see the County take to address climate change. Five schools and one youth-focused community group participated, including 242 students who prepared personal stories on climate change-related problems important to them, how we could respond to the challenge, and what outcome they hoped to see from taking the proposed action.	Staff partnered with the County's Aging & Independence Services (AIS) to distribute a prepaid survey postcard to older adults through their AIS congregate meal deliveries and sites. AIS partners with organizations across the unincorporated area to provide food directly to older adults who are in need. 350 surveys were distributed to older adults living in the unincorporated areas through these meal distributions.	Staff partnered with the Partner Relay Network and the Farmworker CARE Coalition to connect to two communities that are not often represented in planning processes: those with limited English proficiency and farmworkers. The two groups have built deep community connections to engage with these often-overlooked populations. Thirty-three people attended the Partner Relay CAP training, and 100 farmworkers were surveyed about their emergency needs, including those related to climate change.

This included following guidance from the County's Translation, Language, and Culture Connection Workgroup on how to develop culturally sensitive, accurately translated, trauma-informed, and accessible communications for multilingual, diverse San Diego communities. Table 1 provides an example of the ways in which these groups were engaged, and additional information on engagement efforts is detailed in Appendix 1.

Additional community-centered outreach included participating in and hosting informational tables at community events within the unincorporated area. This included co-tabling with our Health and Human Services Agency counterparts at Movies in the Park in Pine Valley and Sweetwater, tabling at Earth Day events in Spring Valley and Ramona, participating in clean-up events alongside I Love a Clean San Diego in Fallbrook, and showcasing our materials at libraries in Julian and Lakeside.

Unincorporated County Climate Action Plan Survey

The “Unincorporated County Climate Action Plan Survey” was a ten-question survey that was available online and in hard copy in all eight County threshold languages (Arabic, Chinese (Mandarin), Korean, Persian (Farsi and Dari), Somali, Spanish, Filipino (Tagalog), Vietnamese). The online version of the survey was available on our County Sustainability website from February 2023 through August 2023. Similarly, we printed prepaid postcard versions of the survey and distributed 1,500 of them through

partners, at community events, and to all the library branches in the unincorporated community.

The survey served a variety of purposes. First, it assessed levels of understanding and concern regarding climate change. It also gave survey respondents an opportunity to identify what platform they would prefer to continue to engage with CAP on. And most importantly, it collected information on which co-benefits matter the most to unincorporated area residents. This valuable input helped us to understand community priorities and contributed to the development of a Co-Benefits Tool, described next, that evaluates the relative value each CAP measure provides, in addition to GHG emissions reductions, to our communities. Results of the survey are presented in Figure 7.



CAP Update outreach at the Lakeside Library Branch



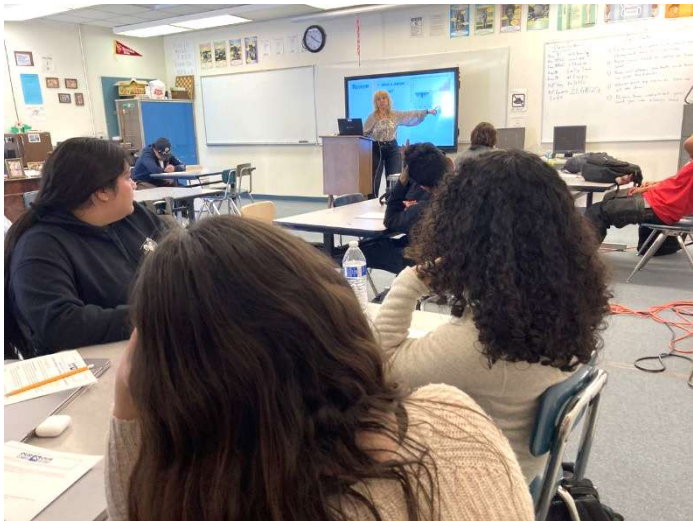
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Fallbrook Community Center and Park

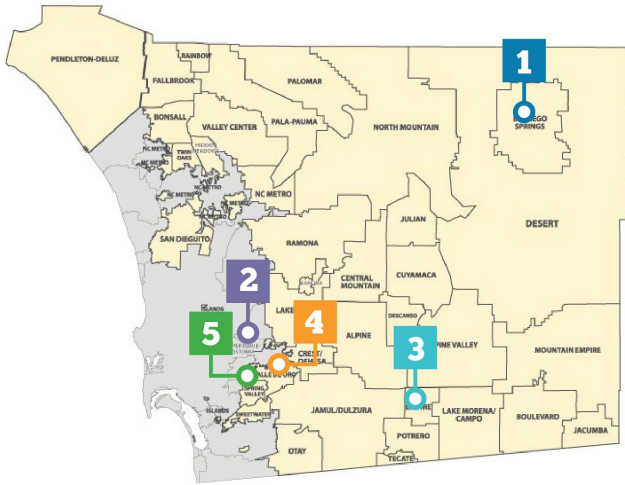
CAP Youth Outreach

Young people will be at the forefront of dealing with the climate emergency in the near future. As such, it’s important to hear from them on what actions they want to see the County take.

TOTAL YOUTH REACHED: 242



CAP youth outreach with students at Borrego High School



SITES VISITED

- 1. Borrego High School
- 2. Santana High School
- 3. Mountain Empire High School
- 4. Granite Hills High School
- 5. Bonita Vista High School
- 6. Sunrise Movement*
*organization, no specific location

ACROSS THE REGION

We asked young people about how concerned they are about climate change and what their top concerns are:

Young people are mostly “**somewhat worried**” about climate change and are most concerned about **air quality**.

WHAT WAS DISCUSSED?

The presentation included information on climate change and the CAP, how the County government operates, and provided an opportunity to receive feedback and insights from the next generation.

COMMON THEMES

Frustrating Balance
Sustainable Scared
Safety Concern
Sad Fear
Overwhelmed
Health Angry
Family

PERSONAL NARRATIVE QUOTES

“I would hope for people to wake up and realize what we are doing to the planet. The more danger we create, the more damage being cause. Eventually the damage will become unfixable.”

“One time I got upset because my grandpa couldn’t make it to dialysis due to the weather.”

“My little town already has extreme heat and probably won’t be able to be at a live able temperature if it continues to get worse.”


“I would also like for my cousins, nephews, and nieces to grow up in a better world.”

“I am asking that the County of San Diego does not take this situation lightly and take action to improve the environment and people’s lives.”

Figure 7 Unincorporated County Climate Action Plan Survey Results

You Spoke, We Listened

The *Unincorporated County Climate Action Plan Survey* enhanced public participation during the CAP Update process. It provided valuable insights into on-going engagement strategies and collected information on co-benefits, which in turn helped prioritize and develop CAP measures. The Survey was distributed through a variety of in-person venues and made available online where it was translatable into all eight County threshold languages.

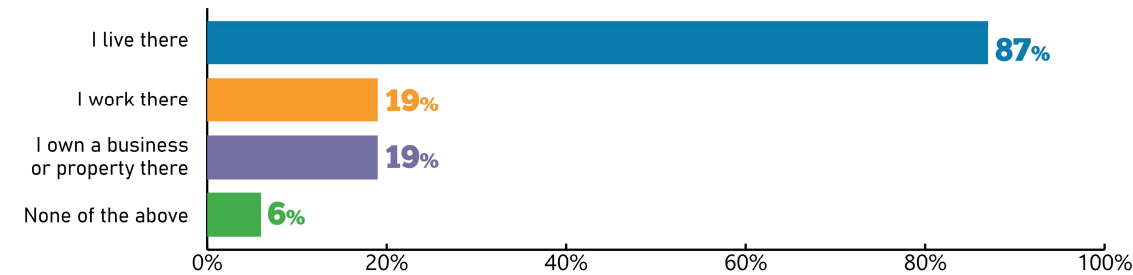


565
Number of responses received



74%
People concerned that climate change will impact their family or community

What is your relationship to the unincorporated county?



Example of the printed version of the Unincorporated County CAP Survey

In addition to reducing greenhouse gas emissions, what other outcomes are important to you?

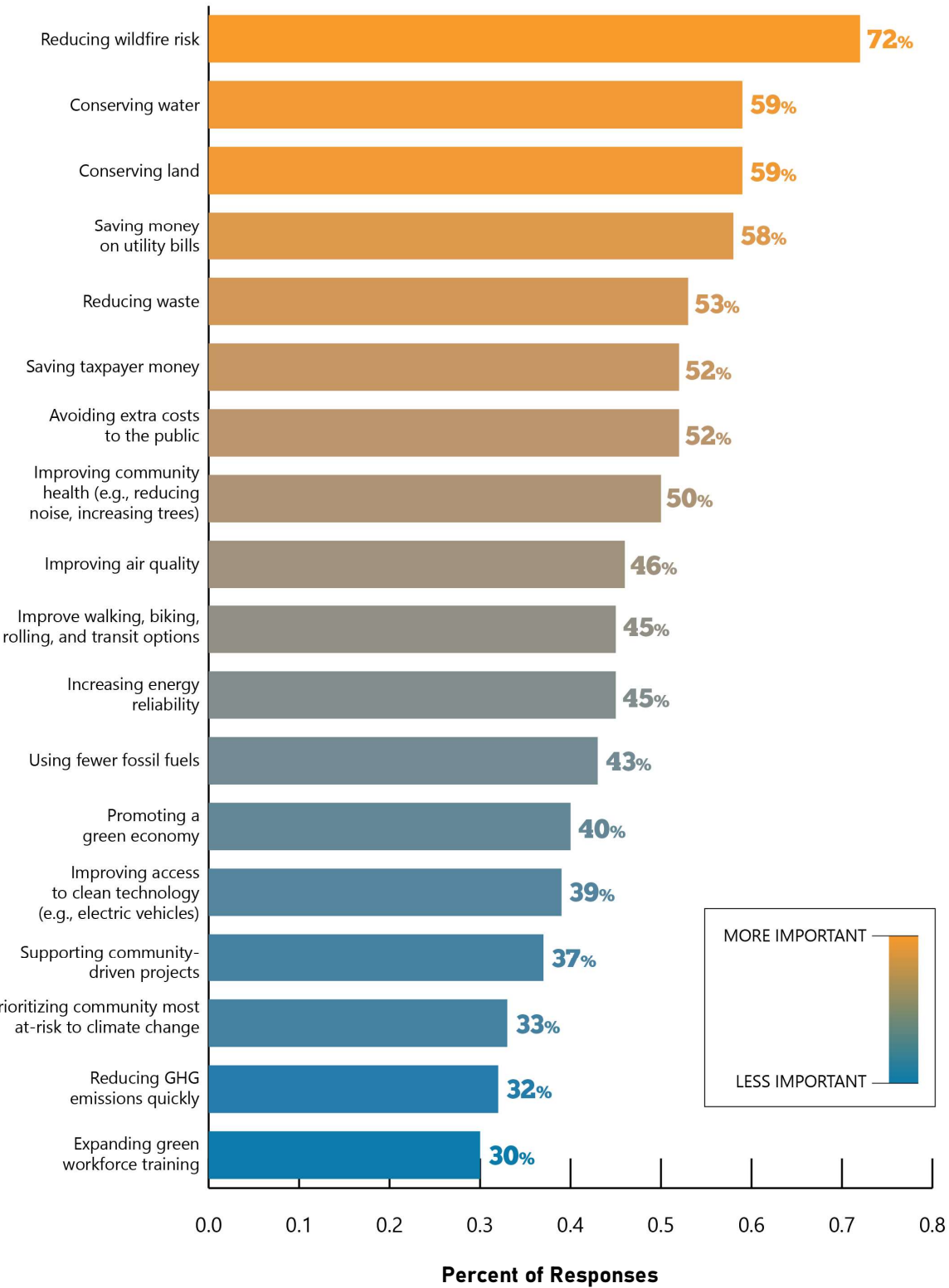


Figure 8 Co-Benefits Tool Evaluation Process



Co-Benefits Evaluation Tool

It is critical that the community perspectives we received during outreach and engagement efforts directly influence how the County prioritizes and implements CAP measures and actions. To do so, we developed a tool to quantitatively analyze and incorporate public input we received on which co-benefits were most important to stakeholders. The tool is used to identify which measures and actions would have the greatest positive impact to co-benefits most valued by stakeholders. This information, along with other important factors such as cost, GHG reduction potential, and timeline help identify which actions to prioritize in CAP measure implementation.

Our Co-Benefits Evaluation Tool was adapted from the *Climate Action Prioritization (CLIMACT Prio) tool*, developed to help facilitate decision support and capacity building by the Institute for Housing and Urban Development Studies at Erasmus University Rotterdam, and combined methodology from existing prioritization tools used by other agencies in the San Diego region. This includes *SANDAG's Prioritization Tool Guidebook*, which identifies preferred adaptation strategies to support a range of climate action planning processes.

The Co-Benefits Evaluation Tool elevates CAP measures that could be prioritized to support community values using a multi-criteria analysis that evaluates which measures and actions have the greatest impact on co-benefits that matter the most to stakeholders. Our tool did not remove any potential measures or actions from the CAP, but instead shows the relative value each measure provides for co-benefits that are most highly valued by stakeholders.

To begin this analysis, we developed a list of eighteen co-benefits based on feedback received throughout outreach efforts from 2021 to 2023. For instance, when we heard in our Energy, Water & Wastewater, and Solid Waste Sector Vision Statement workshop in July 2021 that we should “create clean energy/green jobs in

rural and low-income areas”, we incorporated this into the “expand green workforce training” co-benefit. The eighteen co-benefits were grouped into five categories that align with the *County's Strategic Initiatives*: Community, Equity, Empower, Sustainability, and Justice. These groupings simplified the list of co-benefits to make the Tool outputs easier to comprehend and demonstrate the CAP's commitment to the County's Strategic Initiatives.



CAP Update outreach at the Live Well San Diego 5K

Community feedback was incorporated into this Co-Benefits Evaluation Tool by ranking co-benefits based on the frequency they were selected as a priority to stakeholders through public input from our survey, workshops, and other outreach activities. These community values were used to weight co-benefit scores such that measures with greater positive impacts to valued co-benefits would receive greater scores. Separately, each action within the CAP measures was rated for its positive impact on each co-benefit. Ultimately, the co-benefit scores were summarized to create Community Priority Scores for each CAP measure, which are presented alongside CAP measure descriptions and implementation details in Chapter 4.

Through this process, each measure has an assigned Community Priority Score that is reflective of stakeholder feedback to demonstrate which measures would have the greatest positive impact on co-benefits valued by our community members. These scores, when evaluated alongside other

prioritization considerations (e.g., cost, GHG reduction potential), can be used to inform future implementation considerations when planning for CAP measure implementation. Additional details on the Tool's methodology can be found in Appendix 2.

Table 2 Climate Co-Benefits and Alignment with County Strategic Initiatives

Co-Benefit	CAP Alignment	Strategic Initiative Alignment
1. Conserving land 2. Conserving water 3. Using fewer fossil fuels 4. Reducing waste	Addressing climate change through preserving the environment and developing innovative policies and programs.	 Sustainability
5. Improving community health e.g., reducing noise, increasing trees 6. Improving walking, biking, rolling, and transit options 7. Improving air quality 8. Improving access to clean technology e.g., EVs	Reducing health disparities by improving the built environment.	 Equity
9. Saving taxpayer money 10. Promoting a green economy 11. Saving money on utility bills 12. Expanding green workforce training	Providing educational, training, and other opportunities to expand access to high-road green jobs and the green economy.	 Empower
13. Reducing wildfire risk 14. Avoiding extra costs to the public 15. Increasing energy reliability	Supporting and enabling community engagement and reducing climate-related vulnerabilities to improve quality of life.	 Community
16. Supporting community-driven projects 17. Reducing GHG emissions quickly 18. Prioritizing communities most at-risk to climate change	Advancing environmental and social justice through targeted universalism ¹ (i.e., setting universal goals and using targeted processes to achieve those goals) which elevates and responds to frontline communities and their needs first.	 Justice

¹ Othering & Belonging Institute at UC Berkeley (May 2019). Targeted Universalism: Policy & Practice. Available at: <https://belonging.berkeley.edu/targeted-universalism>

A wide-angle landscape photograph of a grassy field under a blue sky with scattered white clouds. In the background, there are rolling hills and distant mountains. A fence line is visible in the foreground.

03

GHG Emissions Inventory, Projections, and Reduction Targets

3. GHG Emissions Inventory, Projections, and Reduction Targets



During the CAP Update planning process, an important first step was to create a detailed record of GHG emissions from the unincorporated area and County operations. This inventory helps us understand where emissions originate from and establishes a starting point for estimating future emissions and tracking our progress in reducing them. By analyzing the projected emissions, we can gain valuable information about the likely direction of emissions and use it to set GHG reduction targets that align with the goals set by the State and the Board of Supervisors (Board). The GHG emissions inventory and projections also highlight the gap that exists between our projected emissions and the reductions needed to meet our GHG reduction targets.

3.1 GHG Inventory

A GHG emissions inventory is a way to estimate the amount of certain gases (such as carbon dioxide [CO₂], methane [CH₄], nitrous oxide [N₂O]) that contribute to climate change. Prepared using the Local Governments for Sustainability (ICLEI) *U.S. Community Protocol for Reporting of Greenhouse Gas Emissions*, an internationally established and accepted protocol for GHG accounting, the inventory identifies and measures the major sources of GHG emissions from activities occurring within the unincorporated area and from County operations. It does not include emissions from activities in tribal nations, military installations, or activities in the 18 incorporated cities in the region, except for County operations occurring in those jurisdictions.

The CAP starts with the year 2019 to measure GHG emissions because it's the most recent year with complete emissions data prior to the early 2020 COVID-19 pandemic. This baseline helps project future emission trends and set targets for reducing emissions in the near term and achieving net zero emissions in the long term, in line with State and Board objectives. The 2019 inventory enables the County to develop and implement strategies to

reach GHG reduction targets and track progress towards the net zero goal.

The GHG emissions inventory for the CAP focuses on emissions generated by activities within the unincorporated area and County operations from specific sources. These sources are those that can be estimated, monitored, and reduced through local measures within the County's jurisdiction.



Electric vehicles charging at the North County Regional Center in Vista

- The 2019 inventory organizes the sources of emissions into nine emissions categories:
- **On-Road Transportation:** Emissions from vehicles traveling to, from, and within the unincorporated area and County fleet operations and employee commutes regardless of their location.
 - **Electricity:** Emissions from electricity generation due to electricity consumption in residential, commercial, industrial, and agricultural facilities, including County buildings, streetlights, stormwater pumps, and other County facilities.
 - **Natural Gas:** Emissions from natural gas consumption in residential, commercial, industrial, and agricultural facilities, including County facilities.

- **Solid Waste:** Emissions from landfills in the unincorporated area (including County-operated closed landfills) and the decomposition of waste in landfills that was generated in the unincorporated area and from County facilities.
- **Agriculture:** Emissions from livestock, fertilizer use, soil management, and agricultural equipment. No agricultural emissions are attributed to County operations.
- **Propane:** Emissions from residential, commercial, industrial, and agricultural propane consumption, including County facilities.
- **Off-Road Transportation:** Emissions from gasoline and diesel consumption by off-road vehicles and equipment, including construction and landscaping equipment and recreational vehicles. This includes County fleet off-road vehicle operation.
- **Water:** Emissions associated with energy used in conveying, extracting, treating, and distributing water in the unincorporated area for domestic, irrigation, and industrial purposes. This includes water use at County facilities.
- **Wastewater:** Emissions from energy consumption and processing of domestic sewage and industrial wastewater in on-site septic systems or

centralized treatment plants. This includes wastewater generation at County facilities located outside the unincorporated area.

In alignment with the established and accepted protocols for GHG accounting, this CAP inventory does not include lifecycle emissions (e.g., total amount of GHGs from the import and export of goods) or air travel to, from, or within the county because these sources are not able to be estimated, monitored, and reduced through local measures within the County's jurisdiction.

More detailed information about the specific emission categories, data sources, assumptions, and methodology can be found in Appendix 3 for community emissions and Appendix 4 for County operations.

The total emissions from the unincorporated community and County operations in 2019 were 2,984,000 metric tons of CO₂ equivalent (MTCO₂e). Figure 9 and Table 3 provide a breakdown of the 2019 emissions by the nine emissions categories.

After the CAP is adopted, the County will prepare GHG emissions inventories every two years to monitor the implementation of CAP measures and actions and evaluate progress towards achieving the CAP's GHG reduction targets and goal.

Figure 9 County GHG Emissions by Emissions Category (2019)

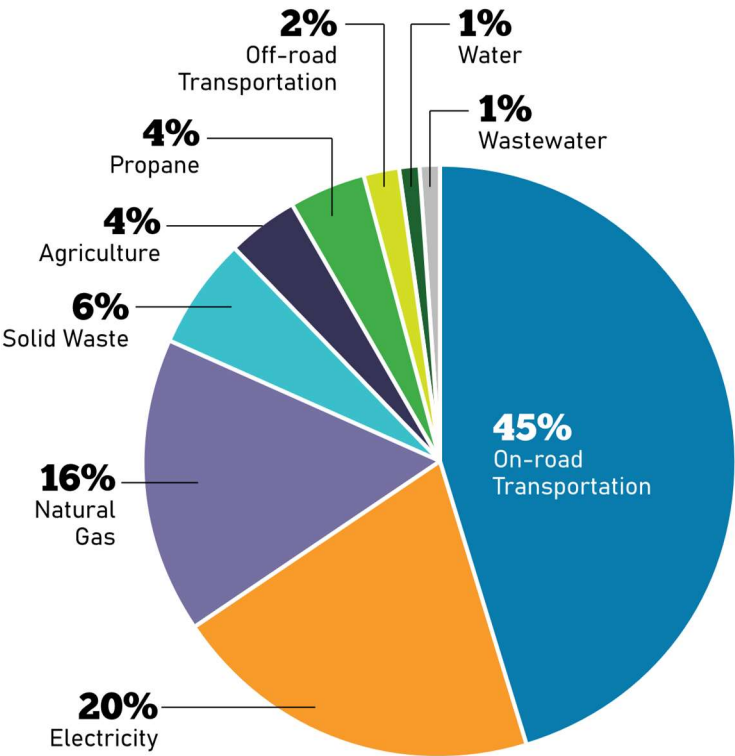


Table 3 County GHG Emissions by Category (2019)

EMISSIONS CATAGORY	2019 GHG EMISSIONS (MTCO ₂ e)	PERCENT OF TOTAL (%)
On-road Transportation	1,331,000	45%
Electricity	599,000	20%
Natural Gas	478,000	16%
Solid Waste	193,000	6%
Agriculture	134,000	4%
Propane	121,000	4%
Off-road Transportation	71,000	2%
Water	39,000	1%
Wastewater	18,000	1%
Total	2,984,000	100%

Percentages may not add up to totals due to rounding.
Energy Policy Initiatives Center, University of San Diego 2023.

3.2 Carbon Storage

The natural carbon cycle involves the exchange of carbon between the atmosphere and the Earth. When in balance, emissions from wildfire and plant decomposition are balanced by carbon stored in plants and soils in natural and working lands (e.g., shrubland, grassland, orchards, crops) and waters, resulting in relatively minimal change in the total concentration of atmospheric CO₂ that drives climate change. Emissions from human activities (e.g., emissions from burning fossil fuels, land use development) have accumulated in the atmosphere at an unprecedented pace and contributed to putting the natural carbon cycle out of balance, thereby increasing the greenhouse effect and causing anthropogenic climate change. This results in warmer temperatures, extreme heat events, droughts, and more intense wildfires, which in turn release additional emissions into the atmosphere. In addition to limiting emissions from fossil fuel

combustion and other human activities, managing natural and working lands to increase carbon storage is critical to efforts to achieve net zero emissions and carbon neutrality.

As part of the process to consider actions that increase carbon storage in the CAP, existing carbon stocks were estimated (Appendix 6). This was done to better understand the carbon storage potential of natural and working lands within the unincorporated area and identify actions the County can take to increase carbon storage and make progress towards the net zero emissions goal.

Total carbon stock in the unincorporated area was approximately 178 million metric tons (MMT) of carbon dioxide equivalent (CO₂e) as of 2016. As shown in Table 4, most (87%) carbon is stored in shrublands and forests, with the rest stored in urban (developed) areas, grasslands, orchards, barren lands, row crops, and wetlands.

Table 4 Existing Unincorporated Area Carbon Stock by Land Cover Type (2016)

LAND COVER TYPE	CARBON STOCK (MMTCO ₂ e)	PERCENT OF TOTAL CARBON STOCK (%)	ACRES	CARBON STOCK RATE (MTCO ₂ e/acre)
Shrubland	117	66	1,134,822	102.8
Forest	37	21	158,638	233.7
Urban	13	7	235,680	56.9
Grassland	4	2	68,044	66.0
Orchard	2	1	33,866	69.7
Barren	2	1	344,858	7.2
Row Crop	1	< 1	14,573	47.6
Wetland	1	< 1	14,457	48.4
Total	178	100%	2,004,938	88.7

Percentages may not add up to totals due to rounding.
Ascent 2023.

Table 4 also shows the average metric tons of carbon stock per acre by landcover type, which highlights that forest and shrublands are the landcover types with the highest stock per acre.

3.3 Emissions Projections

Emissions projections help us understand what the County's GHG emissions would look like if we took no additional climate action beyond what has been implemented by the federal and State governments. Projections give us an idea of the scale of reductions needed to meet our reduction targets and goal of achieving net zero emissions.

The CAP's emissions projections estimate future emissions by considering forecasted growth in population, housing units, and employment, and the impact of adopted legislation and regulations on future emissions. These actions are described in detail in Appendix 5. They include State requirements to sell more efficient and zero-emission vehicles, generate more electricity from renewable and zero carbon sources, and construct buildings to use energy more efficiently and generate fewer GHG emissions.

For more information on how the projections were developed, the indicators used for estimating emissions in each sector, and the specific legislative and regulatory actions accounted for in the County's GHG projections, please refer to Appendix 3. Figure 10 shows estimated GHG emissions in 2019 and projected emissions through 2045.



Grasslands in the Ramona Grasslands County Preserve



Vegetables growing in the Julian Elementary School garden

3.4 Emissions Reduction Targets

The State has established GHG emissions reduction targets through various statewide plans, laws, and executive orders to address climate change. Senate Bill (SB) 32, adopted in 2016, mandates that statewide GHG emissions reach 40% below 1990 levels by 2030. More recently, in 2022 Assembly Bill (AB) 1279 established policy for the State to achieve net zero emissions as soon as possible and ensure anthropogenic emissions are reduced to at least 85% below 1990 levels by 2045.

In December 2022, the California Air Resources Board (CARB) adopted the [2022 Climate Change Scoping Plan](#) (2022 Scoping Plan), which identifies a technologically feasible and cost-effective scenario to achieve statewide carbon neutrality, or net zero emissions, by 2045. This analysis determined that to achieve AB 1279 targets, statewide emissions reductions must exceed SB 32 requirements to reach 48% below 1990 levels by 2030. In addition, the 2022 Scoping Plan shows that natural and working lands are projected to be a net source of emissions in 2030, and that with residual anthropogenic emissions, additional carbon dioxide removal strategies, which are outside the County's immediate control, are required to reach net zero emissions by 2045.

This CAP sets GHG reduction targets and a net zero goal in alignment with the 2022 Scoping Plan and

Board direction as described in detail in Appendix 5. By adjusting the state-level GHG targets identified in the 2022 Scoping Plan to the County's 2019 GHG inventory, the CAP identifies two targets for emissions to reach 43.6% below 2019 levels by 2030 and 85.4% below 2019 levels by 2045. These targets will be achieved and exceeded through quantitative emission reductions from CAP measure implementation as outlined in Chapter 4. Additionally, an aspirational goal to reach net zero emissions by 2045 is established to align with Board direction. This CAP includes a pathway to achieve this goal through forward-looking implementation actions and collaboration with other local agencies and regional partners. This pathway to net zero supports broad measures to address emission sources that cross jurisdictional boundaries and decarbonize the entire region.

GHG Emissions Reduction Targets

- ▶ 1,683,156 MTCO₂e in 2030 or 43.6% below 2019 levels
- ▶ 434,185 MTCO₂e in 2045 or 85.4% below 2019 levels

GHG Emissions Aspirational Goal

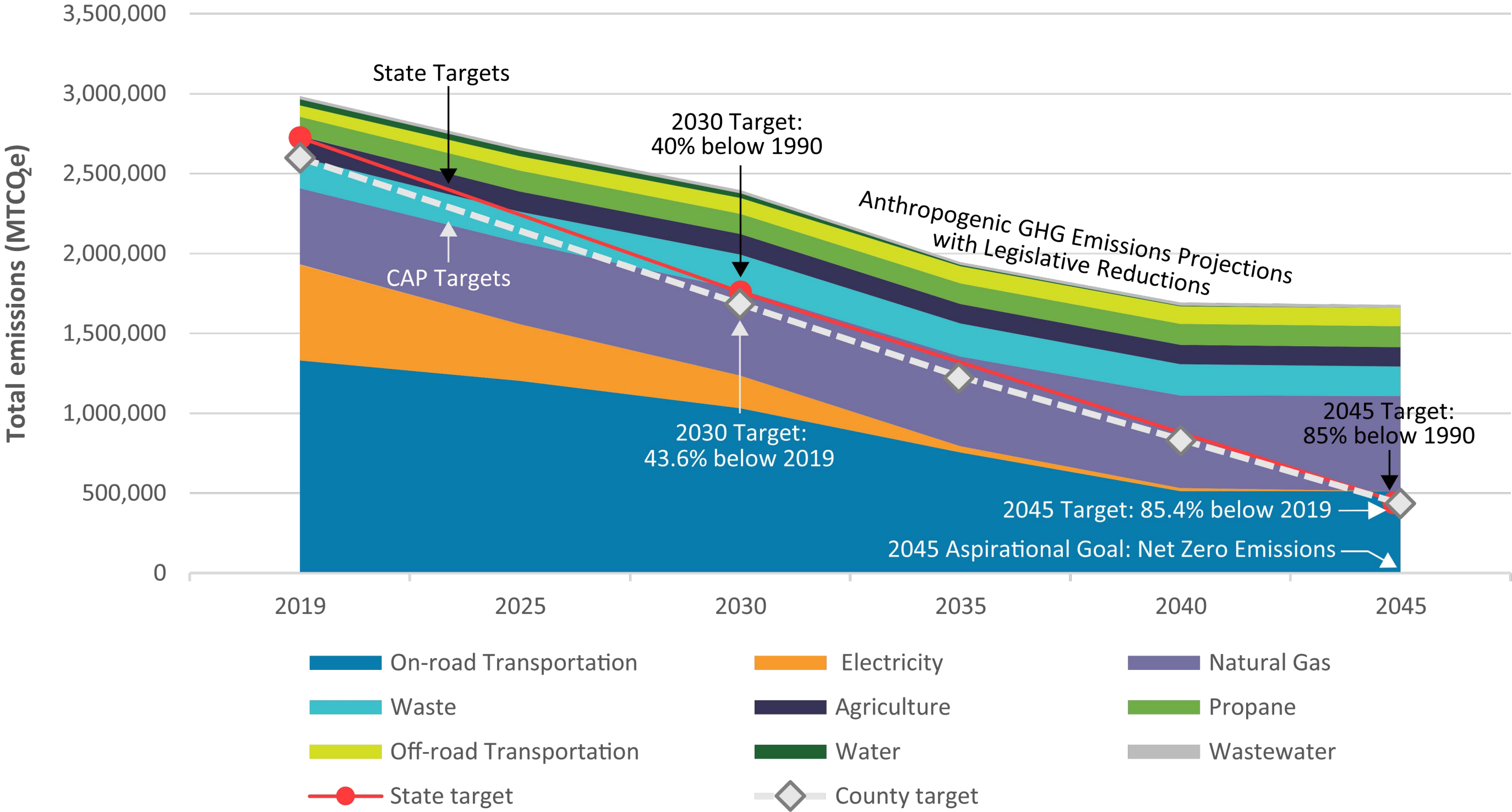
- ▶ Net zero emissions by 2045



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Valley Center History Museum

Figure 10 County GHG Emissions Projections and Targets



See Figure 13 for how CAP measures contribute towards the County meeting the 2030 and 2045 reduction targets and making substantial progress towards the longterm aspirational goal of net zero emissions by 2045.



04

GHG Emissions Reduction Measures

Cactus along a hiking trail in the backcountry

4. GHG Emissions Reduction Measures

4.1 GHG Reduction Framework

The CAP establishes GHG reduction targets for 2030 and 2045 and a net zero emission goal by 2045, which will require the pursuit of a wide variety of opportunities to reduce and avoid GHG emissions while also pursuing efforts to increase carbon storage in natural and working lands. As discussed in Chapter 3, the CAP sets its emissions reduction targets to align with State targets and Board direction. The number of reductions needed to achieve these targets is based on the GHG emissions inventory and projections of emissions into the future.

The CAP establishes nine strategies, 21 measures, and 70 actions that the County will take to achieve the 2030 and 2045 targets and make progress towards the net zero emissions goal. These actions reduce GHG emissions from five emissions reduction sectors through:

- **Built Environment and Transportation:** Increased mobility options and transitions to efficient and zero-emission vehicles and equipment
- **Energy:** Increased energy efficiency, electrification, and renewable energy use in buildings
- **Solid Waste:** Increased waste diversion and improved waste management practices
- **Water and Wastewater:** Increased water efficiency, recycling, and reuse to reduce potable water consumption
- **Agriculture and Conservation:** Increased preservation and restoration of natural and working lands and transitions to efficient and zero-emission agricultural equipment

Each emissions reduction sector contains a net zero vision statement that describes what an equitable, net zero emissions future would look like in the unincorporated area and in County operations (Table 5). Net zero vision statements help guide the overall approach for how strategies and measures will reduce GHG emissions within each emissions

reduction sector. Strategies describe the measures and actions within each sector and how they will help achieve the County’s vision for net zero within each sector (Figure 11).

Measures describe the County’s policy goals and include actions that outline the steps the County will carry out to achieve quantified GHG reductions that contribute towards the 2030 and 2045 targets and put the County on a path to reaching the net zero emissions goal. Quantified GHG reductions are achieved through implementing actions outlined under each measure. Measures also include supporting, or “Path to Net Zero,” actions that do not result in quantified GHG reductions, but instead contribute to achievement of the sector’s vision and the County’s net zero emissions goal.



Public art in Ramona

- To be included in the CAP, these measures and implementing actions are
1. within the County’s jurisdiction and ability to enforce;
 2. able to be monitored with readily available data to demonstrate progress over time;
 3. achievable within the County’s regulatory framework; and
 4. additional to existing regulations from the State or federal government.



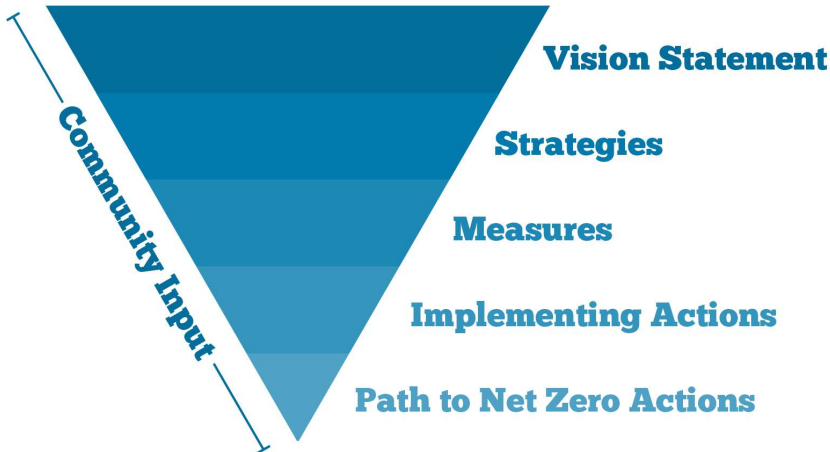
Measures reduce GHG emissions in three primary ways. First, some measures focus on creating new opportunities to avoid emissions, such as replacing gas-powered vehicles with zero-emission alternatives. Second, some measures seek to reduce emissions, such as implementing a County employee teleworking program that reduces the number of miles employees drive to work every week. Finally,

some measures function to store carbon, such as in natural lands and agricultural lands preservation and management. In addition to GHG reductions, measures also result in additional co-benefits like improved community health or air quality, new renewable energy and manufacturing jobs, and increased access to clean transportation, among others.

Table 5 GHG Emissions Reduction Sector Vision Statements

EMISSIONS REDUCTION SECTOR	NET ZERO EMISSIONS VISION
Built Environment and Transportation 	Complete communities that leverage the unique characteristics of the unincorporated area, support critical services and amenities such as local businesses, parks, and libraries, include accessible options such as sidewalks and bike lanes, and where infrastructure to support public transportation and zero-emission vehicles is widely available.
Energy 	Renewable, carbon-free energy systems power efficient, electric buildings, rely on distributed energy resources through resilient local energy production and storage, and result in lower emissions and energy costs.
Solid Waste 	County-wide culture of avoiding, recycling, or composting waste, where emissions associated with landfills have been eliminated, and people have equitable access to recycling and compost facilities, opportunities for economic development, and are encouraged to reuse and share materials.
Water and Wastewater 	Water quality and adequacy is maintained, and emissions associated with the transportation of water are reduced through indoor and outdoor water conservation programs, efficient delivery pipelines, and reuse of stormwater and wastewater.
Agriculture and Conservation 	Natural and agricultural lands are preserved, invested in, and optimally managed to capture carbon, support the local food and farming community, maintain biodiversity, and provide access to healthy outdoor spaces.

Figure 11 GHG Reduction Framework



4.2 Climate Co-Benefits and Community Priorities

While the CAP will reduce GHG emissions to address global climate change, these reductions may not result in tangible or noticeable changes within individual communities. For this reason, many community members are more interested in the complementary benefits that result from measure implementation, such as improvements in community health, expanded sidewalks and bike lanes to safely navigate their neighborhoods, or the promotion of a green economy. Commonly referred to as co-benefits, these are the additional beneficial effects that are anticipated to result from CAP implementation. Through the CAP outreach and engagement process (described in Chapter 2), a

definition was co-developed with the community to describe co-benefits as:

“holistic benefits for our region and people that create healthy, resilient, and equitable communities and economic opportunities through climate action.”

This process also identified a list of 18 co-benefits that are important to stakeholders and grouped to align with the County’s five Strategic Initiatives: Sustainability, Equity, Empower, Community, and Justice (Figure 12). The CAP uses a Co-Benefits Evaluation Tool (Appendix 2) to determine which measures are a priority to the community based on their level of impact on each co-benefit. The results of this tool are displayed within each measure description presented below.

Figure 12 Co-Benefits of Climate Action



4.3 GHG Emissions Reduction Potential

Quantified emissions reductions will result from the implementation of policies, programs, and incentives outlined under each measure in Section 4.4. Annual reductions from implementation of CAP measures are expected to be 741,171 metric tons of carbon dioxide equivalent (MTCO₂e) by 2030 and 1,374,354 MTCO₂e by 2045. Alongside federal and State legislative and regulatory actions, emissions reductions achieved through CAP measure implementation exceed the County’s 2030 and 2045 reduction targets and achieve 44.5% emissions reductions in 2030 and 89.8% emissions reductions in 2045 from 2019 levels (Table 6, additional information available in Appendix 5).

Additionally, the CAP contains 35 “Path to Net Zero” actions that establish steps the County will take to reach the 2045 net zero emissions goal. While these actions do not contribute towards the CAP’s quantified reductions, implementation of these

actions could result in quantified reductions in future CAPs with additional data and monitoring as part of the CAP’s Annual Monitoring Report.

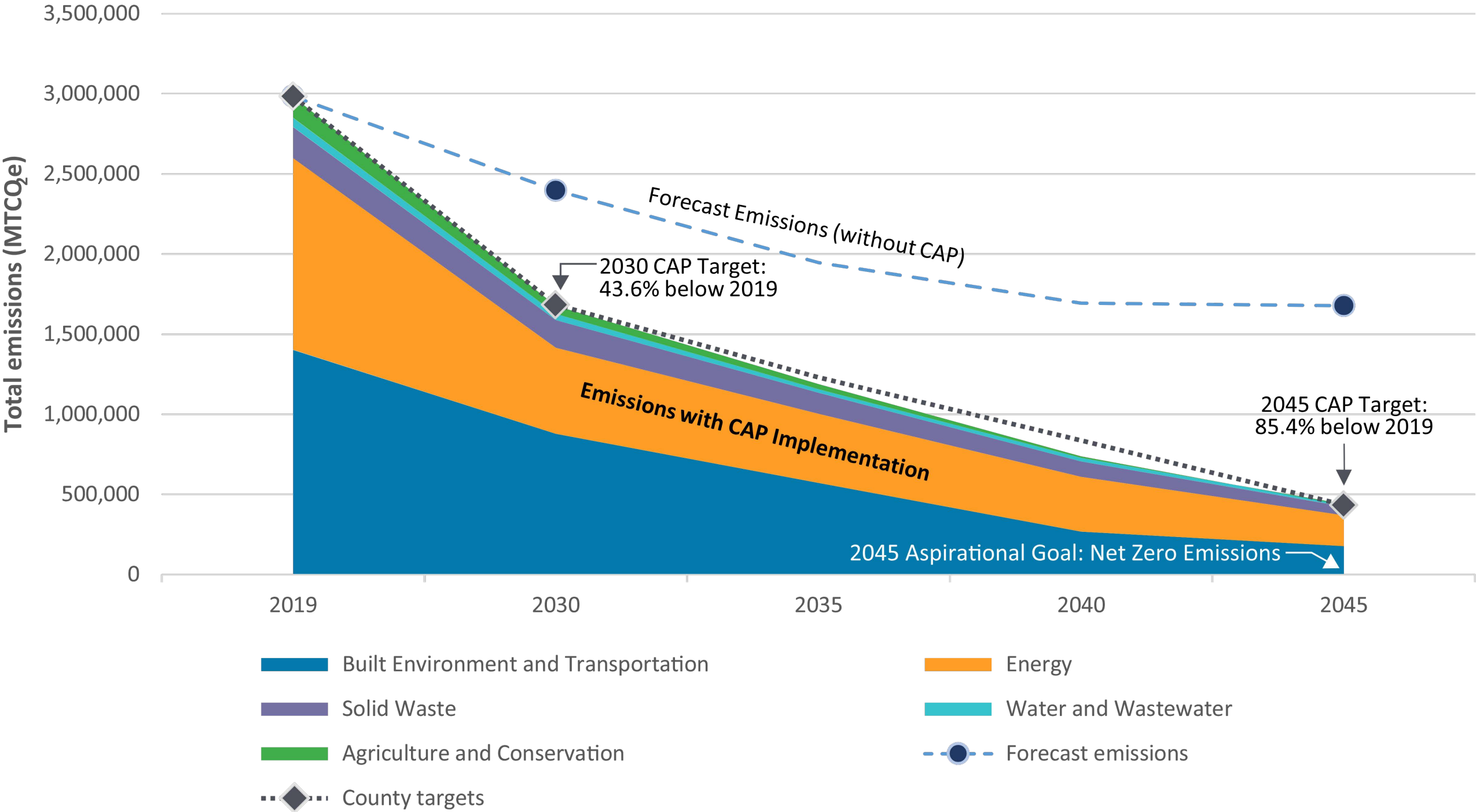
Figure 13 shows how CAP measures within the five emissions reduction sectors contribute towards the County meeting the 2030 and 2045 reduction targets and making substantial progress towards the long-term aspirational goal of net zero emissions by 2045. The County will need to leverage its influence as an environmental steward, collaborate with other local agencies and regional partners, and advocate for additional actions from the State to achieve this ambitious goal. Approximately 303,646 MTCO₂e emissions will need to be eliminated to meet to net zero emissions goal by 2045. Additional information on how CAP measures will result in GHG reductions including timeframes and performance metrics can be found in Chapter 5.

Table 6 Summary of Greenhouse Gas Emissions Reductions

ANNUAL GHG EMISSIONS REDUCTIONS (MTCO ₂ e/YEAR)		
STRATEGY	2030	2045
Built Environment and Transportation		
Decarbonize the On-Road and Off-Road Vehicle Fleet	236,498	396,815
Support Active Transportation and Reduce Single-Occupancy Vehicle Trips	32,333	51,926
Energy		
Increase Building Energy Efficiency, Renewable Energy, and Electrification in the Unincorporated Area and County Operations	333,097	536,299
Solid Waste		
Increase Solid Waste Diversion in the Unincorporated Area and County Operations	39,109	60,258
Increase Availability of Sustainable Solid Waste Facilities in the Unincorporated Area and County Operations	1,373	69,448
Water and Wastewater		
Decrease Potable Water Consumption in the Unincorporated Area and County Operations	445	0
Increase Stormwater Collection, Water Pumping, and Wastewater Treatment Efficiency	10,046	1,869
Agriculture and Conservation		
Preserve Natural Lands and Improve Land Management Practices to Protect Habitat and Increase Carbon Storage	66,256	99,217
Support Climate-Friendly Farming Practices and Preserve Agricultural Land	22,015	158,522
Reductions from CAP Strategies	Total Annual Reductions (MTCO ₂ e/year)	741,1711,374,354
	Percent Reduction (from 2019 levels)	44.5%89.8%
CAP Targets	Total Annual Reductions (MTCO ₂ e/year)	713,8441,243,815
	Percent Reduction (from 2019 levels)	43.6%85.4%
CAP Target Achieved?		
Additional Reductions Needed to Meet Aspirational Goal: Net Zero (MTCO ₂ e)		
	1,655,829	303,646

Abbreviations: MTCO₂e/year = metric tons of carbon dioxide equivalent per year.
Source: Ascent 2023.

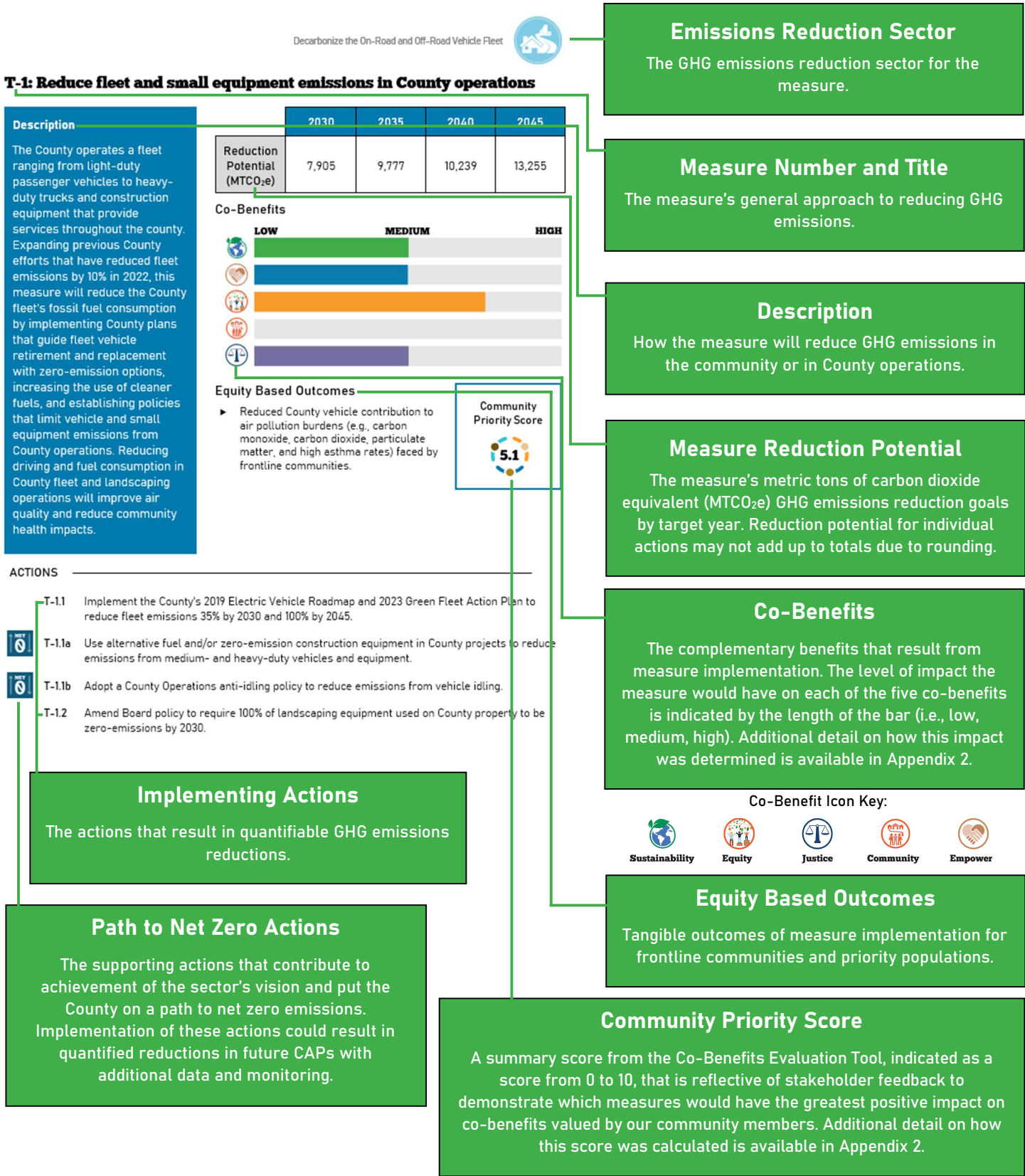
Figure 13 Greenhouse Gas Emissions Reductions from CAP Implementation



See Figure 10 for estimated GHG emissions in 2019 and forecasted emissions through 2045.

4.4 How to Read the CAP Measure Descriptions

Use this guide to understand the information presented on the CAP measure pages.



Built Environment & Transportation

VISION STATEMENT

- Complete communities that leverage the unique characteristics of the unincorporated area, support critical services and amenities such as local businesses, parks, and libraries, include accessible options such as sidewalks and bike lanes, and where infrastructure to support public transportation and zero-emission vehicles is widely available.

The Built Environment and Transportation sector refers to the emissions that occur from the way our communities are oriented and how we move about them. The unincorporated area's mix of village, semi-rural, and rural communities demonstrate a range of development intensities and population densities, often with remote travel destinations and few areas served by public transportation particularly in semi-rural and rural communities. Together, these characteristics contribute to a reliance on the automobile to travel in the unincorporated area, resulting in increased carbon and vehicle emissions and reduced air quality, particularly for residents in our frontline communities who live near highways at a disproportionately higher rate. Emissions from vehicle use on community roadways and highways, or on-road transportation, includes gasoline and diesel-powered vehicles, such as passenger vehicles, trucks, busses, and motorcycles, in addition to emissions from County fleet operations and employee commutes. In 2019, emissions from fossil fuel on-road vehicles made up 45% and was the largest contributor of all GHG emissions in the CAP emissions inventory.

In addition to on-road transportation emissions, the Built Environment and Transportation sector includes emissions from off-road vehicles and equipment that are powered by fossil fuels. Accounting for two percent of emissions from use in the unincorporated area and County operations in 2019, off-road equipment includes vehicles used for construction and recreation activities (e.g., all-terrain vehicles, small boats, small-engine motorbikes) and gas-powered lawn equipment (e.g., leaf blowers, lawnmowers, handheld garden equipment).

The Built Environment and Transportation sector includes two GHG reduction strategies comprising of six measures and 12 implementing actions. Through implementation of CAP measures within this sector, the County will increase opportunities to make walking, biking, rolling, and using public transit safe and viable transportation options. For trips that do require a vehicle, the County will prioritize actions that support the transition to zero-emission vehicles (ZEVs) for everyone. By doing so, these actions will not only reduce transportation emissions but will have the added benefits of increasing the availability of transportation options and access to community destinations and improving air quality and travel safety, while leveraging the unique characteristics of our unincorporated communities and putting us on a path to net zero emissions.



Bike lane in Alpine



Strategy: Decarbonize the On-Road and Off-Road Vehicle Fleet

Switching from fossil-fuel based on-road and off-road vehicles and equipment to those that are zero emission or use cleaner fuels is key to reducing GHG emissions from this sector. The County will prioritize clean transportation by supporting and incentivizing access to electric vehicles and charging infrastructure, particularly in frontline communities and at multi-family residential properties, converting the County fleet to electric, and reducing transportation emissions from commercial and industrial development. The County will also emphasize opportunities to transition landscaping, construction, and other off-road equipment fuel types from fossil fuels to zero-emission and clean fuel options. Reducing transportation emissions will benefit public health by improving air quality and mobility and provide cost savings for community members by reducing fuel use. This strategy includes three measures and five implementing actions.

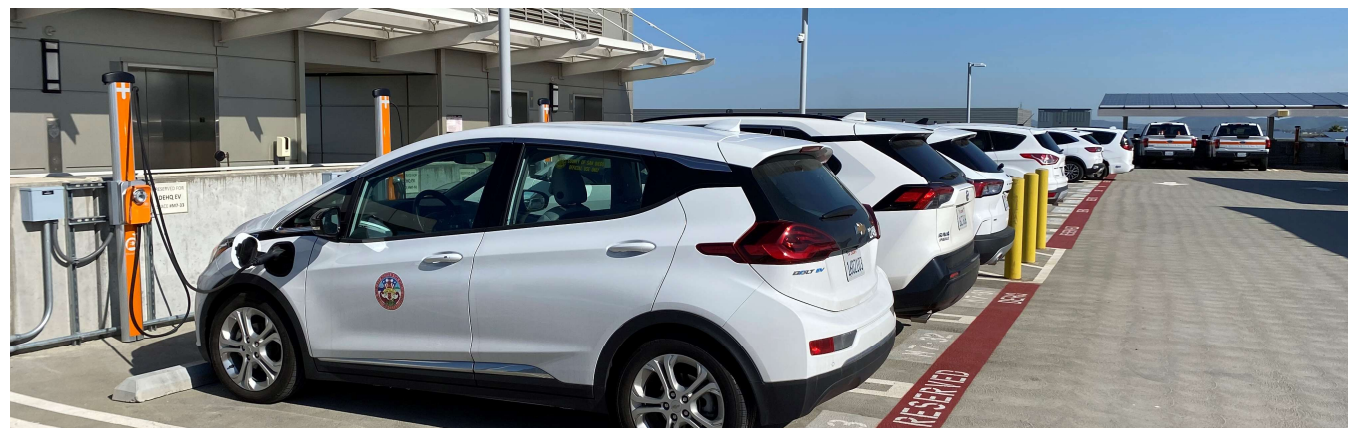
Actions accomplished to date:

- By the end of 2022, the County had 92 EVs in its vehicle fleet and an additional 218 EVs ordered with anticipated delivery in 2023.
- Through 2022, the County has planned or installed 56 EV chargers that are available for the public and an additional 203 EV chargers for County fleet vehicles.
- To reduce emissions from the County's fleet of medium-duty and heavy-duty vehicles (e.g., large trucks, construction equipment), the County uses 100% renewable diesel fuel for County projects and is transitioning to zero-emission options where feasible.
- The County's [EV Consumer Guide website](#), launched in 2021, provides a consolidated source of vehicle electrification information to help residents learn about electric vehicle technology,

home charger installation procedures, and available vehicle purchase incentives.

Other related County initiatives:

- The [2019 Electric Vehicle Roadmap](#) and 2023 Green Fleet Action Plan guide the transition of over 4,300 County vehicles and off-road equipment to zero-emission options and cleaner fuels.
- Utilizing data and technology tracking equipment, the County's Department of General Services monitors fleet usage to identify underutilized vehicles and opportunities for vehicle retirement.
- In conformance with state law, the County's EV charger installation permitting system is streamlined to help unincorporated residents apply online and receive same day permits for residential EV charging stations.
- The County works with regional partners, including the San Diego Association of Governments (SANDAG), San Diego Gas & Electric (SDG&E), the City of San Diego, and the San Diego County Air Pollution Control District (SDAPCD), on the [Accelerate to Zero Emissions \(A2Z\) Collaboration](#) to support regionwide efforts to accelerate investment in ZEVs and EV charging infrastructure.
- Directed by the Board on August 31, 2022 (6), the County has prepared an Energy, Equity, and Resiliency Report to evaluate how future energy demands, the transition to zero-emission vehicles and equipment, and building electrification can be supported by existing and planned renewable energy generation.
- Also directed by the Board on August 31, 2022 (6), the County has prepared a Hydrogen Fueling Station Report to analyze current and future hydrogen fueling needs and demand for medium-and heavy-duty vehicles (i.e., trucks, buses, freight, construction equipment) in the unincorporated area to support regional fleets.



County fleet electric vehicles charging at the County Operations Center



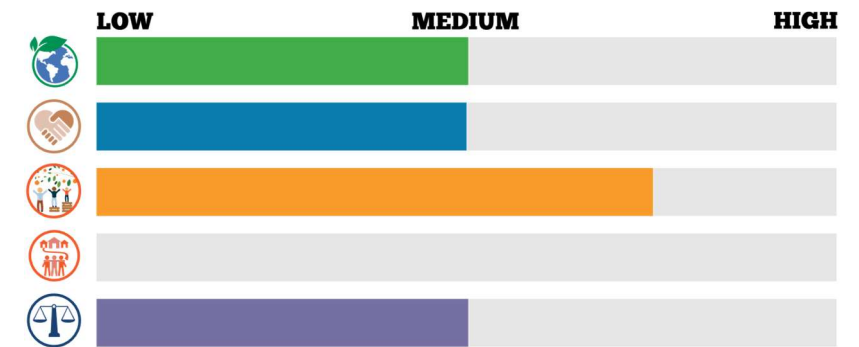
T-1: Reduce fleet and small equipment emissions in County operations

Description

The County operates a fleet ranging from light-duty passenger vehicles to heavy-duty trucks and construction equipment that provide services throughout the county. Expanding previous County efforts that have reduced fleet emissions by 10% in 2022, this measure will reduce the County fleet's fossil fuel consumption by implementing County plans that guide fleet vehicle retirement and replacement with zero-emission options, increasing the use of cleaner fuels, and establishing policies that limit vehicle and small equipment emissions from County operations. Reducing driving and fuel consumption in County fleet and landscaping operations will improve air quality and reduce community health impacts.

	2030	2035	2040	2045
Reduction Potential (MTCO _{2e})	7,905	9,777	10,239	13,255

Co-Benefits



Equity Based Outcomes

- Reduced County vehicle contribution to air pollution burdens (e.g., carbon monoxide, carbon dioxide, particulate matter, and high asthma rates) faced by frontline communities.

Community Priority Score

5.1

ACTIONS

- T-1.1 Implement the County's 2019 Electric Vehicle Roadmap and 2023 Green Fleet Action Plan to reduce fleet emissions 35% by 2030 and 100% by 2045.
- T-1.1a Use alternative fuel and/or zero-emission construction equipment in County projects to reduce emissions from medium- and heavy-duty vehicles and equipment.
- T-1.1b Adopt a County Operations anti-idling policy to reduce emissions from vehicle idling.
- T-1.2 Amend Board policy to require 100% of landscaping equipment used on County property to be zero-emissions by 2030.



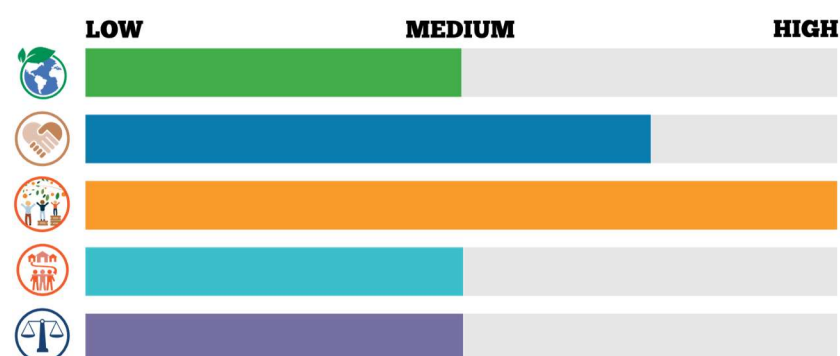
T-2: Increase the use of low-carbon and zero-emission landscaping and off-road construction equipment in the unincorporated area

Description

Emissions from smaller gas- and diesel-powered landscaping and off-road equipment, such as leaf blowers, lawnmowers, and other handheld equipment and vehicles used for construction and recreation (e.g., all-terrain vehicles, small boats, motorbikes), accounted for two percent of emissions in the unincorporated area in 2019. Using incentive programs and new policy, this measure will accelerate adoption of alternative fuel and zero-emission options for landscaping and off-road construction equipment for both household and professional use.

	2030	2035	2040	2045
Reduction Potential (MTCO ₂ e)	9,710	11,512	15,612	86,376

Co-Benefits



Equity Based Outcomes

- ▶ Incentives prioritized for small and medium-sized business owners and low-income residents to transition to zero-emission equipment.
- ▶ Outreach and education efforts to precede regulation.

Community Priority Score

6.7

ACTIONS

- T-2.1 Develop a program by 2026 to provide residents and businesses incentives to purchase alternative fuel and/or zero-emission construction and landscaping equipment to reduce emissions 3% by 2030.
- T-2.2 Develop and adopt a landscaping equipment ordinance to require the use of zero emission landscaping equipment by 2030 and zero emission construction equipment by 2045 in the unincorporated area.



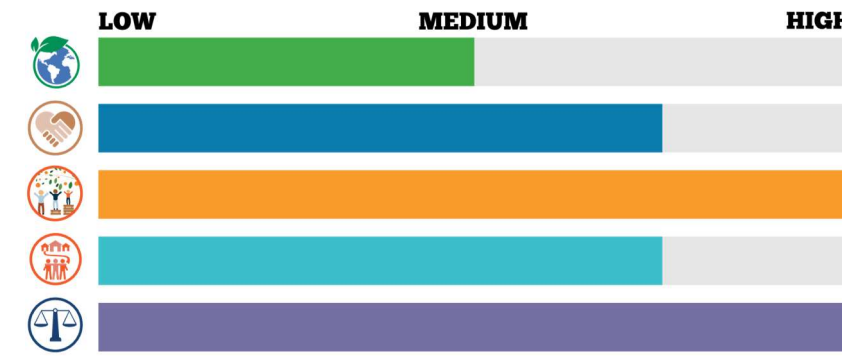
T-3: Install electric vehicle charging stations and provide incentives for zero-emissions vehicles in the unincorporated area

Description

To reduce GHG emissions and air pollution from fossil fuel powered internal combustion engine vehicles, the County will facilitate a transition to zero-emission vehicles (ZEVs) by helping to overcome drivers' concerns about up-front ZEV purchase price and a lack of access to charging stations. Through 2022, the County has planned or installed 56 public electric vehicle chargers. This measure will continue to expand access to charging stations, including at multi-family residential properties, and increase the number of ZEVs on the road through policy changes, ZEV infrastructure improvements, and incentive programming that increases access to ZEVs for priority populations.

	2030	2035	2040	2045
Reduction Potential (MTCO ₂ e)	218,884	232,645	270,436	297,184

Co-Benefits



Equity Based Outcomes

- ▶ EV charging installations prioritized in frontline communities.
- ▶ EV purchases and schools bus electrification incentives are developed first and/or are bigger for frontline communities.
- ▶ Reduced medium- and heavy-duty vehicles' contribution to air pollution burdens (e.g., carbon monoxide, carbon dioxide, particulate matter, and high asthma rates) faced by frontline communities.

Community Priority Score

9.4

ACTIONS

- T-3.1 Increase the use of electric and other zero-emission vehicles in the unincorporated area by:
 - Installing 2,040 publicly available electric vehicle charging stations by 2028.
 - Requiring the electrification of loading docks and idling reduction in new commercial and industrial development by 2030.
 - Amending the County's Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar electric vehicle charging infrastructure installations and preferential parking for ZEVs for new multi-family residential and non-residential construction.
 - Developing a program by 2026 to incentivize EV purchases and school bus electrification.
- T-3.1a Support the transition to clean hydrogen fuel for medium- and heavy-duty vehicles by increasing access to hydrogen fueling infrastructure through streamlined permitting processes and other efforts in the unincorporated area.
- T-3.1b Continue to collaborate with regional partners to increase investments in zero-emission vehicles and infrastructure in the unincorporated area.
- T-3.1c Continue updating the EV Consumer Guide website to serve as a regional resource for consumer-friendly and up-to-date information on EV-related topics and available incentives.



Strategy: Support Active Transportation and Reduce Single-Occupancy Vehicle Trips

Single-occupancy vehicle trips – or driving alone in a personal vehicle – are the primary travel option and key contributor to total GHG emissions in the unincorporated area. Increasing the use of active transportation (e.g., walking, biking, using a wheelchair, scooter, or other “rolling” modes), public transit, and ridesharing and other carpool services (e.g., neighborhood electric vehicles) will reduce single-occupancy vehicle trips and help the County achieve its GHG reduction targets in this sector. To do so, the County will improve pedestrian and bicycle infrastructure and remove obstacles to individuals using public transit and ridesharing for trips in the unincorporated area. The County will also influence commute trips, both in the community and in its own operations, by implementing transportation strategies and incentive programs that encourage non-vehicle mode choices, teleworking, and non-traditional works schedules. Emissions reductions from this strategy will enhance air quality and increase access to less expensive travel options for low-income residents and those who are car-free. Measures in this strategy will rely on successful coordination with, and participation from, local and regional transportation and planning agencies, incorporated cities in the region, residents, and businesses. This strategy includes three measures and seven implementing actions.

To help customers save time and reduce vehicle trips, the County offers a variety of “e-government” tools and services so residents can conduct business, apply for permits, make payments, research and access data, and submit service requests online.

Actions accomplished to date:

- In 2022, teleworking and non-traditional work schedules resulted in the avoidance of more than 36 million miles driven by County employees, which is a 26% reduction in total miles driven if employees had worked full time from their respective offices.
- To create a more comfortable and safer experience for pedestrians and bicyclists, the County’s Department of Public Works has improved 228 intersections and installed 369 miles of biking infrastructure through 2022.

Other related County initiatives:

- The *Active Transportation Plan* improves pedestrian and bicycle safety and identifies opportunities to create a network of interconnected sidewalks and bike infrastructure in the unincorporated area.
- Using equity and public health metrics, the *Local Roadway Safety Plan* prioritizes where roadway safety improvements are needed in the unincorporated area to enhance the safety of all users on local roadways.
- The *Green Streets Clean Water Plan* is a comprehensive analysis of nearly 1,200 miles of roads in urban centers of unincorporated areas that identifies the best locations to accept and treat stormwater runoff while simultaneously taking advantage of opportunities for community enhancements, such as sidewalks, bike lanes, vegetation, and tree cover.

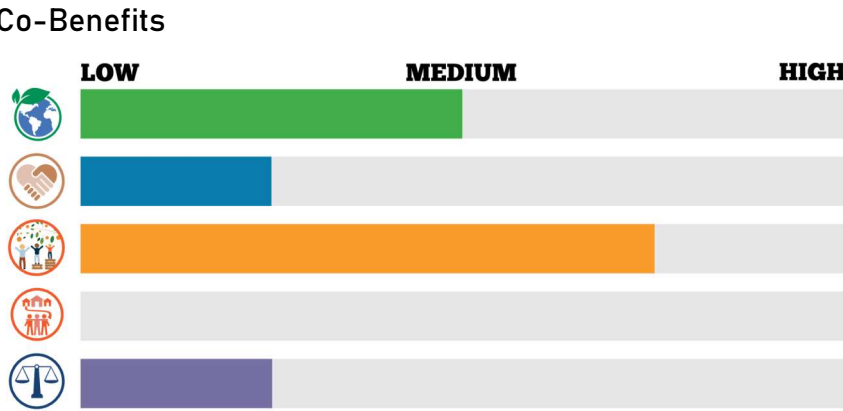


T-4: Reduce emissions from County employee commutes

Description

The County is one of the largest employers in the region and, in 2019, GHG emissions from County employee use of gasoline-powered vehicles to travel to work accounted for 30% of emissions from County operations. Through teleworking and alternative work schedules, the County has reduced the total miles driven for employee work commutes by 26% through 2022. This measure will expand County efforts to encourage and incentivize employees to shift work trips to alternative modes (e.g., walking, biking, rolling, ridesharing, public transit) or use of electric vehicles, and expand telecommute options.

	2030	2035	2040	2045
Reduction Potential (MTCO ₂ e)	13,703	11,104	7,537	10,408



Equity Based Outcomes

► Reduced County vehicle contribution to air pollution burdens (e.g., carbon monoxide, carbon dioxide, particulate matter, and high asthma rates) faced by frontline communities.

Community Priority Score

3.7

- ACTIONS**
- T-4.1

Expand County Benefit Program by 2026 to provide County employees with tax-free transportation benefits, alternative work schedules, and expand part-time or full-time teleworking options to reduce vehicle miles traveled from employee commutes by 40% in 2030 and 64% in 2045.
- T-4.1a

Provide educational programs and campaigns to encourage County staff to walk, bike, and take transit.
- T-4.2

Develop a rebate program by 2026 for County employees to purchase electric vehicles, bicycles, and scooters for commute use.



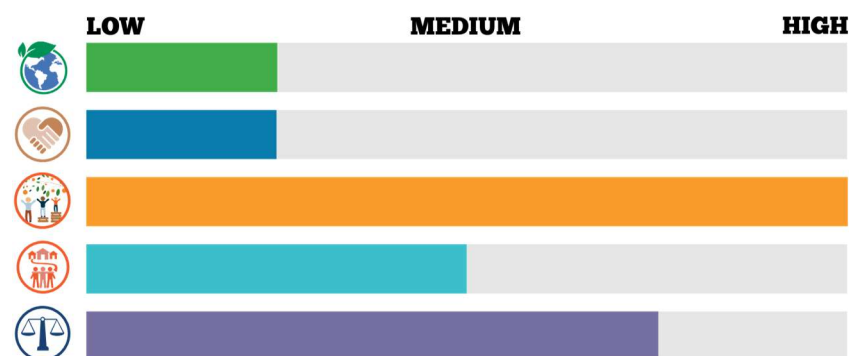
T-5: Improve County roadways to encourage walking, biking, rolling to/from transit and destinations and increase transportation efficiency

Description

Roadway enhancements that protect all users and create a more comfortable and safer experience for pedestrian and bicyclists serve to reduce single occupancy automobile trips and encourage active transportation. This measure will implement infrastructure improvements (e.g., sidewalks, bike lanes) using improved materials and designs and create education safety programs that support shifting transportation modes to walking, biking, rolling, carpooling, and public transit. Increasing the safety, convenience, and affordability of non-vehicle travel options will reduce GHG emissions and improve air quality.

	2030	2035	2040	2045
Reduction Potential (MTCO _{2e})	1,970	2,569	2,182	2,882

Co-Benefits



Equity Based Outcomes

- Prioritize improvements to pedestrian and bicycle infrastructure in frontline communities.
- Ensure educational materials are language accessible, translated as needed, and disseminated through existing networks and community sites.
- Include members from frontline communities in the development of the Safe Routes to Schools program.

Community
Priority Score

6.0

ACTIONS

- T-5.1 Implement the County's Active Transportation Plan to install 345 miles of sidewalk and 315 miles of bikeways by 2030 to encourage alternative modes of transportation in the unincorporated area.



- T-5.1a Develop educational materials to encourage residents and businesses to use and provide access to alternative modes of transportation (e.g., safety information, increased access to bicycle parking).



- T-5.1b Use improved materials and engineering designs to make walking and transit easier.

- T-5.2 Develop a countywide Safe Routes to Schools program to reduce vehicle miles traveled to schools by 1.2% by 2030.



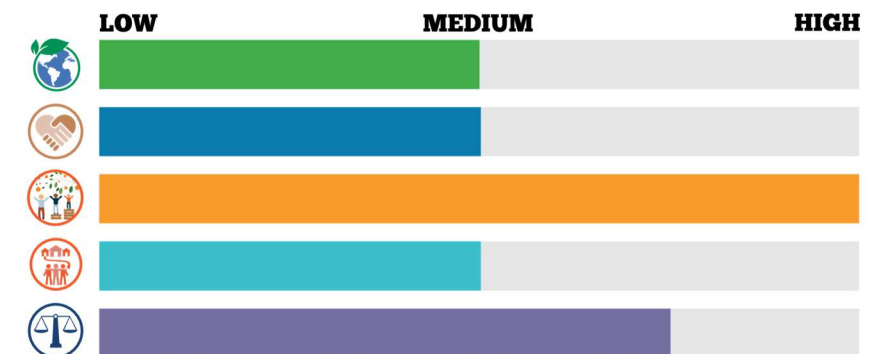
T-6: Support transit and transportation demand management to reduce single occupancy vehicle trips in the unincorporated area

Description

Much of the public transit service operating in the unincorporated area occurs in communities at its westernmost boundary. The County can partner with the region's transit agencies (e.g., San Diego Metropolitan Transit System, North County Transit District) and with SANDAG's efforts to implement the Regional Plan's Five Big Moves to increase transit access and support transit ridership for unincorporated area residents. Transportation Demand Management (TDM) applies strategies and policies that reduce travel demand and single-occupancy vehicle trips. This measure will implement roadway infrastructure improvements that improve transit service efficiencies, increase access to Transit Priority Areas (areas within one-half mile of a major transit stop) through policies and programs that encourage expansion of transit services and/or development in these areas, and create incentive programs that expand transit access and affordability for children, seniors, and low-income families. The measure will also establish TDM related policies that reduce commute trips in the unincorporated area through strategies such as walking/rolling and bicycling roadway improvements, telecommuting, carpools, shuttle service, transit subsidies, among others.

	2030	2035	2040	2045
Reduction Potential (MTCO _{2e})	16,660	23,320	22,027	38,637

Co-Benefits



Equity Based Outcomes

- Prioritize roadway treatment implementation in frontline communities.
- Prioritize distribution of transit passes to frontline communities.
- Prioritize installation of transit-supportive services in communities with higher ridership.

Community
Priority Score

8.0

ACTIONS

- T-6.1 Develop a program to provide free transit passes and/or free trips in the unincorporated area to reduce vehicle miles traveled in the unincorporated area by 1.2% by 2030.

- T-6.2 Increase access to Transit Priority Areas by 5% in the unincorporated area and implement transit-supportive roadway treatments such as traffic signal communication and curb extensions along County-maintained roadways to optimize traffic flow for transit and pedestrians by 2030.



- T-6.2a Adopt a Transportation Demand Management ordinance to include pre-approved options for new development to reduce single occupancy vehicle trips in the unincorporated area.



- T-6.2b Evaluate options for increasing transit service to unincorporated communities.

- T-6.3 Increase access to first/last mile transportation services and connections (e.g., neighborhood electric vehicles, microtransit, bike/scooter-share) to reduce vehicle miles traveled by 7% within the unincorporated area by 2030.



A detailed summary of CAP measure implementation outcomes and implementing departments for the Built Environment and Transportation sector is described in Table 7. CAP measures include implementing actions that result in quantified GHG reductions that are within the County's jurisdiction, enforceable within the County's regulatory framework, and additional to existing regulations. Measurable outcomes and quantified GHG reductions for implementing actions are shown for 2030, 2035, 2040, and 2045. In addition, some measures include "Path to Net Zero" actions (as noted by the icon) that establish measurable outcomes the County will take to reach the 2045 net zero emissions goal. Implementation of these actions do not result in quantified GHG reductions in this CAP but could result in quantified reductions in future CAPs with additional data and monitoring.

Table 7 Summary of CAP Measure Implementation Outcomes and Implementing Departments for the Built Environment and Transportation Sector

ID	ACTION	LEAD (SUPPORT)	OUTCOMES / GHG REDUCTION POTENTIAL			
			2030	2035	2040	2045
T-1: Reduce fleet and small equipment emissions in County operations						
T-1.1	Implement the County's 2019 Electric Vehicle Roadmap and 2023 Green Fleet Action Plan to reduce fleet emissions 35% by 2030 and 100% by 2045.	DGS	35% reduction	56% reduction	78% reduction	100% reduction
			7,900 MTCO ₂ e	9,772 MTCO ₂ e	10,234 MTCO ₂ e	13,250 MTCO ₂ e
T-1.1a	Use alternative fuel and/or zero-emission construction equipment in County projects to reduce emissions from medium- and heavy-duty vehicles and equipment.	DGS (DPR, DPW)	Alternative fuel and zero-emission construction equipment in use			
			GHG reductions not quantified for “Path to Net Zero” actions			
T-1.1b	Adopt a County Operations anti-idling policy to reduce emissions from vehicle idling.	DGS	Policy adopted and implemented			
			GHG reductions not quantified for “Path to Net Zero” actions			
T-1.2	Amend Board policy to require 100% of landscaping equipment used on County property to be zero-emissions by 2030.	DGS, PDS (DPR, DPW)	100% reduction	100% reduction	100% reduction	100% reduction
			5 MTCO ₂ e	5 MTCO ₂ e	5 MTCO ₂ e	5 MTCO ₂ e
T-2: Increase the use of low-carbon and zero-emission landscaping and off-road construction equipment in the unincorporated area						
T-2.1	Develop a program by 2026 to provide residents and businesses incentives to purchase alternative fuel and/or zero-emission construction and landscaping equipment to reduce emissions 3% by 2030.	PDS	349 units	600 units	1,238 units	0 units
			2,072 MTCO ₂ e	3,762 MTCO ₂ e	7,773 MTCO ₂ e	0 MTCO ₂ e
T-2.2	Develop and adopt a landscaping equipment ordinance to require the use of zero emission landscaping equipment by 2030 and zero emission construction equipment by 2045 in the unincorporated area.	PDS	Landscaping equipment ordinance in effect	Landscaping equipment ordinance in effect	Landscaping equipment ordinance in effect	Construction equipment ordinance in effect
			7,638 MTCO ₂ e	7,750 MTCO ₂ e	7,839 MTCO ₂ e	86,376 MTCO ₂ e



ID	ACTION	LEAD (SUPPORT)	OUTCOMES / GHG REDUCTION POTENTIAL			
			2030	2035	2040	2045
T-3: Install electric vehicle charging stations and provide incentives for zero-emissions vehicles in the unincorporated area						
T-3.1	Increase the use of electric and other zero-emission vehicles in the unincorporated area by: <ul style="list-style-type: none">- Installing 2,040 publicly available electric vehicle charging stations by 2028.- Requiring the electrification of loading docks and idling reduction in new commercial and industrial development by 2030.- Amending the County’s Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar electric vehicle charging infrastructure installations and preferential parking for ZEVs for new multi-family residential and non-residential construction.- Developing a program by 2026 to incentivize EV purchases and school bus electrification.	PDS (DGS, DPR, DPW)	31% light-duty ZEV 11% MD/HD ZEV	55% light-duty ZEV 27% MD/HD ZEV	78% light-duty ZEV 46% MD/HD ZEV	93% light-duty ZEV 63% MD/HD ZEV
			218,884 MTCO ₂ e	232,645 MTCO ₂ e	270,436 MTCO ₂ e	297,184 MTCO ₂ e
T-3.1a	Support the transition to clean hydrogen fuel for medium- and heavy-duty vehicles by increasing access to hydrogen fueling infrastructure through streamlined permitting processes and other efforts in the unincorporated area.	PDS	Streamlined permitting processes implemented			
			GHG reductions not quantified for “Path to Net Zero” actions			
T-3.1b	Continue to collaborate with regional partners to increase investments in zero-emission vehicles and infrastructure in the unincorporated area.	PDS	Continued collaboration with regional partners			
			GHG reductions not quantified for “Path to Net Zero” actions			
T-3.1c	Continue updating the EV Consumer Guide website to serve as a regional resource for consumer-friendly and up-to-date information on EV-related topics and available incentives.	PDS	Website continuously updated			
			GHG reductions not quantified for “Path to Net Zero” actions			



ID	ACTION	LEAD (SUPPORT)	OUTCOMES / GHG REDUCTION POTENTIAL			
			2030	2035	2040	2045
T-4: Reduce emissions from County employee commutes						
T-4.1	Expand County Benefit Program by 2026 to provide County employees with tax-free transportation benefits, alternative work schedules, and expand part-time or full-time teleworking options to reduce vehicle miles traveled from employee commutes by 40% in 2030 and 55% in 2045.	DHR (PDS)	40% reduction	45% reduction	50% reduction	64% reduction
			12,800 MTCO ₂ e	9,900 MTCO ₂ e	6,500 MTCO ₂ e	8,960 MTCO ₂ e
T-4.1a	Provide educational programs and campaigns to encourage County staff to walk, bike, and take transit.	PDS (DGS)	Educational programs implemented			
			GHG reductions not quantified for “Path to Net Zero” actions			
T-4.2	Develop a rebate program by 2026 for County employees to purchase electric vehicles, bicycles, and scooters for commute use.	PDS (DHR)	600 vehicles	1,200 vehicles	1,800 vehicles	2,400 vehicles
			903 MTCO ₂ e	1,204 MTCO ₂ e	1,037 MTCO ₂ e	1,448 MTCO ₂ e
T-5: Improve County roadways to encourage walking, biking, rolling to/from transit and destinations and increase transportation efficiency						
T-5.1	Implement the County's Active Transportation Plan to install 345 miles of sidewalk and 315 miles of bikeways by 2030 to encourage alternative modes of transportation in the unincorporated area.	DPW (PDS)	345 miles of sidewalks 315 miles of bikeways	360 miles of sidewalks 472 miles of bikeways	375 miles of sidewalks 629 miles of bikeways	390 miles of sidewalks 786 miles of bikeways
			1,756 MTCO ₂ e	2,425 MTCO ₂ e	2,100 MTCO ₂ e	2,800 MTCO ₂ e
T-5.1a	Develop educational materials to encourage residents and businesses to use and provide access to alternative modes of transportation (e.g., safety information, increased access to bicycle parking).	DPW (HHSA, DPR)	Educational materials distributed			
			GHG reductions not quantified for “Path to Net Zero” actions			
T-5.1b	Use improved materials and engineering designs to make walking and transit easier.	DPW	Improved materials and designs in use			
			GHG reductions not quantified for “Path to Net Zero” actions			
T-5.2	Develop a countywide Safe Routes to Schools program to reduce vehicle miles traveled to schools by 1.2% by 2030.	HHSA (PDS)	1.2% VMT reduction	1.2% VMT reduction	1.2% VMT reduction	1.2% VMT reduction
			214 MTCO ₂ e	144 MTCO ₂ e	82 MTCO ₂ e	82 MTCO ₂ e



ID	ACTION	LEAD (SUPPORT)	OUTCOMES / GHG REDUCTION POTENTIAL			
			2030	2035	2040	2045
T-6: Support transit and transportation demand management to reduce single occupancy vehicle trips in the unincorporated area						
T-6.1	Develop a program to provide free transit passes and/or free trips in the unincorporated area to reduce vehicle miles traveled in the unincorporated area by 1.2% by 2030.	HHSA (PDS)	100% reduction in transit fare	100% reduction in transit fare	100% reduction in transit fare	100% reduction in transit fare
			3,051 MTCO ₂ e	2,396 MTCO ₂ e	1,582 MTCO ₂ e	2,146 MTCO ₂ e
T-6.2	Increase access to Transit Priority Areas by 5% in the unincorporated area and implement transit-supportive roadway treatments such as traffic signal communication and curb extensions along County-maintained roadways to optimize traffic flow for transit and pedestrians by 2030.	DPW, PDS	5% increase in access to Transit Priority Areas	10% increase in access to Transit Priority Areas	15% increase in access to Transit Priority Areas	30% increase in access to Transit Priority Areas
			12,615 MTCO ₂ e	19,709 MTCO ₂ e	19,444 MTCO ₂ e	35,198 MTCO ₂ e
T-6.2a	Adopt a Transportation Demand Management ordinance to include pre-approved options for new development to reduce single occupancy vehicle trips in the unincorporated area.	PDS	Ordinance adopted and implemented			
			GHG reductions not quantified for “Path to Net Zero” actions			
T-6.2b	Evaluate options for increasing transit service to unincorporated communities.	PDS	Options for increasing transit service evaluated			
			GHG reductions not quantified for “Path to Net Zero” actions			
T-6.3	Increase access to first/last mile transportation services and connections (e.g., neighborhood electric vehicles, microtransit, bike/scooter-share) to reduce vehicle miles traveled by 7% within the unincorporated area by 2030.	DPW, PDS	7% intrazonal VMT reduction	13% intrazonal VMT reduction	19% intrazonal VMT reduction	25% intrazonal VMT reduction
			994 MTCO ₂ e	1,215 MTCO ₂ e	1,001 MTCO ₂ e	1,292 MTCO ₂ e
Lead (County departments responsible for measure implementation) DGS = Department of General Services DHR = Department of Human Resources DPR = Department of Parks and Recreation DPW = Department of Public Works HHSA = Health and Human Services Agency PDS = Department of Planning & Development Services						
Acronyms GHG = Greenhouse gas MTCO ₂ e = metric tons of carbon dioxide equivalent MD/HD = Medium- and heavy-duty vehicle VMT = Vehicle miles traveled						



Energy

VISION STATEMENT

- Renewable, carbon-free energy systems power efficient, electric buildings, rely on distributed energy resources through resilient local energy production and storage, and result in lower emissions and energy costs.

The Energy sector refers to energy (electricity, natural gas, and propane) used in buildings and is a significant contributor to GHG emissions in the unincorporated area, accounting for approximately 20% of total emissions in 2019. Transitioning away from fossil fuels and towards clean and renewable energy sources, such as solar photovoltaics and wind generated power, is essential to reducing the unincorporated area's GHG emissions and supporting a more sustainable future.

One way to support renewable energy is through community choice aggregation (CCA) programs – locally run, not-for-profit public agencies that purchase renewable energy on behalf of residents and businesses. CCAs set ambitious renewable energy goals and allow the community to have more control over their energy sources. The San Diego region is home to two CCAs – Clean Energy Alliance (CEA) and San Diego Community Power (SDCP). In August 2021, the County joined SDCP, which has committed to providing 100% renewable energy by 2035 or sooner.

Given that reliable access to energy is essential to the everyday needs of the public and for County operations, it is especially important to understand where energy emissions are coming from and how the County can ensure equitable access to clean and renewable energy sources. Reducing energy consumption through energy efficiency measures and transitioning to renewable energy powered appliances in existing and new buildings in the unincorporated area presents an opportunity to save money on utility bills and reduce GHG emissions.

Similarly, improving energy efficiency requirements, such as permit streamlining and expanding access to renewable energy sources, helps new development to create resilient buildings, reduce energy costs and light pollution, alleviate impacts of climate change, and create high-quality green careers. Supporting the transition to efficient, renewable energy powered homes and businesses creates additional co-benefits, such as improved public health, expanded workforce training, and ensures communities have reliable energy.

The Energy sector includes one GHG reduction strategy with three measures and six implementing actions. Through implementation of measures within this sector, the County will ensure County facilities are reducing its energy use intensity—the power needed to operate a building per square foot—and emissions through zero net energy construction, building electrification, and on-site renewable generation. For new and existing development, the County will develop policies and programs to transition to renewable energy powered buildings and support workforce training opportunities.



Worker installing rooftop solar panels

Strategy: Increase Building Energy Efficiency, Renewable Energy, and Electrification in the Unincorporated Area and County Operations

The Energy sector presents the greatest opportunity to achieve emissions reductions in the unincorporated area and through County operations. Moving away from fossil fuels and towards clean, renewable energy sources reduces GHG emissions and provides additional benefits such as cleaner air and improved public health. Further, generating onsite renewable electricity can help consumers become self-sufficient and reduce their utility bills, resulting in cost savings over time, and increasing renewable electricity production can help generate local, skilled green careers. This strategy includes three measures and six implementing actions that focus on increasing energy efficiency, renewable energy, and electrification through multiple policy, program, incentive, and educational outreach pathways in the unincorporated area and in County operations. Through the actions in this strategy, such as increasing building electrification and installing microgrids, the County will collaborate and partner with the business sector, utilities, and others to improve energy resiliency in the unincorporated area. The County will also continue to advance electrification, energy efficiency, and clean energy through collaborations with San Diego Community Power and others as part of the proposed Regional Energy Network, which will offer programs to residents and stakeholders that contribute to local and state energy efficiency and climate goals.

Actions accomplished to date:

- As of 2022, the County has 35 Photovoltaic (PV) systems located at facilities generating over 18,000 MWh each year, which provides clean and renewable energy for 22.5% of the County's annual energy usage.
- The County's Department of General Services has constructed seven zero net energy (ZNE) facilities that cover approximately 165,000 square feet. ZNE buildings generate enough renewable energy on site to cover its energy needs.
- The County has permitted residential solar power equivalent of nearly 81,000 homes through 2022. Over 90% were permitted through the County's Online Permits platform.



The Alpine Branch Library is a zero net energy facility

Other related County initiatives:

- In August 2021, the Board voted to join San Diego Community Power (SDCP), a community choice aggregation program (CCA) that has committed to providing 100% renewable energy by 2035 or sooner. CCAs set ambitious renewable energy goals and allow the community to have more control over their energy sources.
- The County's [Regional Decarbonization Framework Technical Report](#), a science-based analysis of decarbonization pathways, identifies the energy grid and building energy use as opportunities to reduce emissions and contribute to a net zero future for the region.
- The County has received certification in 'Leadership in Energy and Environmental Design' (LEED) for 29 County facilities through 2022, equating to 1,720,015 square feet of built resource efficiency. LEED-certified buildings use sustainable and environmentally-friendly practices in their design, construction, and operation to reduce energy consumption and operating costs, improve health, and reduce carbon emissions.



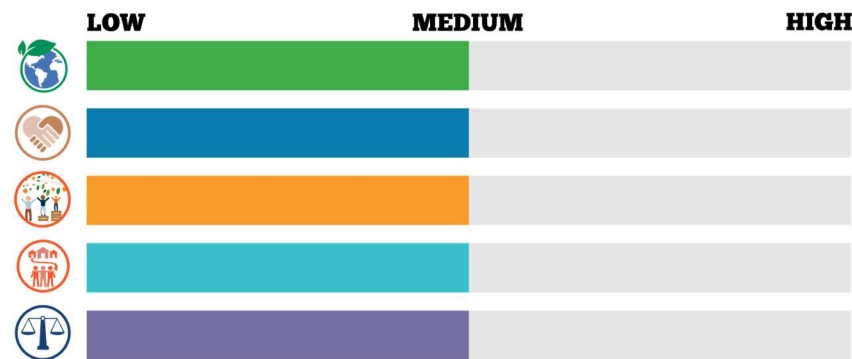
E-1: Develop policies and programs to increase energy efficiency, renewable energy use, and electrification in County Operations

Description

County operations serve the community from approximately 430 County facilities, covering over 10 million square feet throughout the region. Through implementation of energy management, efficiency, and renewable energy projects, the County has reduced energy use intensity by 46% since 2014. To continue this forward progress, the Zero Carbon Portfolio Plan, developed in 2021, outlines steps the County will take to further reduce operational carbon emissions, such as through replacing fossil fuel powered equipment to electric and transitioning to renewable energy powered buildings. This measure will implement the Zero Carbon Portfolio Plan and demonstrate leadership and best practices in County facilities.

	2030	2035	2040	2045
Reduction Potential (MTCO _{2e})	13,715	14,698	16,135	16,858

Co-Benefits



Equity Based Outcomes

- ▶ Lower utility rates through reduced consumption at County facilities.
- ▶ Improved energy efficiency and air quality in buildings that are often accessed by frontline communities for direct services.

Community
Priority Score

4.2

ACTIONS

- E-1.1 Implement the County Facilities Zero Carbon Portfolio Plan to achieve 90% reduction in operational carbon emissions by 2030 through building electrification and zero net energy construction, energy efficiency, energy management, and renewable energy use and generation.



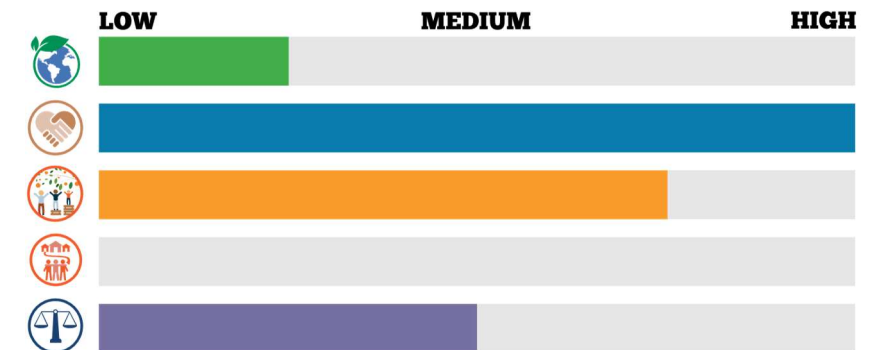
E-2: Develop policies and programs to increase energy efficiency and electrification in the unincorporated area

Description

New and existing development in the unincorporated area have the potential to increase their energy efficiency through improvements to buildings and a transition to efficient and electrically powered appliances. These improvements can also lead to savings in utility and maintenance costs over time and increase resilience to climate change impacts. This measure increases energy efficiency and electrification in the unincorporated area through incentives, policy, and the expansion of existing County-led programs in new and existing development.

	2030	2035	2040	2045
Reduction Potential (MTCO _{2e})	142,476	248,598	351,677	519,440

Co-Benefits



Equity Based Outcomes

- ▶ Increased awareness, education, and access to incentives and benefits of energy savings in frontline communities.
- ▶ Reduced utility bills and improved air quality for homeowners and renters.
- ▶ Increased access to career training and licensing programs to support green workforce development.

Community
Priority Score

6.2

ACTIONS

- E-2.1 Amend the County's Code of Regulatory Ordinances by 2026 to require all-electric equipment in new residential, commercial, and industrial construction to reduce energy emissions from new development in the unincorporated area.
- E-2.2 Increase energy efficiency and reach 30% electrification in residential and 17% electrification in non-residential existing development in the unincorporated area by 2030 by:
- Amending the County's Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar energy efficiency requirements for existing development projects with qualifying improvements.
 - Adopting a Building Energy Performance Standard by 2026 for commercial and multi-family residential properties.
 - Developing a program by 2026 to incentivize building electrification and energy efficiency (e.g., electrically powered appliances, heat pumps).
- E-2.2a Develop and distribute materials to assist renters with implementing energy efficiency improvements.
- E-2.2b Develop a voluntary energy assessment/benchmarking program for existing development to identify opportunities for energy efficiency improvements (e.g., weatherization, insulation, equipment replacement/upgrades).
- E-2.2c Develop a program (e.g., incentives, streamlined permitting, education) to phase out propane use for existing buildings.
- E-2.2d Develop a program to increase energy resiliency in the unincorporated area to ensure continued access to electricity and services during extreme weather events.



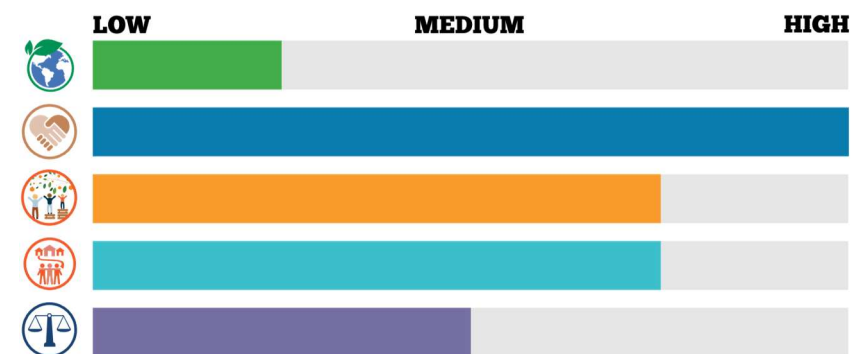
E-3: Develop policies and programs to increase renewable energy use, generation, and storage in the unincorporated area

Description

Increasing renewable energy generation and storage in the community reduces GHG emissions, provides access to reliable clean energy sources, expands the green economy, and improves energy resiliency. From 2015–2022, the County approved the residential solar power equivalent of nearly 81,000 homes through its streamlined permitting system. This measure increases renewable energy use, generation, and storage in the community through policy, incentives, and the expansion of existing County-led programs in new and existing development.

	2030	2035	2040	2045
Reduction Potential (MTCO ₂ e)	176,906	34,022	18,955	0

Co-Benefits






Equity Based Outcomes

- ▶ Reduced utility bills for homeowners and renters.
- ▶ Reduced permitting costs through streamlined processes.
- ▶ Increased access to career training programs to support green workforce development.
- ▶ Increased awareness and education on available incentives in frontline communities.

Community
Priority Score

7.1

ACTIONS

- E-3.1 Amend the County's Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar renewable energy requirements for new residential and non-residential construction to increase renewable energy generation in new development.
- E-3.2 Expand and implement the County's streamlined solar permitting process to install 5,002 kW of renewable energy on existing development by 2030 and 12,505 kW by 2045.
-  E-3.2a Develop a program to incentivize renewable energy on low-income homes.
-  E-3.2b Work with partners to promote and support on-site renewable (wind and solar) energy generation and storage (microgrids, Site-specific and/or community scale) to increase renewable energy generation and use in the unincorporated area.
-  E-3.2c Support local job training program for solar installation **through partnerships** to support green economy workforce development.
- E-3.3 Develop a program to provide 100% renewable energy to residents and businesses participating in San Diego Community Power by 2030 in the unincorporated area.



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Rooftop solar panels

A detailed summary of CAP measure implementation outcomes and implementing departments for the Energy sector is described in Table 8. CAP measures include implementing actions that result in quantified GHG reductions that are within the County's jurisdiction, enforceable within the County's regulatory framework, and additional to existing regulations. Measurable outcomes and quantified GHG reductions for implementing actions are shown for 2030, 2035, 2040, and 2045. In addition, some measures include "Path to Net Zero" actions (as noted by the icon) that establish measurable outcomes the County will take to reach the 2045 net zero emissions goal. Implementation of these actions do not result in quantified GHG reductions in this CAP but could result in quantified reductions in future CAPs with additional data and monitoring.

Table 8 Summary of CAP Measure Implementation Outcomes and Implementing Departments for the Energy Sector

ID	ACTION	LEAD (SUPPORT)	OUTCOMES / GHG REDUCTION POTENTIAL			
			2030	2035	2040	2045
E-1: Develop policies and programs to increase energy efficiency, renewable energy use, and electrification in County Operations						
E-1.1	Implement the County Facilities Zero Carbon Portfolio Plan to achieve 90% reduction in operational carbon emissions by 2030 through building electrification and zero net energy construction, energy efficiency, energy management, and renewable energy use and generation.	DGS	90% reduction	93% reduction	97% reduction	100% reduction
			13,715 MTCO ₂ e	14,698 MTCO ₂ e	16,135 MTCO ₂ e	16,858 MTCO ₂ e
E-2: Develop policies and programs to increase energy efficiency and electrification in the unincorporated area						
E-2.1	Amend the County's Code of Regulatory Ordinances by 2026 to require all-electric equipment in new residential, commercial, and industrial construction to reduce energy emissions from new development in the unincorporated area.	PDS	100% electrification in residential 80% electrification in non-residential	100% electrification in residential 85% electrification in non-residential	100% electrification in residential 90% electrification in non-residential	100% electrification in residential 95% electrification in non-residential
			17,734 MTCO ₂ e	39,512 MTCO ₂ e	59,394 MTCO ₂ e	80,358 MTCO ₂ e
E-2.2	Increase energy efficiency and reach 30% electrification in residential and 17% electrification in non-residential existing development in the unincorporated area by 2030 by: <ul style="list-style-type: none">Amending the County's Code of Regulatory Ordinances to require (Tier 2) CALGreen or similar energy efficiency requirements for existing development projects with qualifying improvements.Adopting a Building Energy Performance Standard by 2026 for commercial and multi-family residential properties.Developing a program by 2026 to incentivize building electrification and energy efficiency (e.g., electrically powered appliances, heat pumps).	PDS	30% electrification in residential 17% electrification in non-residential	50% electrification in residential 28% electrification in non-residential	70% electrification in residential 39% electrification in non-residential	90% electrification in residential 66% electrification in non-residential
			124,742 MTCO ₂ e	209,086 MTCO ₂ e	292,283 MTCO ₂ e	439,082 MTCO ₂ e
E-2.2a	Develop and distribute materials to assist renters with implementing energy efficiency improvements.	PDS (DEHQ, HHSA)	Materials developed and distributed			
			GHG reductions not quantified for "Path to Net Zero" actions			



ID	ACTION	LEAD (SUPPORT)	OUTCOMES / GHG REDUCTION POTENTIAL			
			2030	2035	2040	2045
E-2.2b	Develop a voluntary energy assessment/benchmarking program for existing development to identify opportunities for energy efficiency improvements (e.g., weatherization, insulation, equipment replacement/upgrades).	PDS	Program developed and implemented			
			GHG reductions not quantified for “Path to Net Zero” actions			
E-2.2c	Develop a program (e.g., incentives, streamlined permitting, education) to phase out propane use for existing buildings.	PDS	Program developed and implemented			
			GHG reductions not quantified for “Path to Net Zero” actions			
E-2.2d	Develop a program to increase energy resiliency in the unincorporated area to ensure continued access to electricity and services during extreme weather events.	PDS	Program developed and implemented			
			GHG reductions not quantified for “Path to Net Zero” actions			
E-3: Develop policies and programs to increase renewable energy use, generation, and storage in the unincorporated area						
E-3.1	Amend the County’s Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar renewable energy requirements for new residential and non-residential construction to increase renewable energy generation in new development.	PDS	43,000 kW installed	97,000 kW installed	146,000 kW installed	198,000 kW installed
			252 MTCO ₂ e	69 MTCO ₂ e	28 MTCO ₂ e	0 MTCO ₂ e
E-3.2	Expand and implement the County's streamlined solar permitting process to install 5,002 kW of renewable energy on existing development by 2030 and 12,505 kW by 2045.	PDS	5,002 kW installed	7,503 kW installed	10,004 kW installed	12,505 kW installed
			29 MTCO ₂ e	5 MTCO ₂ e	2 MTCO ₂ e	0 MTCO ₂ e
E-3.2a	Develop a program to incentivize renewable energy on low-income homes.	PDS	Program developed and implemented			
			GHG reductions not quantified for “Path to Net Zero” actions			
E-3.2b	Work with partners to promote and support on-site renewable energy generation and storage to increase renewable energy generation and use in the unincorporated area.	PDS	Continued collaboration with regional partners			
			GHG reductions not quantified for “Path to Net Zero” actions			
E-3.2c	Support local job training program for solar installation through partnerships to support green economy workforce development.	PDS	Program implemented			
			GHG reductions not quantified for “Path to Net Zero” actions			
E-3.3	Develop a program to provide 100% renewable energy to residents and businesses participating in San Diego Community Power by 2030 in the unincorporated area.	PDS	100% renewable	100% renewable	100% renewable	100% renewable
			176,625 MTCO ₂ e	33,948 MTCO ₂ e	18,925 MTCO ₂ e	0 MTCO ₂ e



Lead (County departments responsible for measure implementation)

DEHQ =Department of Environmental Health and Quality
DGS = Department of General Services
HHSA = Health and Human Services Agency
PDS = Department of Planning & Development Services

Acronyms

GHG = Greenhouse gas
kW = Kilowatt
MTCO₂e = metric tons of carbon dioxide equivalent



Solid Waste

VISION STATEMENT

- County-wide culture of avoiding, recycling, or composting waste, where emissions associated with landfills have been eliminated, and people have equitable access to recycling and compost facilities, opportunities for economic development, and are encouraged to reuse and share materials.

The Solid Waste sector refers to emissions associated with waste in landfills. The unincorporated area generated 522,021 short tons (over 1.04 billion pounds) of waste in 2019. Emissions from solid waste generation and waste-in-place already at landfills accounted for 6% of total emissions in 2019.



Compost bin at the County Operations Center

Adopting and advancing a county-wide culture of waste reduction, reuse, recycling, and composting reduces the amount of waste processed at landfills and GHGs (primarily methane) associated with the breakdown of organic matter in landfills. Methane is 84 times more potent than carbon dioxide over a 20-year horizon, making landfills a top GHG emitter in California. Methane is also short-lived in the atmosphere, which means that methane remains in the atmosphere for less time than carbon dioxide but has a higher impact on the climate and can affect air quality in that short period of time. Reducing short-lived emissions has great potential in the effort to address climate change.

The Solid Waste sector includes two GHG reduction strategies comprising four measures and four implementing actions. To reduce emissions associated with solid waste, the County will implement a set of programs and policies to achieve zero waste, or 90% waste diversion from landfills, within County operations and the unincorporated area. The accepted industry definition of zero waste is a 90% diversion of waste because there is an understanding that not all materials can be reused. In addition to waste diversion, the County will also enact and incentivize additional gas capture and other best management practices at waste processing facilities and landfills themselves. These methods will help the County reach its zero-waste goal (90% diversion) by 2045 and reduce overall emissions.

CAP Connections to State Efforts

- In 2015, the State adopted AB 876 Organics Management Infrastructure Planning (AB 876) to reduce the landfilling of organic materials and increase composting and anaerobic digestion.
- In 2016, the State adopted Short-Lived Climate Pollutant Reduction Law (SB 1383) to set methane reduction targets and reduce the disposal of organic waste in landfills, largely through increased food recovery and management of organic waste. Specifically, Senate Bill 1383 established targets to achieve a 50% reduction in the level of the statewide organic waste disposal from the 2014 baseline by 2020 and a 75% reduction by 2025, as well as a statewide goal to recover 20% of edible food that is currently discarded.



Strategy: Increase Solid Waste Diversion in the Unincorporated Area and in County Operations

Although the County does not collect solid waste from the community, it influences and supports waste diversion through solid waste management agreements with waste collectors, zero waste policies and programs for County operations and the community, and ordinances that direct material separation and diversion. By advancing waste reduction, reuse, recycling, and composting, County operations strive to be zero-waste (90% diversion) by 2030 and by 2045 in the unincorporated area. This strategy includes two measures and two implementing actions that focus on reducing overall waste in landfills from County operations and the unincorporated area.



Food waste being added to compost bin

Actions accomplished to date:

- The unincorporated area's diversion rate increased from 48% in 1995 to 58% in 2021.
- In 2017, the County adopted the [Strategic Plan to Reduce Waste](#), containing over 15 individual programs and initiatives to reduce various waste types and sources, such as reducing food and other organic waste generated from residential and commercial uses, to establish a 75% waste diversion target by 2025.
- In 2021, the County adopted a Construction & Demolition (C&D) Debris Recycling Ordinance

and the Solid Waste Ordinance to increase diversion of C&D debris and increase recycling and food donation and recovery.

- In 2021, the County adopted the Non-Exclusive Franchise Agreement that results in additional residential and commercial food scrap collection, increased diversion of organic, C&D, and recyclable materials from landfills, established contamination monitoring, and expanded outreach and education.
- In 2022, the County adopted the Organic Materials Ordinance Update to make it easier for those in the unincorporated area to compost organic materials, which account for 34% of waste that is sent to the landfill.

Other related County initiatives:

- The County's Department of Public Works (DPW) provides trainings, education, and equipment related to waste diversion programs to reduce food waste and increase composting and recycling in residential and commercial settings.
- The [Live Well San Diego Food System Initiative's Food Donation Action Plan for the San Diego Region](#) supports and improves food donation in the region to help address nutrition insecurity, while also reducing food waste that would be otherwise thrown out from commercial and retail settings.
- DPW offers Fixit Clinics, hands-on community events that troubleshoot and repair appliances, clothes, electronics, etc., as an opportunity to teach valuable repair skills to community members while also keeping items from becoming obsolete landfill material.
- The County's [Let's Get There Playbook](#), a resource guide created to support the [Regional Decarbonization Framework](#), considers how a circular economy (e.g., reduces use of materials, reuses materials, and converts "waste" into renewable resources, including energy, new materials, and other products) can contribute to a net zero future for the region through waste reduction, organic waste recycling, and methane capture at landfills.



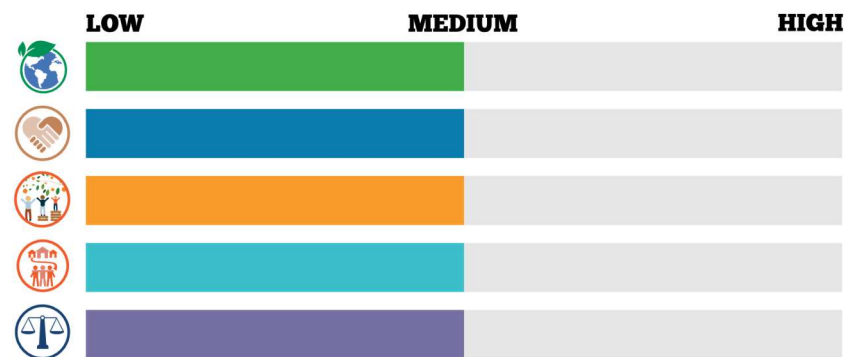
SW-1: Achieve zero waste in County operations

Description

Integrating recycling, reusing, and composting practices into the County's operations will reduce waste generation and increase waste diversion at County facilities. This measure will expand upon previous practices (e.g., recycling, organic waste collection services, food waste prevention, working with waste haulers) to achieve zero waste (90% diversion) at County facilities by 2030.

	2030	2035	2040	2045
Reduction Potential (MTCO ₂ e)	1,305	2,479	2,479	2,479

Co-Benefits



Equity Based Outcomes

- ▶ Reduced County contribution to air pollution burdens (e.g., methane) faced by frontline communities.
- ▶ Direct more public funds towards environmentally friendly and sustainable options through expansion and implementation of the Board Policy B-67.

Community
Priority Score

4.4

ACTIONS

- SW-1.1 Adopt a County Operations zero waste policy by 2030 to achieve zero waste (90% diversion).
- SW-1.1a Revise the County's Environmentally Preferred Purchasing policy (B-67) to increase the effectiveness and enforcement of the policy.
- SW-1.1b Educate County staff on zero waste practices to encourage greater participation and develop monitoring tools to track waste diversion.



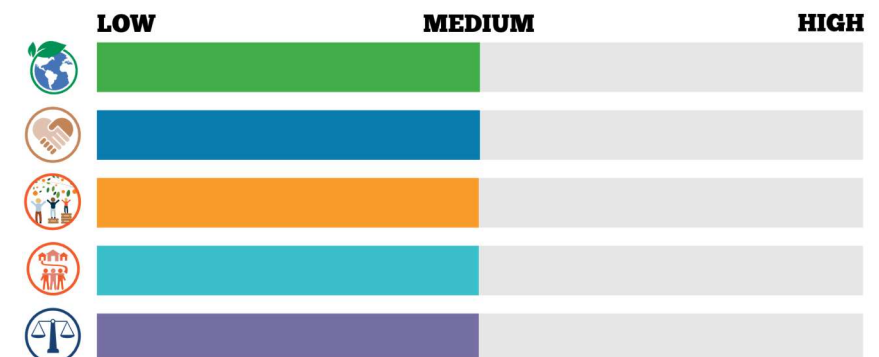
SW-2: Achieve zero waste within the unincorporated area

Description

As of 2021, the County had reached 58% waste diversion in the unincorporated area. The County will continue to implement and expand upon the Strategic Plan to Reduce Waste to achieve zero waste (90% diversion) by 2045 by employing the concepts of a circular economy, which includes reducing and reusing materials and recapturing waste as a resource to create new materials and products. Additionally, the County will expand education campaigns around zero waste, increase evaluation of recycling streams to ensure only recyclable products are in the recycling stream, and provide more opportunities for community members to participate in reuse events (e.g., swap shops, textile recycling, repair events).

	2030	2035	2040	2045
Reduction Potential (MTCO ₂ e)	37,804	44,313	51,001	57,779

Co-Benefits



Equity Based Outcomes

- ▶ Increased access to organic material processing sites in frontline communities.
- ▶ Increased outreach to frontline communities about circular economy resources such as reuse, repair, and compost distribution events and organic materials recycling.
- ▶ Increased collection and redistribution of edible food to nutrition insecure communities.

Community
Priority Score

4.8

ACTIONS

- SW-2.1 Update the County's Strategic Plan to Reduce Waste by 2028 to include strategies to achieve 80% diversion by 2030 and zero waste (90% diversion) by 2045.
- SW-2.1a Monitor and evaluate contamination rates in waste, recycling, organics containers, and establish educational programs to reduce contamination and increase the effectiveness of recycling efforts.
- SW-2.1b Support materials reuse events for the unincorporated area.
- SW-2.1c Educate the public about zero waste and encourage use of low carbon materials.



Strategy: Increase Availability of Sustainable Solid Waste Facilities in the Unincorporated Area and County Operations

Increasing unincorporated area resident, business, and County employee participation in reducing, reusing, recycling, and composting waste are primary efforts to reduce GHG emissions from the solid waste sector. When waste cannot be reduced or diverted, it is sent to landfills. Advancing best management practices such as gas capture, flare replacements, and cover improvements reduce the amount of surface and fugitive emissions (e.g., gases and vapors accidentally released into the atmosphere) produced by the breakdown of organic waste at landfills. Improving waste management practices at County-owned landfills and incentivizing these improvements at private landfills in the unincorporated area will reduce emissions from the solid waste sector, which accounted for 6% of total emissions in 2019. Supporting the expansion of new facilities that process recycled (including hard to recycle materials like electronics, unrecyclable plastics, mattresses, propane tanks, marine boat plastic/agricultural wrap, shredded paper, etc.) and organic materials will also contribute to improved environmental health and safety from this sector. This strategy includes two measures and two implementing actions that focus on supporting new

waste management facilities and gas capture practices at new and existing facilities.

Actions accomplished to date:

- In 2017, the County adopted the [Strategic Plan to Reduce Waste](#) containing over 15 individual programs and initiatives to reduce various waste types and sources, such as reducing food and other organic waste generated from residential and commercial uses, to establish a 75% waste diversion target by 2025, as well as supporting development of large-scale organics processing facilities to develop capacity for diverted materials.
- In 2022, the County adopted the Organic Materials Ordinance Update to make it easier to set up small to large scale commercial organics processing facilities and operations within the unincorporated area.
- In 2023, the County's Department of Public Works initiated a Recycling Facility Capacity Study to estimate current and future processing capacity needs for "blue bin" recyclable materials, organic materials, and construction and demolition debris.

Other related County initiatives:

- The County's [Regional Decarbonization Framework Technical Report](#), a science-based analysis of decarbonization pathways, identifies the need to explore alternative fuel sources such as waste-to-energy solutions at landfills.



Preparing compost
Photo credit: Solana Center for Environmental Innovation



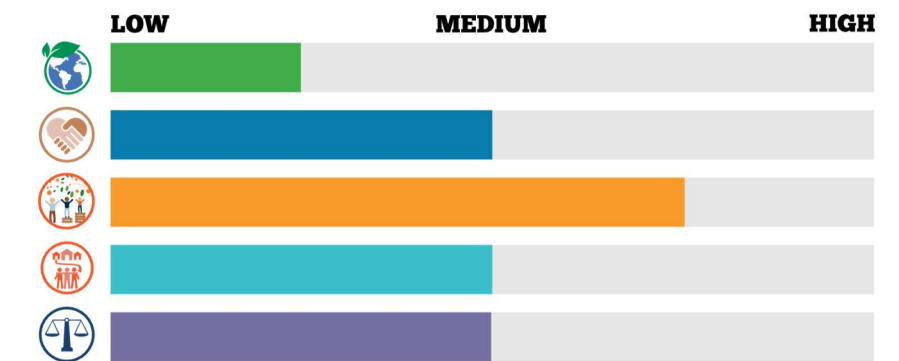
SW-3: Improve waste management practices at County-owned solid waste facilities to reduce emissions

Description

Although the County-operated, closed landfills and former refuse burning sites no longer accept municipal solid waste, the County's Landfill Management Unit monitors and maintains these sites to minimize impacts to the environment and to protect public health and safety. The County regularly monitors landfill gas generation and migration, groundwater quality, stormwater runoff quality, and maintains various systems at the sites to control landfill gas emissions, mitigate impacts to groundwater, and to manage the flow and discharge of stormwater. On most of the sites, vegetation is used to control surface erosion. This measure will expand upon existing waste management practices (e.g., flare replacement, cover improvement, and system upgrades) to reduce surface and fugitive emissions at all County landfills.

	2030	2035	2040	2045
Reduction Potential (MTCO ₂ e)	0	2,834	5,131	9,283

Co-Benefits



Equity Based Outcomes

- Improved health and safety in communities adjacent to County-owned solid waste facilities.

Community Priority Score

4.4

ACTIONS

- SW-3.1 Expand landfill gas systems at County-owned landfills to exceed State requirements by 10% by 2045.

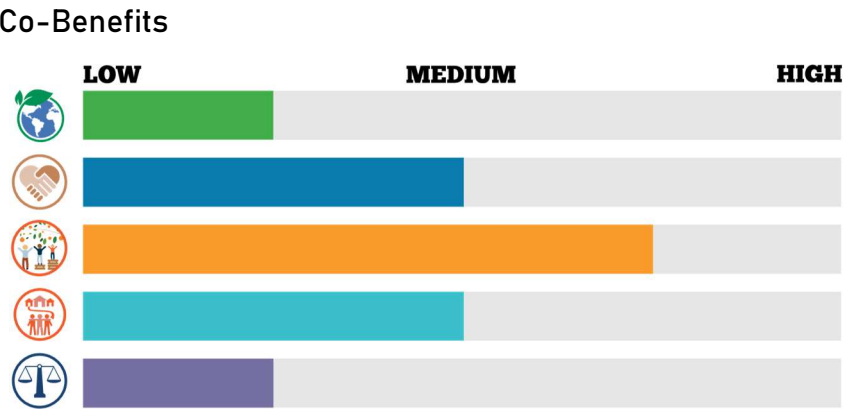


SW-4: Improve waste management practices in the unincorporated area to reduce emissions and increase waste diversion

Description

The County supports new and existing waste management facilities to expand capacity for organic and recycled waste and to decrease the number of fugitive emissions produced from the breakdown of organic matter. This measure will support these efforts through incentives to develop new waste facilities (e.g., amend zoning ordinance to pre-zone or permit land for composting/anaerobic digestion, provide technical assistance) and to capture gas (e.g., flare replacements, cover improvements, and system upgrades) at existing privately owned and managed landfills in the unincorporated area.

	2030	2035	2040	2045
Reduction Potential (MTCO ₂ e)	1,373	22,915	40,345	60,164



Equity Based Outcomes

- ▶ Workforce training and expansion in solid waste green economy careers.
- ▶ Increased economic opportunities for community composting and agricultural operators.

Community Priority Score

4.2

ACTIONS

- SW-4.1 Conduct a feasibility study by 2027 and implement a landfill gas system pilot project at privately managed landfills by 2030 to exceed State requirements by 10% by 2045 in the unincorporated area.
- SW-4.1a Incentivize the development of new composting/anaerobic digestion facilities and on-farm digesters to divert compostable waste from landfills in the unincorporated area.
- SW-4.1b Study options to expand existing and/or identify new opportunities to manage hard to recycle materials in the unincorporated area through additional hauler services, drop-off locations and/or Center for Hard to Recycle Materials.



Agricultural compost equipment demonstration in the unincorporated area

A detailed summary of CAP measure implementation outcomes and implementing departments for the Solid Waste sector is described in Table 9. CAP measures include implementing actions that result in quantified GHG reductions that are within the County’s jurisdiction, enforceable within the County’s regulatory framework, and additional to existing regulations. Measurable outcomes and quantified GHG reductions for implementing actions are shown for 2030, 2035, 2040, and 2045. In addition, some measures include “Path to Net Zero” actions (as noted by the icon) that establish measurable outcomes the County will take to reach the 2045 net zero emissions goal. Implementation of these actions do not result in quantified GHG reductions in this CAP but could result in quantified reductions in future CAPs with additional data and monitoring.

Table 9 Summary of CAP Measure Implementation Outcomes and Implementing Departments for the Solid Waste Sector

	ID	ACTION	LEAD (SUPPORT)	OUTCOMES / GHG REDUCTION POTENTIAL			
				2030	2035	2040	2045
<div><div>NET</div><div>0</div></div>	SW-1: Achieve zero waste in County operations						
	SW-1.1	Adopt a County Operations zero waste policy by 2030 to achieve zero waste (90% diversion).	DGS (DPW, DPC)	80% reduction	90% reduction	90% reduction	90% reduction
				1,305 MTCO ₂ e	2,479 MTCO ₂ e	2,479 MTCO ₂ e	2,479 MTCO ₂ e
	SW-1.1a	Revise the County's Environmentally Preferred Purchasing policy (B-67) to increase the effectiveness and enforcement of the policy.	DPC (PDS)	Policy adopted and implemented			
				GHG reductions not quantified for “Path to Net Zero” actions			
	SW-1.1b	Educate County staff on zero waste practices to encourage greater participation and develop monitoring tools to track waste diversion.	DGS (DPW, PDS)	Educational programs and monitoring implemented			
				GHG reductions not quantified for “Path to Net Zero” actions			
	SW-2: Achieve zero waste within the unincorporated area						
	SW-2.1	Update the County's Strategic Plan to Reduce Waste by 2028 to include strategies to achieve 80% diversion by 2030 and zero waste (90% diversion) by 2045.	DPW	80% reduction	83% reduction	87% reduction	90% reduction
				37,804 MTCO ₂ e	44,313 MTCO ₂ e	51,001 MTCO ₂ e	57,779 MTCO ₂ e
SW-2.1a	Monitor and evaluate contamination rates in waste, recycling, organics containers, and establish educational programs to reduce contamination and increase the effectiveness of recycling efforts.	DPW	Monitoring and educational programs implemented				
			GHG reductions not quantified for “Path to Net Zero” actions				
SW-2.1b	Support materials reuse events for the unincorporated area.	DPW	Reuse events implemented				
			GHG reductions not quantified for “Path to Net Zero” actions				



ID	ACTION	LEAD (SUPPORT)	OUTCOMES / GHG REDUCTION POTENTIAL			
			2030	2035	2040	2045
SW-2.1c	Educate the public about zero waste and encourage use of low carbon materials.	DPW (PDS)	Educational programs implemented			
			GHG reductions not quantified for “Path to Net Zero” actions			
SW-3: Improve waste management practices at County-owned solid waste facilities to reduce emissions						
SW-3.1	Expand landfill gas systems at County-owned landfills to exceed State requirements by 10% by 2045.	DPW	85% gas capture	87.5% gas capture	90% gas capture	95% gas capture
			0 MTCO ₂ e	2,834 MTCO ₂ e	5,131 MTCO ₂ e	9,283 MTCO ₂ e
SW-4: Improve waste management practices in the unincorporated area to reduce emissions and increase waste diversion						
SW-4.1	Conduct a feasibility study by 2027 and implement a landfill gas system pilot project at privately managed landfills by 2030 to exceed State requirements by 10% by 2045 in the unincorporated area.	DPW (PDS)	Pilot program implemented	88% gas capture	91% gas capture	95% gas capture
			1,373 MTCO ₂ e	22,915 MTCO ₂ e	40,345 MTCO ₂ e	60,164 MTCO ₂ e
SW-4.1a	Incentivize the development of new composting/anaerobic digestion facilities and on-farm digesters to divert compostable waste from landfills in the unincorporated area.	PDS (DPW, AWM)	Incentives implemented			
			GHG reductions not quantified for “Path to Net Zero” actions			
SW-4.1b	Study options to expand existing and/identify new opportunities to manage hard to recycle materials in the unincorporated area through additional hauler services, drop-off locations and/or Center for Hard to Recycle Materials.	DPW	Program options evaluated			
			GHG reductions not quantified for “Path to Net Zero” actions			
Lead (County departments responsible for measure implementation) AWM = Department of Agriculture, Weights, and Measures DGS = Department of General Services DPC = Department of Purchasing and Contracting DPW = Department of Public Works PDS = Department of Planning & Development Services						
Acronyms GHG = Greenhouse gas MTCO ₂ e = metric tons of carbon dioxide equivalent						





Water and Wastewater

VISION STATEMENT

- Water quality and adequacy is maintained, and emissions associated with the transportation of water are reduced through indoor and outdoor water conservation programs, efficient delivery pipelines, and reuse of stormwater and wastewater.

Water and Wastewater sector refers to the emissions that occur from the energy used for extracting, treating, transferring, and distributing water to our communities, businesses, and agricultural lands. In 2019, emissions from the Water and Wastewater sector made up two percent of all emissions in the inventory. Given that potable water (water that is safe for drinking) is integral to human life, it is especially important to understand where emissions are coming from and how the County can ensure equitable access to clean water while also providing opportunities to save money on utility bills through systems that reduce water usage and increase water reuse.



Drainage swale at the North County Regional Center in Vista

Approximately 87% of the unincorporated area's population receives water from agencies within the San Diego County Water Authority and the remaining 13% rely on groundwater. The county overlies a complex, finite, yet renewable groundwater resource that varies greatly throughout the region. This context is important when considering what actions to take and how they can support the county's unique characteristics.

The Water and Wastewater sector includes two GHG reduction strategies comprising three measures and six implementing actions.

Through implementation of measures within this sector, the County will ensure all County facilities are installing water efficiency and water reuse systems wherever feasible; new development meets certain water efficiency standards and explores reuse opportunities; existing development is mandated and/or incentivized to increase water efficiency and reuse (through building permits); and County programs are expanded to reduce emissions associated with wastewater.

The Water and Wastewater sector is interconnected with many of the other sectors. Most of the emissions from the Water and Wastewater sector have to do with the power it takes to treat and move water. Water efficiency and retention improvements will not only reduce energy use, but can also improve water accessibility, reduce costs, and increase carbon storage. As an example, green infrastructure projects included in the County's Green Streets Clean Water Plan retain and purify water through natural processes, including filtration through plants and soil, to treat water runoff and irrigate vegetation in an environmentally friendly way.



Water efficient landscaping in Fallbrook



Strategy: Decrease Potable Water Consumption in the Unincorporated Area and County Operations

Reducing water consumption is a primary way to reduce the GHG emissions associated with the Water and Wastewater sector. Improving the efficiency of water-related appliances and finding opportunities to retain and recycle water decrease the amount of water needed within homes and businesses. This strategy includes two measures and five implementing actions that focus on decreasing water consumption.

Actions accomplished to date:

- In 2020, the County adopted a County Building Code to require water efficient fixtures and appliances in residential development.
- The County's Water Conservation in Landscaping Ordinance, updated in 2020, requires a 40% reduction in outdoor water use in residential and non-residential landscaping applications from 2014 levels.



Rain barrel distribution event held by the County's Waterscape Rebate Program

- Through 2022, the County's *Waterscape Rebate Program* has provided incentives for 12,928 rain barrel equivalents to collect rainwater for outdoor water use in the unincorporated area.

Other related County initiatives:

- The County's *Waterscape Rebate Program* offers residents and business owners incentives for water saving and reuse improvements at their private property, including rebates for turf replacement, landscape optimization services, watersmart edgescaping, rain-friendly pavement, smart irrigation controllers, and agricultural irrigation efficiencies (Rebate programs are subject to change).
- The *Green Streets Clean Water Plan* identifies opportunities for green infrastructure improvements in County projects that can both filter and treat stormwater, as well as increase the use of low water use landscaping in infrastructure projects.



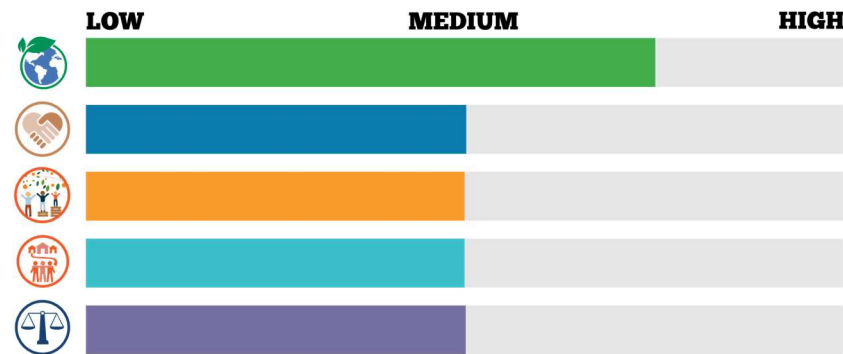
W-1: Develop policies and programs to increase water efficiency, retention, recycling, and reuse to reduce potable water consumption in County operations

Description

The County has a wide range of facilities and operations that it oversees to provide services to residents and businesses throughout the region. Reducing potable water use in County facilities through the implementation of water efficient improvements and retrofit projects will reduce utility consumption and costs and conserve regional water resources. This measure will implement the County's existing Water Efficiency Plan to increase water efficiency in County operations.

	2030	2035	2040	2045
Reduction Potential (MTCO _{2e})	3	1	0	0

Co-Benefits



Equity Based Outcomes

- ▶ Lower utility rates through reduced consumption at County facilities.

Community
Priority Score

5.2

ACTIONS

- W-1.1 Implement the County's Water Efficiency Plan to require water-efficiency measures in new and existing County buildings/operations to reduce potable water use **intensity by 28% by 2030**.



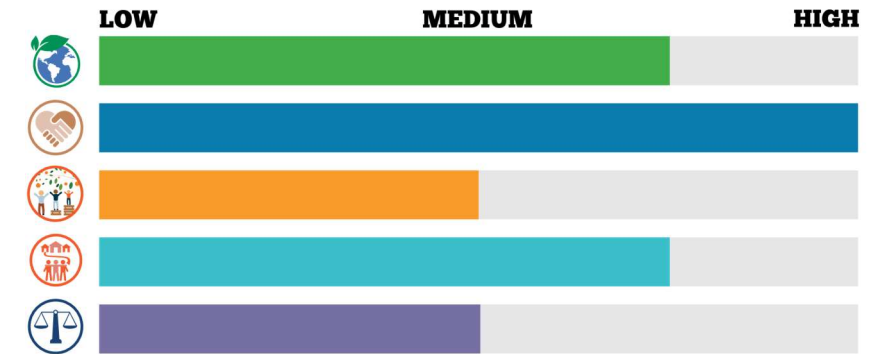
W-2: Develop policies and programs to increase indoor and outdoor water conservation (including water efficiency, retention, recycling, and reuse) in new and existing development in the unincorporated area

Description

New and existing development in the unincorporated area have the potential to increase their water savings through improvements to appliances like washers and faucets and landscaping irrigation and plant selection. This measure increases water savings and reuse through incentives, policy changes, and expansion to existing County-led programs in new and existing development.

	2030	2035	2040	2045
Reduction Potential (MTCO _{2e})	442	121	70	0

Co-Benefits



Equity Based Outcomes

- ▶ Increased access to incentives in frontline communities.
- ▶ Reduced permitting costs through streamlined processes.
- ▶ Reduced utility bills for homeowners and renters.
- ▶ Increased awareness and education on available incentives and the benefits of water savings and reuse in frontline communities.

Community
Priority Score

6.9

ACTIONS

- W-2.1 Amend the County's Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar water efficiency requirements and reduced outdoor water use for landscaping requirements for new development to reduce potable water consumption from new development by 17% in the unincorporated area.
- W-2.2 Amend the County's Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar water efficiency requirements for existing development projects with qualifying improvements.
- W-2.3 Update the Green Building Incentive program by 2026 to include incentives for water efficiency, conservation, and reuse improvements for new and existing development to reduce potable water consumption in the unincorporated area.
- W-2.3a Collaborate across County departments to streamline and simplify graywater capture permitting process to reduce potable water use in the unincorporated area.
- W-2.3b Develop and distribute materials to assist renters with implementing water efficiency and conservation improvements.
- W-2.4 Implement the Waterscape Rebate Program to incentivize water efficiency and conservation to reduce outdoor water consumption in the unincorporated area.



Strategy: Increase Stormwater Collection, Water Pumping, and Wastewater Treatment Efficiency

San Diego has already seen a rise in both severity of drought, as well as heavier storms and increased rainfall events that produce large amounts of stormwater runoff. Increased stormwater collection improves the region's water supply reliability by allowing stormwater to be used at a different time or place, such as during a period of drought. In addition, pumping stormwater and wastewater within communities at a smaller scale could also reduce emissions and increase opportunities for water to be recycled for irrigation. This strategy includes one measure and one implementing action to increase stormwater collection and wastewater treatment.



Construction of a water pipeline to Lake Jennings as part of the East County Advanced Water Purification program



Construction of a water recycling and purification facility near unincorporated El Cajon as part of the East County Advanced Water Purification program

Actions accomplished to date:

- Since 2020, the County has issued 579 rebates to provide residents financial assistance for septic system pumping and education on proper septic maintenance, how regular maintenance can prevent system failures, what to look for in the event of a failure, how septic systems relate to water quality, and information on additional resources as part of its [Septic System Rebate Program](#).
- In 2022, the County completed the development of the [Green Streets Clean Water Plan](#), which includes stormwater Best Management Practices that help reduce stormwater runoff, improve water quality, and provide a variety of related community benefits.
- Construction is under way on the East County Advanced Water Purification program (a joint powers project of the County of San Diego, Padre Dam Municipal Water District, Helix Water District, and the City of El Cajon) which will reuse wastewater and purify it into potable water.

Other related County initiatives:

- The County's [Waterscape Rebate Program](#) provides rebates for rain-saving barrels and septic pumping.
- The [Sewer System Management Plan](#) describes how the County is meeting State Water Resources Control Board requirements related to management of its wastewater collection system.
- The County's [Regional Water Equity Report](#) addresses drought management and water sustainability practices, including stormwater collection and reuse systems for affordable housing developments and County facilities, roads, and parks.

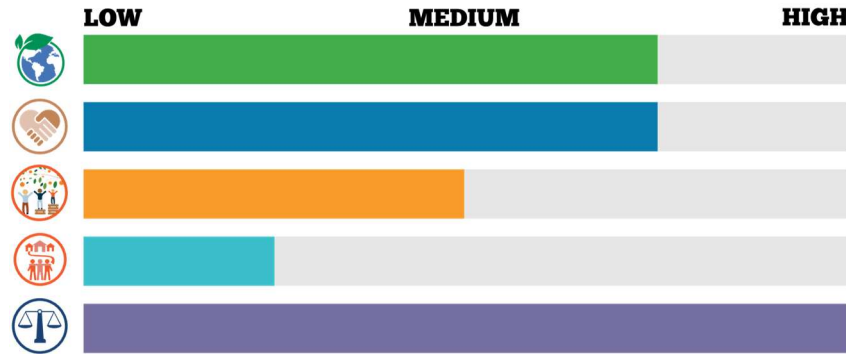
W-3: Develop programs to increase stormwater and wastewater treatment efficiency to reduce imported potable water use in the unincorporated area

Description

This measure increases stormwater and wastewater treatment efficiency to reduce potable water use and wastewater emissions in the community. The measure will expand existing County programs, such as the East County Advanced Water Purification Program, to decrease emissions associated with treating water and storing wastewater. The East County Advanced Water Purification Program will create a new, local, sustainable and drought-proof drinking water supply by using state-of-the-art technology to purify East San Diego County's recycled water to produce up to 30% of East County's drinking water supply while utilizing energy recovery systems to reduce the use of fossil fuel-based energy on-site.

	2030	2035	2040	2045
Reduction Potential (MTCO _{2e})	10,046	3,942	2,911	1,869

Co-Benefits



Equity Based Outcomes

- Reduced utility bills for homeowners and renters.
- Increased awareness and education on available incentives and the benefits of water savings and reuse in frontline communities.

Community Priority Score

6.4

ACTIONS

- W-3.1** Increase wastewater treatment efficiency through the East County Advanced Water Purification Program to produce 12,900 acre feet of water each year by 2030.
- W-3.1a** Evaluate Waterscape Rebate Program septic system improvements for opportunities to reduce wastewater emissions in the unincorporated area.

A detailed summary of CAP measure implementation outcomes and implementing departments for the Water and Wastewater sector is described in Table 10. CAP measures include implementing actions that result in quantified GHG reductions that are within the County's jurisdiction, enforceable within the County's regulatory framework, and additional to existing regulations. Measurable outcomes and quantified GHG reductions for implementing actions are shown for 2030, 2035, 2040, and 2045. In addition, some measures include “Path to Net Zero” actions (as noted by the icon) that establish measurable outcomes the County will take to reach the 2045 net zero emissions goal. Implementation of these actions do not result in quantified GHG reductions in this CAP but could result in quantified reductions in future CAPs with additional data and monitoring.

Table 10 Summary of CAP Measure Implementation Outcomes and Implementing Departments for the Water and Wastewater Sector

ID	ACTION	LEAD (SUPPORT)	OUTCOMES / GHG REDUCTION POTENTIAL			
			2030	2035	2040	2045
W-1: Develop policies and programs to increase water efficiency, retention, recycling, and reuse to reduce potable water consumption in County operations						
W-1.1	Implement the County's Water Efficiency Plan to require water-efficiency measures in new and existing County buildings/operations to reduce potable water use intensity by 28% by 2030 .	DGS	28% reduction	28% reduction	28% reduction	28% reduction
			3 MTCO ₂ e	1 MTCO ₂ e	0 MTCO ₂ e	0 MTCO ₂ e
W-2: Develop policies and programs to increase indoor and outdoor water conservation (including water efficiency, retention, recycling, and reuse) in new and existing development in the unincorporated area						
W-2.1	Amend the County's Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar water efficiency requirements and reduced outdoor water use for landscaping requirements for new development to reduce potable water consumption from new development by 17% in the unincorporated area.	PDS	17% reduction	17% reduction	17% reduction	17% reduction
			37 MTCO ₂ e	16 MTCO ₂ e	16 MTCO ₂ e	0 MTCO ₂ e
W-2.2	Amend the County's Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar water efficiency requirements for existing development projects with qualifying improvements.	PDS	20% reduction	20% reduction	20% reduction	20% reduction
			320 MTCO ₂ e	81 MTCO ₂ e	41 MTCO ₂ e	0 MTCO ₂ e
W-2.3	Update the Green Building Incentive program by 2026 to include incentives for water efficiency, conservation, and reuse improvements for new and existing development to reduce potable water consumption in the unincorporated area.	PDS	71.9 million gallons reduced	72.3 million gallons reduced	72.8 million gallons reduced	73.3 million gallons reduced
			64 MTCO ₂ e	16 MTCO ₂ e	8 MTCO ₂ e	0 MTCO ₂ e
W-2.3a	Collaborate across County departments to streamline and simplify graywater capture permitting process to reduce potable water use in the unincorporated area.	DEHQ (PDS)	Permitting processes streamlined			
			GHG reductions not quantified for “Path to Net Zero” actions			
W-2.3b	Develop and distribute materials to assist renters with implementing water efficiency and conservation improvements.	PDS (HHSA, DEHQ)	Materials developed and distributed			
			GHG reductions not quantified for “Path to Net Zero” actions			

ID	ACTION	LEAD (SUPPORT)	OUTCOMES / GHG REDUCTION POTENTIAL			
			2030	2035	2040	2045
W-2.4	Implement the Waterscape Rebate Program to incentivize water efficiency and conservation to reduce outdoor water consumption in the unincorporated area.	DPW	450,000 square feet turf removed 1,800 rain barrels* installed	700,000 square feet turf removed 2,800 rain barrels* installed	950,000 square feet turf removed 3,800 rain barrels* installed	1,200,000 square feet turf removed 4,800 rain barrels* installed
			21 MTCO ₂ e	8 MTCO ₂ e	6 MTCO ₂ e	0 MTCO ₂ e
W-3: Develop programs to increase stormwater and wastewater treatment efficiency to reduce imported potable water use in the unincorporated area						
W-3.1	Increase wastewater treatment efficiency through the East County Advanced Water Purification Program to produce 12,900 acre feet of water each year by 2030.	DPW	4.2 billion gallons treated	4.2 billion gallons treated	4.2 billion gallons treated	4.2 billion gallons treated
			10,046 MTCO ₂ e	3,942 MTCO ₂ e	2,911 MTCO ₂ e	1,869 MTCO ₂ e
W-3.1a	Evaluate Waterscape Rebate Program septic system improvements for opportunities to reduce wastewater emissions in the unincorporated area.	DPW	Program options evaluated			
			GHG reductions not quantified for “Path to Net Zero” actions			
Lead (County departments responsible for measure implementation) DEHQ =Department of Environmental Health and Quality DGS = Department of General Services DPW = Department of Public Works HHSA = Health and Human Services Agency PDS = Department of Planning & Development Services						
Acronyms GHG = Greenhouse gas MTCO ₂ e = metric tons of carbon dioxide equivalent						
Footnotes: * W-2.4: The total storage capacity of all rainwater harvesting containers has been divided by 50 gallons to achieve a Rain Barrel Equivalent (RBE) total.						





Agriculture and Conservation

VISION STATEMENT

- **Natural and agricultural lands are preserved, invested in, and optimally managed to capture carbon, support the local food and farming community, maintain biodiversity, and provide access to healthy outdoor spaces.**

Agriculture and natural lands play a major role in the unincorporated area.

- More than 5,000 farmers call the county their home.
- More small farms (defined as less than 10 acres) than any other county.
- 19th largest farm economy among more than 3,000 counties.
- The county is recognized as one of the most diverse areas for plants and animals in the United States (U.S.) and for having the highest number of species that are considered rare or endangered.
- Scientists have classified San Diego as one of two counties in the U.S. that are considered biodiversity “hot spots” because of the unique and rare species found in the diverse range of habitats found in the region.
- The County's Department of Parks and Recreation manage 360 miles of hiking, biking, and equestrian trails in more than 100 parks and open space preserves.

The Agriculture and Conservation sector refers to emissions associated with livestock, application of fertilizer, and the use of petroleum- or diesel-powered equipment. Emissions associated with this sector accounted for four percent of the total emissions in 2019. Natural and working lands are uniquely positioned to capture and store carbon in soil, plants, and crops. Total carbon stock in the unincorporated area was approximately 178 million metric tons of carbon dioxide equivalent as of 2016. Evaluating the carbon storage potential in the carbon stock estimates (Appendix 6) helped identify and calculate how improved agricultural practices and land management strategies within the County's jurisdiction can increase the amount of carbon captured on these lands to help the County meet its net zero emission goals.

Given that agriculture is a major contributor to the local economy and food supply and is affected by impacts of climate change, such as water supply and drought issues, it is especially important to understand where emissions are coming from. Also key to this sector is acknowledging how the County can support agriculture to reduce emissions, increase carbon storage on agricultural and natural lands, and provide complementary benefits, such as the creation of green careers, a strengthened local, sustainable food system, and development of programs that support sustainable farming and land conservation practices.

The Agriculture and Conservation sector includes two GHG reduction strategies comprising five measures and seven implementing actions. Through implementation of measures within this sector, the County will preserve natural and agricultural lands, incentivize climate-friendly farming practices, and expand tree planting across our unincorporated communities.

CAP Connections to State Efforts

Natural and working lands conserved under the County's Multiple Species Conservation Program (MSCP) and Purchase of Agricultural Conservation Easements (PACE) Program support several actions identified in the State's *Pathways to 30 x 30 Strategy* to conserve 30% of California's lands and coastal waters by 2030, including implementing strategic land acquisitions, increasing voluntary conservation easements, enhancing conservation of existing public lands, and expanding environmental restoration and stewardship. Continued implementation and future improvements to these County programs would support “30 x 30” efforts to advance and promote complementary conservation measures, evaluate conservation outcomes, and adaptively manage, and strengthen coordination among governments.



Strategy: Preserve Natural Lands and Improve Land Management Practices to Protect Habitat and Increase Carbon Storage

The San Diego region is recognized as one of the most diverse areas for plants and animals in the continental United States and for having the highest number of species that are considered rare or endangered. Scientists have classified San Diego as one of two counties in the country that are considered biodiversity “hot spots” because of the unique and rare species found in the diverse range of habitats found in the region. The County's *Multiple Species Conservation Program* (MSCP) and Tree Planting Program help preserve and strategically grow the county's unique, native habitats and tree canopy, ensure development happens in the right areas, and increase access to greenery and associated health co-benefits. This strategy includes two measures and four implementing actions that focus on land preservation and tree canopy growth.



Alfalfa feed in Escondido

Actions accomplished to date:

- The County preserves San Diego's unique, native habitats and wildlife biodiversity for future generations through the MSCP. The County uses the MSCP to acquire land and conserve it permanently to remove the threat of future development, the loss of critical habitat, and

reduce the emissions that would have occurred if the land were developed. Between 2015–2022, 8,766 acres were conserved under this Program.

- The County's Department of Parks and Recreation (DPR) initiated its Tree Planting Program for the unincorporated area to plant a minimum of 3,500 trees annually starting in 2017 at County parks and open space preserves. Through 2022, 30,029 trees have been planted.
- DPR manages 360 miles of hiking, biking, and equestrian trails in more than 100 parks and open space preserves. Additionally, DPR actively works to acquire, protect, and preserve the region's natural and cultural resources, which in turn improves the overall quality of the county's environment.
- The County's Water Conservation in Landscaping Ordinance establishes standards for new and existing landscapes to reduce outdoor water use and increase tree planting.

Other related County initiatives:

- In 2022, the Board approved the *San Diego County Native Landscape Program* to increase the use of native plants in landscaping across the region. Landscaping with native plants supports biodiversity and helps the natural environment be more adaptive and resilient to climate change impacts by increasing habitat for native animals, birds, and insects and improving water conservation. By encouraging the use of native plants in landscaping, the County can support local demand for native plant products and professional services.
- The County is now underway to protect sensitive butterfly species. In 2021, the County was awarded a Cooperative Endangered Species Conservation Fund grant to support the planning and completion of the County's *Butterflies Habitat Conservation Plan* (HCP). The HCP will protect sensitive butterfly species in San Diego including the federally listed endangered Quino checkerspot butterfly and Laguna Mountains skipper, threatened Hermes copper butterfly, and sensitive Harbison's dun skipper. The purpose of the HCP is to protect, restore, and enhance habitat to facilitate the recovery of these sensitive butterfly populations.



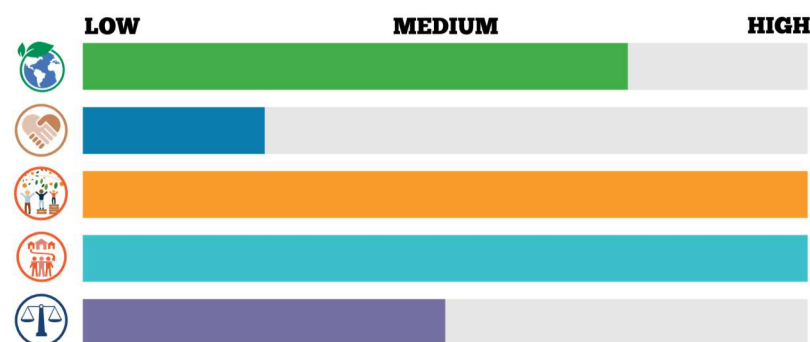
A-1: Acquire and manage conservation lands to preserve natural lands and maximize carbon storage potential in the unincorporated area

Description

To preserve and manage the region's unique, native habitats and wildlife biodiversity for future generations, the County will acquire conservation land and develop a framework for restoring these lands to their natural state. Acquisition of conservation land reduces emissions that would have occurred if the land were developed and prevents the loss of critical habitat. Through 2022, 8,766 acres have been acquired. A Habitat Restoration Resource Management Framework will guide the restoration and management of lands to increase carbon storage within the conserved areas.

	2030	2035	2040	2045
Reduction Potential (MTCO _{2e})	63,319	72,426	82,132	92,441

Co-Benefits



Equity Based Outcomes

- Increased access to open space in frontline communities.
- Increased educational opportunities with tribal communities to learn about the natural environment.

Community
Priority Score

7.3

ACTIONS

- A-1.1 Acquire 11,000 acres of conservation lands by 2030 and 1,000 acres per year thereafter to preserve land in perpetuity.
- A-1.2 Develop a Habitat Restoration Resource Management Framework for County-owned land by 2030 and restore 80 acres per year thereafter to increase carbon storage.
- A-1.2a Partner with tribal governments to incorporate tribal ecological knowledge and apply indigenous land management practices to contribute towards habitat restoration efforts on County land.



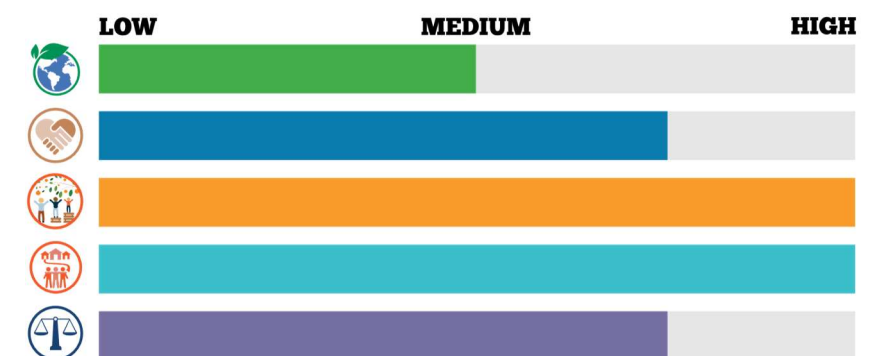
A-2: Develop a tree planting program that expands canopy across the unincorporated area and prioritizes underserved communities

Description

Trees can be significant sources of carbon capture and storage due to their size and longevity. From 2015 to 2022, the Tree Planting Program at County Parks has planted 30,029 trees. This measure expands this effort to comprehensively focus on the preservation and expansion of tree canopy in the unincorporated area through the implementation of an Equity Driven Tree Planting Program to improve air and water quality, and community health. Tree planting also enriches local ecosystems, supports biodiversity and soil health, provides shade, prevents soil erosion, and buffers against wind and noise.

	2030	2035	2040	2045
Reduction Potential (MTCO _{2e})	2,937	4,276	5,526	6,776

Co-Benefits



Equity Based Outcomes

- Increased tree canopy coverage in frontline communities.
- Reduced number of urban heat islands in frontline communities.
- Increased support for ongoing tree maintenance in frontline communities to support the tree's longevity.

Community
Priority Score

8.3

ACTIONS

- A-2.1 Expand the County's existing tree planting initiative and implement an Equity Driven Tree Planting Program to plant 70,560 trees by 2030 and 6,650 trees per year thereafter on County property and in the unincorporated area.
- A-2.1a Develop a program to preserve native trees in the unincorporated area.
- A-2.1b Educate the public on the benefits and maintenance of native, fire-resistant, and drought-tolerant tree plantings.
- A-2.2 Implement the County's Landscaping Ordinance to require tree planting in new single family residential development in the unincorporated area.



Strategy: Support Climate-Friendly Farming Practices and Preserve Agricultural Land

The preservation and long-term viability of agricultural working lands in the unincorporated area is critical. Climate change is threatening the ability of farmers to grow food. Farms and ranches in the county are uniquely vulnerable to the impacts of climate change due to high climate variability that increase the frequency of extreme weather events, constrained water resources, and new pest and disease challenges. The County understands the value of having healthy agricultural lands, a skilled workforce to farm them, and a local, sustainable source of food. The County will continue to identify opportunities to preserve and enhance agricultural lands (e.g., by championing climate-friendly farming practices or practices that reduce GHGs or capture and store carbon and other nutrients in plants and soil), support producers, maintain the local food system, and conserve ecosystems.



Row crops at a farm in Pauma Valley

This strategy includes three measures and three implementing actions that reduce emissions from agricultural equipment and operations and increase carbon stored on working lands through regenerative practices. These actions support the agricultural community and have important co-benefits, such as water conservation and associated savings on utility bills and improved air and soil quality.

Actions accomplished to date:

- Between 2015–2022, the *Purchase of Agricultural Conservation Easement (PACE) Program* preserved 2,135 acres of agricultural land.
- In 2021, the County updated its Organic Materials Ordinance to make it easier to process compost for use on farms and open additional opportunities for manure management in the unincorporated area.
- In 2022, San Diego Local Agency Formation Commission, the County, and the Resource Conservation District of Greater San Diego County received grant funds through the Sustainable Agricultural Lands Conservation (SALC) Program to push forward agricultural programs, policies, and projects that improve land preservation, and strengthen community, economic, and environmental co-benefits.
- The San Diego County Air Pollution Control District's *Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program* provides incentive funds to replace agricultural equipment (e.g., off-road and heavy-duty equipment, utility terrain vehicles (UTV)) with the cleanest available technologies. Four agricultural UTVs in the unincorporated area were converted to electric in 2022.

Other related County initiatives

- The County's *Regional Decarbonization Framework Technical Report*, a science-based analysis of decarbonization pathways, and the *Let's Get There* Playbook, a resource guide created to support the Regional Decarbonization Framework, consider how Food Systems, or all aspects of food production, use, and disposal, can support GHG reductions by using cleaner fuels and sustainable agricultural practices (e.g., agriculture easements, carbon farming, urban gardens).
- The County's Department of Agriculture Weights and Measures promotes sustainable agriculture through programs that support organic farming, farmers' markets, beekeeping, water quality, pest detection, and others.
- On June 8, 2021, the Board of Supervisors approved the use of \$7 million in American Rescue Plan Act funding to support the development of community food production projects in communities disproportionately impacted by COVID-19. The \$7 million is part of \$20 million in total funding allocated to strengthening access to fresh, healthy food in the region.

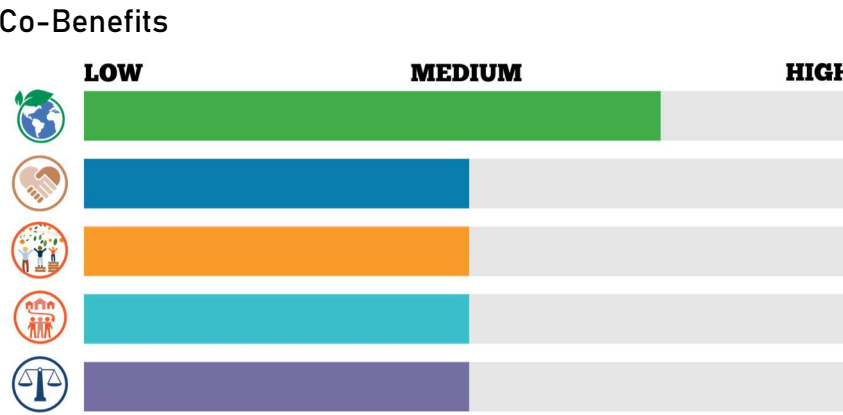


A-3: Preserve agricultural lands to prioritize carbon storage and balance economic and development goals

Description

To maintain the county's agricultural landscape, economy, and food source for years to come, the County will implement the Purchase of Agricultural Conservation Easements (PACE) Program, which compensates willing property owners for placing a perpetual easement on their property to limit its use to agriculture. This program preserves agricultural land by eliminating future development potential and making continued agricultural use more viable. Between 2015–2022, the PACE Program has preserved 2,135 acres.

	2030	2035	2040	2045
Reduction Potential (MTCO ₂ e)	9,699	12,210	14,736	17,327



Equity Based Outcomes

- Increased outreach and engagement to USDA-defined socially disadvantaged farmers to expand their participation in the PACE Program.

Community Priority Score

5.4

ACTIONS

- A-3.1** Implement the Purchase of Agricultural Conservation Easement (PACE) Program to preserve 6,058 acres of agricultural land by 2030 and 400 acres per year thereafter.



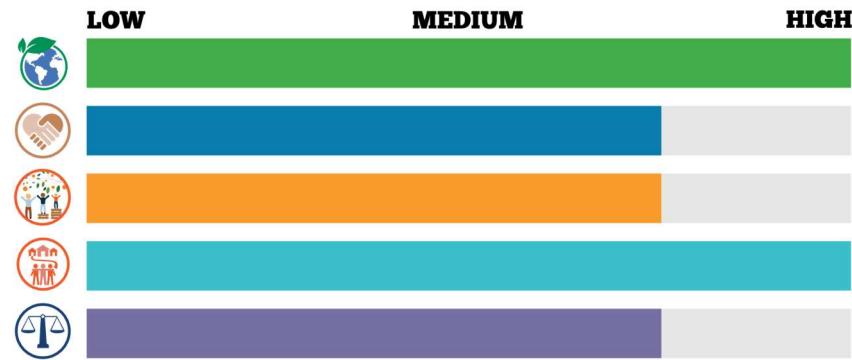
A-4: Incentivize carbon farming to expand carbon storage capacity on agricultural land and support climate-friendly farming practices in the unincorporated area

Description

Carbon farming refers to land management practices that improve the rate at which carbon is stored in plant and soil matter. This measure will develop incentive programs (e.g., carbon farming, manure management, feed quality, nutrient management) to effectively reach producers, support the agricultural economy, and increase access to healthy food throughout the region. A **Climate Smart Land Stewardship Program** will incentivize a variety of techniques on natural and working lands that reduce GHG emissions, **increase sequestration potential, and provide co-benefits such as water and land conservation and healthy soil.**

	2030	2035	2040	2045
Reduction Potential (MTCO ₂ e)	10,758	47,691	84,623	121,556

Co-Benefits







Equity Based Outcomes

- ▶ Concerted outreach and engagement to USDA-defined socially disadvantaged farmers to increase the chances of their participation in the **Climate Smart Land Stewardship Program**.
- ▶ Increased public dollars spent on local, equitable, and sustainable food sources.

Community
Priority Score

10.0

ACTIONS

- A-4.1 Develop a **Climate Smart Land Stewardship Program** by 2026 to increase carbon sequestration on 3,000 acres by 2030 and 36,214 acres by 2045.
-  A-4.1a Support the local food system through development of a food sourcing policy that prioritizes contracts with local, equitable, and sustainable food suppliers in County operations.
-  A-4.1b Evaluate opportunities to increase farmworker housing in the unincorporated area to reduce emissions from farmworker transportation.
-  A-4.1c Evaluate options to incentivize voluntary alternative manure management and livestock feed projects to reduce manure management and enteric fermentation emissions in the unincorporated area.
-  A-4.1d Evaluate options to incentivize the voluntary reduction of the use of synthetic fertilizers in the unincorporated area.



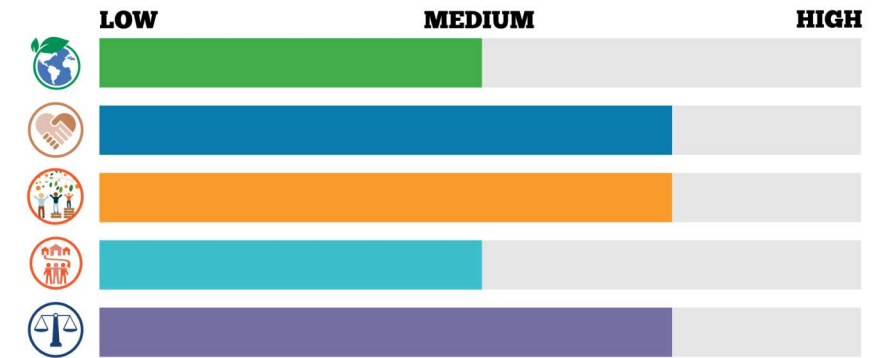
A-5: Reduce greenhouse gas emissions from agricultural operations

Description

Agricultural equipment accounted for approximately 49% of GHG emissions from the agriculture sector in 2019. This measure will reduce emissions from agricultural off-road equipment and energy use by incentivizing replacements of diesel-powered farm equipment to lower emission, or electric, equipment and energy efficiency improvements. These improvements will also lead to a reduction in overall operational costs as cleaner equipment replacements are often more fuel efficient and energy use reductions will lower utility costs.

	2030	2035	2040	2045
Reduction Potential (MTCO ₂ e)	1,559	8,987	14,465	19,638

Co-Benefits




Equity Based Outcomes

- ▶ Increased incentives to USDA-defined socially disadvantaged farmers and/or agricultural operations in frontline communities.

Community
Priority Score

6.8

ACTIONS

- A-5.1 Develop a program by 2026 to incentivize a transition to cleaner fuels and the efficient use of energy to reduce agricultural operations emissions in the unincorporated area.
-  A-5.1a Partner with the local utility to advocate for agricultural pump rates that would incentivize electrification.



A detailed summary of CAP measure implementation outcomes and implementing departments for the Agriculture and Conservation sector is described in Table 11. CAP measures include implementing actions that result in quantified GHG reductions that are within the County's jurisdiction, enforceable within the County's regulatory framework, and additional to existing regulations. Measurable outcomes and quantified GHG reductions for implementing actions are shown for 2030, 2035, 2040, and 2045. In addition, some measures include “Path to Net Zero” actions (as noted by the icon) that establish measurable outcomes the County will take to reach the 2045 net zero emissions goal. Implementation of these actions do not result in quantified GHG reductions in this CAP but could result in quantified reductions in future CAPs with additional data and monitoring.

Table 11 Summary of CAP Measure Implementation Outcomes and Implementing Departments for the Agriculture and Conservation Sector



ID	ACTION	LEAD (SUPPORT)	OUTCOMES / GHG REDUCTION POTENTIAL			
			2030	2035	2040	2045
A-1: Acquire and manage conservation lands to preserve natural lands and maximize carbon storage potential in the unincorporated area						
A-1.1	Acquire 11,000 acres of conservation lands by 2030 and 1,000 acres per year thereafter to preserve land in perpetuity.	DPR	11,000 acres	14,500 acres	18,000 acres	21,500 acres
			63,242 MTCO ₂ e	71,968 MTCO ₂ e	81,291 MTCO ₂ e	91,218 MTCO ₂ e
A-1.2	Develop a Habitat Restoration Resource Management Framework for County-owned land by 2030 and restore 80 acres per year thereafter to increase carbon storage.	DPR (DPW)	80 acres	480 acres	880 acres	1,280 acres
			76 MTCO ₂ e	459 MTCO ₂ e	841 MTCO ₂ e	1,233 MTCO ₂ e
A-1.2a	Partner with tribal governments to incorporate tribal ecological knowledge and apply indigenous land management practices to contribute towards habitat restoration efforts on County land.	DPR (PDS)	Continued collaboration with regional partners			
			GHG reductions not quantified for “Path to Net Zero” actions			
A-2: Develop a tree planting program that expands canopy across the unincorporated area and prioritizes underserved communities						
A-2.1	Expand the County's existing tree planting initiative and implement an Equity Driven Tree Planting Program to plant 70,560 trees by 2030 and 6,650 trees per year thereafter on County property and in the unincorporated area.	DPR, PDS (DPW, DGS)	70,560 trees	103,810 trees	137,060 trees	170,310 trees
			2,498 MTCO ₂ e	3,675 MTCO ₂ e	4,852 MTCO ₂ e	6,029 MTCO ₂ e
A-2.1a	Develop a program to preserve native trees in the unincorporated area.	DPR (PDS)	Program developed and implemented			
			GHG reductions not quantified for “Path to Net Zero” actions			
A-2.1b	Educate the public on the benefits and maintenance of native, fire-resistant, and drought-tolerant tree plantings.	PDS	Educational programs implemented			
			GHG reductions not quantified for “Path to Net Zero” actions			
A-2.2	Implement the County's Landscaping Ordinance to require tree planting in new single family residential development in the unincorporated area.	PDS	12,402 trees	16,974 trees	19,044 trees	21,114 trees
			439 MTCO ₂ e	601 MTCO ₂ e	674 MTCO ₂ e	747 MTCO ₂ e



ID	ACTION	LEAD (SUPPORT)	OUTCOMES / GHG REDUCTION POTENTIAL			
			2030	2035	2040	2045
A-3: Preserve agricultural lands to prioritize carbon storage and balance economic and development goals						
A-3.1	Implement the Purchase of Agricultural Conservation Easement (PACE) Program to preserve 6,058 acres of agricultural land by 2030 and 400 acres per year thereafter.	PDS (DGS)	6,058 acres	8,058 acres	10,058 acres	12,058 acres
			9,699 MTCO ₂ e	12,210 MTCO ₂ e	14,736 MTCO ₂ e	17,327 MTCO ₂ e
A-4: Incentivize carbon farming to expand carbon storage capacity on agricultural land and support climate-friendly farming practices in the unincorporated area						
A-4.1	Develop a Climate Smart Land Stewardship Program by 2026 to increase carbon sequestration on 3,000 acres by 2030 and 36,214 acres by 2045.	PDS (AWM)	3,000 acres	14,071 acres	25,143 acres	36,214 acres
			10,758 MTCO ₂ e	47,691 MTCO ₂ e	84,623 MTCO ₂ e	121,556 MTCO ₂ e
A-4.1a	Support the local food system through development of a food sourcing policy that prioritizes contracts with local, equitable, and sustainable food suppliers in County operations.	HHSA (PDS)	Policy adopted and implemented			
			GHG reductions not quantified for “Path to Net Zero” actions			
A-4.1b	Evaluate opportunities to increase farmworker housing in the unincorporated area to reduce emissions from farmworker transportation.	PDS (AWM, DEHQ)	Program options evaluated			
			GHG reductions not quantified for “Path to Net Zero” actions			
A-4.1c	Evaluate options to incentivize voluntary alternative manure management and livestock feed projects to reduce manure management and enteric fermentation emissions in the unincorporated area.	PDS (AWM)	Incentive options evaluated			
			GHG reductions not quantified for “Path to Net Zero” actions			
A-4.1d	Evaluate options to incentivize the voluntary reduction of the use of synthetic fertilizers in the unincorporated area.	PDS (AWM)	Incentive options evaluated			
			GHG reductions not quantified for “Path to Net Zero” actions			
A-5: Reduce greenhouse gas emissions from agricultural operations						
A-5.1	Develop a program by 2026 to incentivize a transition to cleaner fuels and the efficient use of energy to reduce agricultural operations emissions in the unincorporated area.	PDS (AWM)	225 units converted	982 units converted	1,481 units converted	2,054 units converted
			1,559 MTCO ₂ e	8,987 MTCO ₂ e	14,465 MTCO ₂ e	19,638 MTCO ₂ e
A-5.1a	Partner with the local utility to advocate for agricultural pump rates that would incentivize electrification.	PDS	Continued collaboration with regional partners			
			GHG reductions not quantified for “Path to Net Zero” actions			



<p>Lead (County departments responsible for measure implementation)</p> <p>AWM = Department of Agriculture, Weights, and Measures DEHQ =Department of Environmental Health and Quality DGS = Department of General Services DPR = Department of Parks and Recreation DPW = Department of Public Works PDS = Department of Planning & Development Services</p>
<p>Acronyms</p> <p>GHG = Greenhouse gas MTCO_{2e} = metric tons of carbon dioxide equivalent</p>



05

Implementation and Monitoring

*Anza-Borrego Desert State Park
near Borrego Springs*

5. Implementation and Monitoring

Reaching net zero emissions will require a strong commitment to implementation and monitoring. This chapter discusses how the County will implement the CAP and track its progress toward achieving its GHG emission reduction targets. Coordination among County departments, cooperation with regional partners, identification of funding sources, and integration of CAP actions with other County planning initiatives and administrative procedures are all necessary for successful CAP implementation.

5.1 Implementation Strategy

Implementation of the CAP includes a combination of regulations, programs, incentives, and outreach and educational activities to reduce GHG emissions. This includes existing County initiatives like the *Multiple Species Conservation Program (MSCP)*, *Purchase of Agricultural Conservation Program (PACE)*, and *Strategic Plan to Reduce Waste*, as well as the creation of new programs and efforts like an equity-driven tree planting program. County efforts complement and build upon other federal and State efforts.

The CAP implementation program includes two cost analyses. The Implementation Cost Analysis (Appendix 10) estimates costs to the County to implement the CAP to assist with future budget requests and the identification of funding sources. The Cost Effectiveness and Disproportionate Cost Analysis (Appendix to be available prior to Final CAP adoption) identifies the cost effectiveness and any disproportionate costs that may be experienced by residents and businesses in the community as a result of CAP implementation.

The CAP then applies an Equity Implementation Framework (Appendix 9) to prioritize climate action in frontline communities and ensure outcomes and co-benefits are realized equitably throughout the unincorporated area. The Equity Implementation Framework was developed in partnership with community-based organizations, other equity-focused offices within the County, and the CAP's implementing departments. The Equity Implementation Framework is a resource for all County departments who are

responsible for implementing the CAP and includes step-by-step guidance on how to develop CAP projects, programs, and policies that can lead to direct investments in frontline communities and avoid unintended consequences. In addition to assisting with CAP implementation, the Equity Implementation Framework also supports adaptation and resiliency efforts, as outlined in Section 1.6 of the CAP. Regular monitoring will allow the County to track the effectiveness of CAP measures and actions, update the emissions inventory, and make adjustments to keep on track towards the emissions reduction targets. As a result, measures and actions will be regularly assessed and continuously monitored to ensure:

- All measures include clearly defined steps necessary for implementation.
- Individual measures are contributing to the overall GHG reduction targets and net zero emissions goal.
- The CAP is on track to achieve its overall GHG reduction targets.
- Equity-based outcomes are attained.

The CAP is a living document and will be regularly updated to reflect and respond to changing technology, federal and State regulations, demographics, and market conditions to be effective.



CAP Update outreach with community members in Borrego Springs



The County will implement strategies and measures of the CAP through several types of programs and activities that can be grouped onto the following categories:

Policy Updates
New or amended regulations as part of the County Code updates.

Financing and Incentives
Mechanisms for funding and allocating resources such as developing incentive programs.

Program Research and Development
Additional research and program development is required for effective implementation to occur. These programs may require future partnerships and financing mechanisms to be in place at a future time, but most immediately, County staff will integrate program research and development into the context of existing workloads and programs whenever possible.

Partnerships
Inter-agency coordination and partnerships with other organizations (e.g., government agencies, non-profits, private entities, and among others).

Outreach and Education
Outreach and educational efforts to involve the community in CAP implementation. Measure action and outcome descriptions in the monitoring program (Table 13) specify the mechanisms that will be used to implement individual measures.

Implementation Responsibilities
After adoption, the CAP will be maintained by the County's Planning & Development Services Department (PDS). PDS will support CAP implementation and will coordinate with other County departments to facilitate and oversee implementation and track and report on the progress of each measure and action. Staff will track progress on the expected quantified outcomes of each GHG reduction measure and action. Departments responsible for monitoring each specific measure and action are shown in Table 13.

The County's Sustainability Task Force is another forum that will support CAP implementation and monitoring. This internal working group is comprised of representatives from multiple County departments who lead energy efficiency, solid waste reduction, and renewable energy, and other sustainability plans, policies, and programs across the County enterprise.

Implementation Funding Sources
The County will leverage funding sources by monitoring funding opportunities and financing mechanisms to successfully implement CAP measures. Ongoing resource management will be required to maximize efficiency. Program incentives and funding sources will change over time. The County will stay up to date on available resources as

GHG reduction measures are implemented. Potential funding sources to support GHG reduction measures include federal funding from the Inflation Reduction Act and Bipartisan Infrastructure Law, State funding through grants from various State agencies, and local funding sources. Funding sources are classified into various categories based on their origin. The applicability of each funding category to individual GHG reduction measures is shown in the monitoring program in Table 13, and additional cost and funding information can be found in the Implementation Cost Analysis (Appendix 10).

Regional Partnerships
Implementation of the CAP will require collaboration and coordination with local governments and public agencies, nonprofits, universities, businesses, and others to help the County reach its goal of net zero emissions by 2045. Through partnerships, the County can leverage existing and future programs and plans and bring new funding and resources to the region that will help support the CAP's GHG reduction measures. One example of this regional collaboration is the County's participation in the development and future implementation of the Priority Climate Action Plan (PCAP). Developed by SANDAG in partnership with local jurisdictions and public agencies across the region, the PCAP is a regional CAP that establishes measures to reduce

GHG emissions across six key sectors (electricity generation, industry, transportation, buildings, agriculture/natural and working lands, and waste management). The County will collaborate with regional partners to ensure that the PCAP's implementation aligns with the County's CAP to reduce GHG emissions in the unincorporated area.

5.2 Monitoring and Updates

The CAP presents a broad-based strategy to significantly reduce GHG emissions in alignment with State targets and Board of Supervisors (Board) direction and improve the sustainability and resilience of the county. However, the CAP will need to be updated and maintained if it is to remain relevant and effective. County staff will evaluate and monitor plan performance over time and make recommendations to alter or amend the plan if it is not achieving the CAP 2030 and 2045 reduction targets. This will include conducting GHG emissions inventory updates and analyzing measure performance.

The CAP is a dynamic document that will be periodically assessed and monitored. Regular monitoring and performance measuring of CAP activities will allow the County to make timely adjustments to existing measures; replace ineffective or obsolete actions; or add new measures as technology, federal and State programs, and circumstances change. Adjustments will be made to the CAP, consistent with CEQA Guidelines 15183.5(b)(1)(E), if measures fall short of the target or additional measures become available. As new data and resources, future federal and State legislation and regulations, improvements in energy efficiency and technology, new regional plans, and updates to building standards become available, the County may amend the CAP to provide additional flexibility or clarity. The County recognizes that flexibility in implementation is necessary to allow us to evolve our strategies to achieve the most effective CAP.

The County will evaluate measure performance through the CAP Annual Monitoring Report and through updates to the CAP's GHG emissions inventory. These monitoring mechanisms will be an opportunity to evaluate progress and course correct if a particular measure is not performing as anticipated in the CAP and adjustments are necessary for the County to meet GHG reduction targets.

CAP Annual Monitoring Report

The County will conduct annual monitoring beginning in 2025, one year after the anticipated approval of the CAP, to track progress and identify where further efforts and additional resources may be needed. Monitoring reports will be published annually and will include the status of CAP measure and action implementation using monitoring metrics, benchmarks, and detailed GHG reduction milestones as identified in the CAP Combined Measure Workbook (Appendix 7) to evaluate measure implementation progress and keep the County on track to meet the CAP's GHG reduction targets. The County will continue its CAP public outreach efforts so that County departments, external stakeholders, and the general public can monitor the progress and effectiveness of each CAP measure.



California lilacs at the El Capitan County Preserve in Lakeside

GHG Emissions Inventory Updates

The County's GHG inventory is based on extensive research and analysis and represents a snapshot in time. As technologies and markets change and CAP measures are implemented, new inventories will be prepared to track progress towards emission reduction targets. As a result, the GHG inventory will be updated at least every two years following CAP adoption using current data and modeling assumptions.

The GHG inventory updates will provide information about emission reductions over time, in comparison to the 2019 inventory and 2030-2045 emissions projections identified in this CAP.

Table 12 CAP Monitoring and Update Schedule

2024	CAP Implementation CAP adoption by the Board of Supervisors and implementation begins
2025	Annual Monitoring Report Staff prepares and publishes an annual monitoring report, assessing CAP annual performance in measure implementation
2026	GHG Emissions Inventory Update Staff conducts an update to the emissions inventory at least every two years.
2030	CAP Update Based on the findings from the annual monitoring reports and inventory updates, staff prepares a CAP update at least every five years.



County roadway near Jacumba and Campo in the Mountain Empire

CAP Updates

Based in part on the findings from the annual monitoring reports and inventory updates, the County will prepare a CAP update at least every five years beginning in 2030. The CAP update will work to coincide with the County's Strategic Plan, General Management System, and Capital Improvement Program review cycles. The CAP update will include updated inventories and adjustments to reduction measures, as necessary. Future updates to the CAP will comply with CEQA Guidelines

Housing Production and Capacity Portal

The County's *Housing Production and Capacity Portal* will be used to monitor the development of housing units in the unincorporated area to ensure this CAP and future CAP updates accurately mitigate for housing development consistent with the General Plan. The Portal tracks progress towards implementing the General Plan by illustrating housing production and land use capacity since 2011. This is accomplished

through close monitoring of the existing number of dwelling units, changes to land use capacity, production of housing units, and remaining dwelling unit capacity of the General Plan. The Portal will be an important tool for the County to use to monitor CAP implementation and demonstrate achievement of the GHG reduction targets outlined in this document.



CAP Update outreach at a Movies in the Park event in Pine Valley

5.3 CAP Implementation and Monitoring Program

The CAP's implementation and monitoring program is described in Table 13. For all CAP measures, the implementing and "Path to Net Zero" actions that will contribute to the County's reduction targets and goal are identified. Measurable outcomes, implementation timeline, County department lead, enforcement mechanism, and estimated GHG reduction potential, relative cost, and potential funding sources are provided. Detailed cost information can be found in the Implementation Cost Analysis (Appendix 10).

Table 13 CAP Implementation and Monitoring Program

ID	ACTION	LEAD (SUPPORT)	ENFORCEMENT	OUTCOMES / GHG REDUCTION POTENTIAL		RELATIVE COST	POTENTIAL FUNDING SOURCES
				2030	2045		
BUILT ENVIRONMENT AND TRANSPORTATION							
T-1: Reduce fleet and small equipment emissions in County operations							
T-1.1	Implement the County's 2019 Electric Vehicle Roadmap and 2023 Green Fleet Action Plan to reduce fleet emissions 35% by 2030 and 100% by 2045.	DGS	County initiative	35% reduction	100% reduction	\$\$\$\$	County; Utilities; Grants; State/MPO; Loans
				7,900 MTCO ₂ e	13,250 MTCO ₂ e		
T-1.1a	Use alternative fuel and/or zero-emission construction equipment in County projects to reduce emissions from medium- and heavy-duty vehicles and equipment.	DGS (DPR, DPW)	County initiative	Alternative fuel and zero-emission construction equipment in use		\$\$\$	County
				GHG reductions not quantified for “Path to Net Zero” actions			
T-1.1b	Adopt a County Operations anti-idling policy to reduce emissions from vehicle idling.	DGS	County initiative	Policy adopted and implemented		\$	County
				GHG reductions not quantified for “Path to Net Zero” actions			
T-1.2	Amend Board policy to require 100% of landscaping equipment used on County property to be zero-emissions by 2030.	DGS, PDS (DPR, DPW)	County initiative	100% reduction	100% reduction	\$\$	County
				5 MTCO ₂ e	5 MTCO ₂ e		
T-2: Increase the use of low-carbon and zero-emission landscaping and off-road construction equipment in the unincorporated area							
T-2.1	Develop a program by 2026 to provide residents and businesses incentives to purchase alternative fuel and/or zero-emission construction and landscaping equipment to reduce emissions 3% by 2030.	PDS	Incentive	349 units	0 units	\$\$\$	County; Grants
				2,072 MTCO ₂ e	0 MTCO ₂ e		
T-2.2	Develop and adopt a landscaping equipment ordinance to require the use of zero emission landscaping equipment by 2030 and zero emission construction equipment by 2045 in the unincorporated area.	PDS	Requirement	Landscaping equipment ordinance in effect	Construction equipment ordinance in effect	\$\$	County; Grants; Private
				7,638 MTCO ₂ e	86,376 MTCO ₂ e		



ID	ACTION	LEAD (SUPPORT)	ENFORCEMENT	OUTCOMES / GHG REDUCTION POTENTIAL		RELATIVE COST	POTENTIAL FUNDING SOURCES
				2030	2045		
T-3: Install electric vehicle charging stations and provide incentives for zero-emissions vehicles in the unincorporated area							
T-3.1	Increase the use of electric and other zero-emission vehicles in the unincorporated area by: <ul style="list-style-type: none">- Installing 2,040 publicly available electric vehicle charging stations by 2028.- Requiring the electrification of loading docks and idling reduction in new commercial and industrial development by 2030.- Amending the County's Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar electric vehicle charging infrastructure installations and preferential parking for ZEVs for new multi-family residential and non-residential construction.- Developing a program by 2026 to incentivize EV purchases and school bus electrification.	PDS (DGS, DPR, DPW)	County initiative; Requirement; Incentive	31% light-duty ZEV 11% MD/HD ZEV	93% light-duty ZEV 63% MD/HD ZEV	\$\$\$\$	County; Utilities; Grants; State/MPQ; Private; Loans
				218,884 MTCO ₂ e	297,184 MTCO ₂ e		
T-3.1a	Support the transition to clean hydrogen fuel for medium- and heavy-duty vehicles by increasing access to hydrogen fueling infrastructure through streamlined permitting processes and other efforts in the unincorporated area.	PDS	Incentive	Streamlined permitting processes implemented		\$\$	County; Utilities; Grants; State/MPQ; Loans
				GHG reductions not quantified for “Path to Net Zero” actions			
T-3. 1b	Continue to collaborate with regional partners to increase investments in zero-emission vehicles and infrastructure in the unincorporated area.	PDS	County initiative	Continued collaboration with regional partners		\$	County; Grants;
				GHG reductions not quantified for “Path to Net Zero” actions			
T-3.1c	Continue updating the EV Consumer Guide website to serve as a regional resource for consumer-friendly and up-to-date information on EV-related topics and available incentives.	PDS	County initiative	Website continuously updated		\$	County; Grants;
				GHG reductions not quantified for “Path to Net Zero” actions			

ID	ACTION	LEAD (SUPPORT)	ENFORCEMENT	OUTCOMES / GHG REDUCTION POTENTIAL		RELATIVE COST	POTENTIAL FUNDING SOURCES
				2030	2045		
T-4: Reduce emissions from County employee commutes							
T-4.1	Expand County Benefit Program by 2026 to provide County employees with tax-free transportation benefits, alternative work schedules, and expand part-time or full-time teleworking options to reduce vehicle miles traveled from employee commutes by 40% in 2030 and 55% in 2045.	DHR (PDS)	County initiative	40% reduction	64% reduction	\$\$	County; State/MPO
				12,800 MTCO ₂ e	8,960 MTCO ₂ e		
T-4.1a	Provide educational programs and campaigns to encourage County staff to walk, bike, and take transit.	PDS (DGS)	County initiative	Educational programs implemented		\$\$	County; State/MPO; Federal
				GHG reductions not quantified for “Path to Net Zero” actions			
T-4.2	Develop a rebate program by 2026 for County employees to purchase electric vehicles, bicycles, and scooters for commute use.	PDS (DHR)	County initiative	600 vehicles	2,400 vehicles	\$\$	County; State/MPO; Federal
				903 MTCO ₂ e	1,448 MTCO ₂ e		
T-5: Improve County roadways to encourage walking, biking, rolling to/from transit and destinations and increase transportation efficiency							
T-5.1	Implement the County's Active Transportation Plan to install 345 miles of sidewalk and 315 miles of bikeways by 2030 to encourage alternative modes of transportation in the unincorporated area.	DPW (PDS)	County initiative	345 miles of sidewalks	390 miles of sidewalks	\$\$\$\$\$	County; Grants; State/MPO; Federal
				315 miles of bikeways	786 miles of bikeways		
				1,756 MTCO ₂ e	2,800 MTCO ₂ e		
T-5.1a	Develop educational materials to encourage residents and businesses to use and provide access to alternative modes of transportation (e.g., safety information, increased access to bicycle parking).	DPW (HHSA, DPR)	County initiative	Educational materials distributed		\$	County; State/MPO
				GHG reductions not quantified for “Path to Net Zero” actions			
T-5.1b	Use improved materials and engineering designs to make walking and transit easier.	DPW	County initiative	Improved materials and designs in use		\$	County; Grants
				GHG reductions not quantified for “Path to Net Zero” actions			
T-5.2	Develop a countywide Safe Routes to Schools program to reduce vehicle miles traveled to schools by 1.2% by 2030.	HHSA (PDS)	County initiative	1.2% VMT reduction	1.2% VMT reduction	\$\$\$	County; State/MPO; Grants
				214 MTCO ₂ e	82 MTCO ₂ e		

ID	ACTION	LEAD (SUPPORT)	ENFORCEMENT	OUTCOMES / GHG REDUCTION POTENTIAL		RELATIVE COST	POTENTIAL FUNDING SOURCES
				2030	2045		
T-6: Support transit and transportation demand management to reduce single occupancy vehicle trips in the unincorporated area							
T-6.1	Develop a program to provide free transit passes and/or free trips in the unincorporated area to reduce vehicle miles traveled in the unincorporated area by 1.2% by 2030.	HHSA (PDS)	Incentive	100% reduction in transit fare	100% reduction in transit fare	\$\$\$	County; State/MPO; Federal; Grants
				3,051 MTCO ₂ e	2,146 MTCO ₂ e		
T-6.2	Increase access to Transit Priority Areas by 5% in the unincorporated area and implement transit-supportive roadway treatments such as traffic signal communication and curb extensions along County-maintained roadways to optimize traffic flow for transit and pedestrians by 2030.	DPW, PDS	County initiative	5% increase in access to Transit Priority Areas	30% increase in access to Transit Priority Areas	\$\$\$	County; Grants; State/MPO; Federal
				12,615 MTCO ₂ e	35,198 MTCO ₂ e		
T-6.2a	Adopt a Transportation Demand Management ordinance to include pre-approved options for new development to reduce single occupancy vehicle trips in the unincorporated area.	PDS	Requirement	Ordinance adopted and implemented		\$\$	County; Private
				GHG reductions not quantified for “Path to Net Zero” actions			
T-6.2b	Evaluate options for increasing transit service to unincorporated communities.	PDS	County initiative	Options for increasing transit service evaluated		\$	County; Private
				GHG reductions not quantified for “Path to Net Zero” actions			
T-6.3	Increase access to first/last mile transportation services and connections (e.g., neighborhood electric vehicles, microtransit, bike/scooter-share) to reduce vehicle miles traveled by 7% within the unincorporated area by 2030.	DPW, PDS	County initiative	7% intrazonal VMT reduction	25% intrazonal VMT reduction	\$\$\$	County; Grants; State/MPO; Federal; Private
				994 MTCO ₂ e	1,292 MTCO ₂ e		



ID	ACTION	LEAD (SUPPORT)	ENFORCEMENT	OUTCOMES / GHG REDUCTION POTENTIAL		RELATIVE COST	POTENTIAL FUNDING SOURCES
				2030	2045		
ENERGY							
E-1: Develop policies and programs to increase energy efficiency, renewable energy use, and electrification in County Operations							
E-1.1	Implement the County Facilities Zero Carbon Portfolio Plan to achieve 90% reduction in operational carbon emissions by 2030 through building electrification and zero net energy construction, energy efficiency, energy management, and renewable energy use and generation.	DGS	County initiative	90% reduction	100% reduction	\$\$\$\$	County; Utilities; State/MPO
				13,715 MTCO ₂ e	16,858 MTCO ₂ e		
E-2: Develop policies and programs to increase energy efficiency and electrification in the unincorporated area							
E-2.1	Amend the County's Code of Regulatory Ordinances by 2026 to require all-electric equipment in new residential, commercial, and industrial construction to reduce energy emissions from new development in the unincorporated area.	PDS	Requirement	100% electrification in residential 80% electrification in non-residential	100% electrification in residential 95% electrification in non-residential	\$\$\$	County; Private
				17,734 MTCO ₂ e	80,358 MTCO ₂ e		
E-2.2	Increase energy efficiency and reach 30% electrification in residential and 17% electrification in non-residential existing development in the unincorporated area by 2030 by: <ul style="list-style-type: none">- Amending the County's Code of Regulatory Ordinances to require (Tier 2) CALGreen or similar energy efficiency requirements for existing development projects with qualifying improvements.- Adopting a Building Energy Performance Standard by 2026 for commercial and multi-family residential properties.- Developing a program by 2026 to incentivize building electrification and energy efficiency (e.g., electrically powered appliances, heat pumps).	PDS	Requirement; Incentive	30% electrification in residential 17% electrification in non-residential	90% electrification in residential 66% electrification in non-residential	\$\$\$\$	County; Private
				124,742 MTCO ₂ e	439,082 MTCO ₂ e		
E-2.2a	Develop and distribute materials to assist renters with implementing energy efficiency improvements.	PDS (DEHQ, HHSA)	County initiative	Materials developed and distributed		\$\$\$	County; State/MPO
				GHG reductions not quantified for “Path to Net Zero” actions			
E-2.2b	Develop a voluntary energy assessment/benchmarking program for existing development to identify opportunities for energy efficiency improvements (e.g., weatherization, insulation, equipment replacement/upgrades).	PDS	County initiative	Program developed and implemented		\$\$	County; Utilities; Private
				GHG reductions not quantified for “Path to Net Zero” actions			



ID	ACTION	LEAD (SUPPORT)	ENFORCEMENT	OUTCOMES / GHG REDUCTION POTENTIAL		RELATIVE COST	POTENTIAL FUNDING SOURCES
				2030	2045		
E-2.2c	Develop a program (e.g., incentives, streamlined permitting, education) to phase out propane use for existing buildings.	PDS	Incentive	Program developed and implemented		\$\$	County; Private
				GHG reductions not quantified for “Path to Net Zero” actions			
E-2.2d	Develop a program to increase energy resiliency in the unincorporated area to ensure continued access to electricity and services during extreme weather events.	PDS	County initiative	Program developed and implemented		\$\$	County; Private
				GHG reductions not quantified for “Path to Net Zero” actions			
E-3: Develop policies and programs to increase renewable energy use, generation, and storage in the unincorporated area							
E-3.1	Amend the County’s Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar renewable energy requirements for new residential and non-residential construction to increase renewable energy generation in new development.	PDS	Requirement	43,000 kW installed	198,000 kW installed	\$\$\$	County; Private
				252 MTCO ₂ e	0 MTCO ₂ e		
E-3.2	Expand and implement the County’s streamlined solar permitting process to install 5,002 kW of renewable energy on existing development by 2030 and 12,505 kW by 2045.	PDS	Incentive	5,002 kW installed	12,505 kW installed	\$\$\$\$	County; Utilities; State/MP0; Federal; Private
				29 MTCO ₂ e	0 MTCO ₂ e		
E-3.2a	Develop a program to incentivize renewable energy on low-income homes.	PDS	Incentive	Program developed and implemented		\$\$	County; Utilities; State/MP0; Federal; Private
				GHG reductions not quantified for “Path to Net Zero” actions			
E-3.2b	Work with partners to promote and support on-site renewable energy generation and storage to increase renewable energy generation and use in the unincorporated area.	PDS	County initiative	Continued collaboration with regional partners		\$	County; Grants
				GHG reductions not quantified for “Path to Net Zero” actions			
E-3.2c	Support local job training program for solar installation through partnerships to support green economy workforce development.	PDS	County initiative	Program implemented		\$	County; Grants
				GHG reductions not quantified for “Path to Net Zero” actions			

ID	ACTION	LEAD (SUPPORT)	ENFORCEMENT	OUTCOMES / GHG REDUCTION POTENTIAL		RELATIVE COST	POTENTIAL FUNDING SOURCES
				2030	2045		
E-3.3	Develop a program to provide 100% renewable energy to residents and businesses participating in San Diego Community Power by 2030 in the unincorporated area	PDS	County initiative	100% renewable	100% renewable	\$\$\$\$	County; Utilities
				176,625 MTCO ₂ e	0 MTCO ₂ e		
SOLID WASTE							
SW-1: Achieve zero waste in County operations							
SW-1.1	Adopt a County Operations zero waste policy by 2030 to achieve zero waste (90% diversion).	DGS (DPW, DPC)	County initiative	80% reduction	90% reduction	\$\$	County
				1,305 MTCO ₂ e	2,479 MTCO ₂ e		
SW-1.1a	Revise the County's Environmentally Preferred Purchasing policy (B-67) to increase the effectiveness and enforcement of the policy.	DPC (PDS)	Requirement	Policy adopted and implemented		\$	County; Private
				GHG reductions not quantified for “Path to Net Zero” actions			
SW-1.1b	Educate County staff on zero waste practices to encourage greater participation and develop monitoring tools to track waste diversion.	DGS (DPW, PDS)	County initiative	Educational programs and monitoring implemented		\$\$	County
				GHG reductions not quantified for “Path to Net Zero” actions			
SW-2: Achieve zero waste within the unincorporated area							
SW-2.1	Update the County's Strategic Plan to Reduce Waste by 2028 to include strategies to achieve 80% diversion by 2030 and zero waste (90% diversion) by 2045.	DPW	County initiative	80% reduction	90% reduction	\$\$\$	County; State/MPO; Federal; Private
				37,804 MTCO ₂ e	57,779 MTCO ₂ e		
SW-2.1a	Monitor and evaluate contamination rates in waste, recycling, organics containers, and establish educational programs to reduce contamination and increase the effectiveness of recycling efforts.	DPW	County initiative	Monitoring and educational programs implemented		\$\$	County; State/MPO; Federal; Private
				GHG reductions not quantified for “Path to Net Zero” actions			



ID	ACTION	LEAD (SUPPORT)	ENFORCEMENT	OUTCOMES / GHG REDUCTION POTENTIAL		RELATIVE COST	POTENTIAL FUNDING SOURCES
				2030	2045		
SW-2.1b	Support materials reuse events for the unincorporated area.	DPW	County initiative	Reuse events implemented		\$\$	County; Grants; State/MPO; Federal; Private
				GHG reductions not quantified for “Path to Net Zero” actions			
SW-2.1c	Educate the public about zero waste and encourage use of low carbon materials.	DPW (PDS)	County initiative	Educational programs implemented		\$\$\$	County; Grants; State/MPO; Federal; Private
				GHG reductions not quantified for “Path to Net Zero” actions			
SW-3: Improve waste management practices at County-owned solid waste facilities to reduce emissions							
SW-3.1	Expand landfill gas systems at County-owned landfills to exceed State requirements by 10% by 2045.	DPW	County initiative	85% gas capture	95% gas capture	\$\$\$	County; Grants
				0 MTCO ₂ e	9,283 MTCO ₂ e		
SW-4: Improve waste management practices in the unincorporated area to reduce emissions and increase waste diversion							
SW-4.1	Conduct a feasibility study by 2027 and implement a landfill gas system pilot project at privately managed landfills by 2030 to exceed State requirements by 10% by 2045 in the unincorporated area.	DPW (PDS)	Incentive	Pilot program implemented	95% gas capture	\$\$	County; Grants; State/MPO; Private
				1,373 MTCO ₂ e	60,164 MTCO ₂ e		
SW-4.1a	Incentivize the development of new composting/anaerobic digestion facilities and on-farm digesters to divert compostable waste from landfills in the unincorporated area.	PDS (DPW, AWM)	Incentive	Incentives implemented		\$\$	County; Grants; State/MPO; Federal; Private
				GHG reductions not quantified for “Path to Net Zero” actions			
SW-4.1b	Study options to expand existing and/or identify new opportunities to manage hard to recycle materials in the unincorporated area through additional hauler services, drop-off locations and/or Center for Hard to Recycle Materials.	DPW	County initiative	Program options evaluated		\$\$	County; Grants; State/MPO; Federal; Private
				GHG reductions not quantified for “Path to Net Zero” actions			

ID	ACTION	LEAD (SUPPORT)	ENFORCEMENT	OUTCOMES / GHG REDUCTION POTENTIAL		RELATIVE COST	POTENTIAL FUNDING SOURCES
				2030	2045		
WATER AND WASTEWATER							
W-1: Develop policies and programs to increase water efficiency, retention, recycling, and reuse to reduce potable water consumption in County operations							
W-1.1	Implement the County’s Water Efficiency Plan to require water-efficiency measures in new and existing County buildings/operations to reduce potable water use intensity by 28% by 2030.	DGS	County initiative	28% reduction	28% reduction	\$\$\$\$	County; Utilities
				3 MTCO ₂ e	0 MTCO ₂ e		
W-2: Develop policies and programs to increase indoor and outdoor water conservation (including water efficiency, retention, recycling, and reuse) in new and existing development in the unincorporated area							
W-2.1	Amend the County’s Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar water efficiency requirements and reduced outdoor water use for landscaping requirements for new development to reduce potable water consumption from new development by 17% in the unincorporated area.	PDS	Requirement	17% reduction	17% reduction	\$\$\$	County; Private
				37 MTCO ₂ e	0 MTCO ₂ e		
W-2.2	Amend the County’s Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar water efficiency requirements for existing development projects with qualifying improvements.	PDS	Requirement	20% reduction	20% reduction	\$\$\$	County; Private
				320 MTCO ₂ e	0 MTCO ₂ e		
W-2.3	Update the Green Building Incentive program by 2026 to include incentives for water efficiency, conservation, and reuse improvements for new and existing development to reduce potable water consumption in the unincorporated area.	PDS	Incentive	71.9 million gallons reduced	73.3 million gallons reduced	\$\$	County; State/MPO; Federal; Private
				64 MTCO ₂ e	0 MTCO ₂ e		
W-2.3a	Collaborate across County departments to streamline and simplify graywater capture permitting process to reduce potable water use in the unincorporated area.	DEHQ (PDS)	County initiative	Permitting processes streamlined		\$\$	County; Private
				GHG reductions not quantified for “Path to Net Zero” actions			
W-2.3b	Develop and distribute materials to assist renters with implementing water efficiency and conservation improvements.	PDS (HHSA, DEHQ)	County initiative	Materials developed and distributed		\$\$\$	County; Private
				GHG reductions not quantified for “Path to Net Zero” actions			
W-2.4	Implement the Waterscape Rebate Program to incentivize water efficiency and conservation to reduce outdoor water consumption in the unincorporated area.	DPW	Incentive	450,000 square feet turf removed 1,800 rain barrels* installed	1,200,000 square feet turf removed 4,800 rain barrels* installed	\$\$\$\$	County; Utilities; State/MPO; Federal; Private
				21 MTCO ₂ e	0 MTCO ₂ e		



ID	ACTION	LEAD (SUPPORT)	ENFORCEMENT	OUTCOMES / GHG REDUCTION POTENTIAL		RELATIVE COST	POTENTIAL FUNDING SOURCES
				2030	2045		
W-3: Develop programs to increase stormwater and wastewater treatment efficiency to reduce imported potable water use in the unincorporated area							
W-3.1	Increase wastewater treatment efficiency through the East County Advanced Water Purification Program to produce 12,900 acre feet of water each year by 2030.	DPW	County initiative	4.2 billion gallons treated	4.2 billion gallons treated	\$\$\$\$	County; Private
				10,046 MTCO ₂ e	1,869 MTCO ₂ e		
W-3.1a	Evaluate Waterscape Rebate Program septic system improvements for opportunities to reduce wastewater emissions in the unincorporated area.	DPW	County initiative	Program options evaluated		\$	County; Private
				GHG reductions not quantified for “Path to Net Zero” actions			
AGRICULTURE AND CONSERVATION							
A-1: Acquire and manage conservation lands to preserve natural lands and maximize carbon storage potential in the unincorporated area							
A-1.1	Acquire 11,000 acres of conservation lands by 2030 and 1,000 acres per year thereafter to preserve land in perpetuity.	DPR	County initiative	11,000 acres	21,500 acres	\$\$\$\$\$	County; Grants; State/MPO; Federal
				63,242 MTCO ₂ e	91,218 MTCO ₂ e		
A-1.2	Develop a Habitat Restoration Resource Management Framework for County-owned land by 2030 and restore 80 acres per year thereafter to increase carbon storage.	DPR (DPW)	County initiative	80 acres	1,280 acres	\$\$\$	County; Grants
				76 MTCO ₂ e	1,233 MTCO ₂ e		
A-1.2a	Partner with tribal governments to incorporate tribal ecological knowledge and apply indigenous land management practices to contribute towards habitat restoration efforts on County land.	DPR (PDS)	County initiative	Continued collaboration with regional partners		\$	County
				GHG reductions not quantified for “Path to Net Zero” actions			





ID	ACTION	LEAD (SUPPORT)	ENFORCEMENT	OUTCOMES / GHG REDUCTION POTENTIAL		RELATIVE COST	POTENTIAL FUNDING SOURCES
				2030	2045		
A-2: Develop a tree planting program that expands canopy across the unincorporated area and prioritizes underserved communities							
A-2.1	Expand the County's existing tree planting initiative and implement an Equity Driven Tree Planting Program to plant 70,560 trees by 2030 and 6,650 trees per year thereafter on County property and in the unincorporated area.	DPR, PDS (DPW, DGS)	County initiative; Incentive	70,560 trees	170,310 trees	\$\$\$\$	County
				2,498 MTCO ₂ e	6,029 MTCO ₂ e		
A-2.1a	Develop a program to preserve native trees in the unincorporated area.	DPR (PDS)	County initiative	Program developed and implemented		\$\$	County
				GHG reductions not quantified for “Path to Net Zero” actions			
A-2.1b	Educate the public on the benefits and maintenance of native, fire-resistant, and drought-tolerant tree plantings.	PDS	County initiative	Educational programs implemented		\$	County; Grants
				GHG reductions not quantified for “Path to Net Zero” actions			
A-2.2	Implement the County’s Landscaping Ordinance to require tree planting in new single family residential development in the unincorporated area.	PDS	Requirement	12,402 trees	21,114 trees	\$	County; Private
				439 MTCO ₂ e	747 MTCO ₂ e		
A-3: Preserve agricultural lands to prioritize carbon storage and balance economic and development goals							
A-3.1	Implement the Purchase of Agricultural Conservation Easement (PACE) Program to preserve 6,058 acres of agricultural land by 2030 and 400 acres per year thereafter.	PDS (DGS)	County initiative	6,058 acres	12,058 acres	\$\$\$	County; State/MPO; Federal
				9,699 MTCO ₂ e	17,327 MTCO ₂ e		
A-4: Incentivize carbon farming to expand carbon storage capacity on agricultural land and support climate-friendly farming practices in the unincorporated area							
A-4.1	Develop a Climate Smart Land Stewardship Program by 2026 to increase carbon sequestration on 3,000 acres by 2030 and 36,214 acres by 2045.	PDS (AWM)	Incentive	3,000 acres	36,214 acres	\$\$\$	County; State/MPO; Federal
				10,758 MTCO ₂ e	121,556 MTCO ₂ e		
A-4.1a	Support the local food system through development of a food sourcing policy that prioritizes contracts with local, equitable, and sustainable food suppliers in County operations.	HHSA (PDS)	County initiative	Policy adopted and implemented		\$\$	County
				GHG reductions not quantified for “Path to Net Zero” actions			



ID	ACTION	LEAD (SUPPORT)	ENFORCEMENT	OUTCOMES / GHG REDUCTION POTENTIAL		RELATIVE COST	POTENTIAL FUNDING SOURCES
				2030	2045		
A-4.1b	Evaluate opportunities to increase farmworker housing in the unincorporated area to reduce emissions from farmworker transportation.	PDS (AWM, DEHQ)	County initiative	Program options evaluated		\$\$	County; Grants; State/MPO; Federal
				GHG reductions not quantified for “Path to Net Zero” actions			
A-4.1c	Evaluate options to incentivize voluntary alternative manure management and livestock feed projects to reduce manure management and enteric fermentation emissions in the unincorporated area.	PDS (AWM)	County initiative	Incentive options evaluated		\$\$	County; State/MPO
				GHG reductions not quantified for “Path to Net Zero” actions			
A-4.1d	Evaluate options to incentivize the voluntary reduction of the use of synthetic fertilizers in the unincorporated area.	PDS (AWM)	County initiative	Incentive options evaluated		\$\$	County; State/MPO
				GHG reductions not quantified for “Path to Net Zero” actions			
A-5: Reduce greenhouse gas emissions from agricultural operations							
A-5.1	Develop a program by 2026 to incentivize a transition to cleaner fuels and the efficient use of energy to reduce agricultural operations emissions in the unincorporated area.	PDS (AWM)	Incentive	225 units converted	2,054 units converted	\$\$\$	County; State/MPO
				1,559 MTCO ₂ e	19,638 MTCO ₂ e		
A-5.1a	Partner with the local utility to advocate for agricultural pump rates that would incentivize electrification.	PDS	County initiative	Continued collaboration with regional partners		\$	County; Utilities; State/MPO
				GHG reductions not quantified for “Path to Net Zero” actions			

NOTES:
This document is a quick reference to track the Climate Action Plan (CAP) greenhouse gas reduction measures, their outcomes, enforcement, responsible party, implementation time frames, relative cost, and possible funding sources, and should not be confused with the separate mitigation and monitoring reporting program (MMRP) adopted as part of the CAP Final Supplemental Environmental Impact Report (EIR) required by CEQA. This CAP Implementation and Monitoring Program is intended to ensure that all CAP GHG measures are effective and enforceable, and that the responsible party will undertake their implementation. The CAP Final Supplemental EIR MMRP will set forth the measures required to mitigate the significant impacts from implementation of the GHG reduction measures in the CAP.

Lead (County departments responsible for measure implementation)
AWM = Department of Agriculture, Weights, and Measures
DEHQ = Department of Environmental Health and Quality
DGS = Department of General Services
DHR = Department of Human Resources
DPC = Department of Purchasing and Contracting
DPR = Department of Parks and Recreation
DPW = Department of Public Works
HHSA = Health and Human Services Agency
PDS = Department of Planning & Development Services

Relative Cost (Shown for first five fiscal years of implementation) \$: \$0 to \$100,000 \$\$: \$100,001 to \$1,000,000 \$\$\$: \$1,000,001 to \$10,000,000 \$\$\$\$: \$10,000,001 to \$100,000,000 \$\$\$\$\$: \$100,000,001 to \$250,000,000
Acronyms GHG = Greenhouse gas kW = Kilowatt MTCO ₂ e = metric tons of carbon dioxide equivalent MD/HD = Medium- and heavy-duty vehicle MPO = Metropolitan Planning Organization VMT = Vehicle miles traveled
Enforcement County Initiative = Actions for which the County is responsible for measure funding, development, and implementing. Requirement = Actions required by the Board of Supervisors through codes, ordinances, policies or other mechanisms to ensure measure implementation. Incentive = Actions implemented by participating in incentive-based activities or programs for which the County or other entities will provide a funding mechanism for measure implementation.
Potential Funding Sources See the Implementation Cost Analysis (Appendix 10) for additional information on funding sources.
Footnotes: * W-2.4: The total storage capacity of all rainwater harvesting containers has been divided by 50 gallons to achieve a Rain Barrel Equivalent (RBE) total.

5.4 CEQA Streamlining & Environmental Review

The California Environmental Quality Act (CEQA) is a statute that requires public agencies to identify the significant environmental impacts of new development and other projects, including GHG emissions impacts, and avoid or mitigate those impacts, if it is feasible to do so. In addition, the CAP includes several measures and actions that would reduce GHG emissions from new development and other projects.

In the implementing guidelines, CEQA includes provisions to streamline the environmental review process of projects that are consistent with a “plan for the reduction of greenhouse gas emissions” that meets specified criteria, which are outlined in CEQA Guidelines Section 15183.5(b)(1). Table 14 demonstrates that the CAP meets the criteria for and qualifies as such a plan for the reduction of GHG emissions.

Under these provisions, a project that is consistent with the County’s qualified CAP is eligible for streamlined analysis of its GHG emissions impacts under CEQA. A project can show consistency with the CAP by implementing the measures in the CAP Consistency Review Checklist (Appendix 8). Projects that are consistent with the density or intensity in the General Plan can use the Checklist to streamline and tier from and/or incorporate by reference the CAP’s programmatic review of GHG emissions in their CEQA analysis of cumulative GHG emissions.

In preparation of the CAP, a Supplemental Environmental Impact Report (SEIR) was prepared to evaluate the potential environmental impacts anticipated with implementation of the CAP’s measures.

Table 14 CAP Compliance with Elements of a CEQA Qualified Plan for the Reduction of GHG Emissions

ELEMENTS OF A PLAN FOR THE REDUCTION OF GREENHOUSE GAS EMISSIONS [CEQA GUIDELINES SECTION 15183.5(b)(1)]	CLIMATE ACTION PLAN COMPLIANCE
(A) Quantify GHG emissions, both existing and projected, over a specified period of time, resulting from activities within a defined geographic area.	<p>The CAP includes an inventory of existing GHG emissions for 2019, and projections for 2030, 2035, 2040, and 2045, for both the unincorporated area and County operations.</p> <ul style="list-style-type: none">► Chapter 3: GHG Emissions Inventory, Projections, and Reduction Targets► Appendix 3: Unincorporated County of San Diego 2019 Greenhouse Gas Emissions Inventory and Projections► Appendix 4: County of San Diego Local Government Operations Greenhouse Gas 2019 Inventory and Projections
(B) Establish a level, based on substantial evidence , below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable.	<p>The CAP establishes 2030 and 2045 targets for the reduction of GHG emissions in alignment with legislative targets for statewide GHG emissions reductions and the State’s 2022 Scoping for Achieving Carbon Neutrality.</p> <ul style="list-style-type: none">► Chapter 3: GHG Emissions Inventory, Projections, and Reduction Targets► Appendix 5: County of San Diego Climate Action Plan Update: Greenhouse Gas Reduction Targets and Gap Analysis – Technical Memorandum

ELEMENTS OF A PLAN FOR THE REDUCTION OF GREENHOUSE GAS EMISSIONS [CEQA GUIDELINES SECTION 15183.5(b)(1)]	CLIMATE ACTION PLAN COMPLIANCE
(C) Identify and analyze the GHG emissions resulting from specific actions, or categories of actions anticipated within the geographic area.	<p>The CAP’s inventory of existing GHG emissions and projections of future emissions include the following categories of emissions sources and activities in the unincorporated area: on-road transportation, electricity, natural gas, solid waste, agriculture, propane, off-road transportation, water, and wastewater.</p> <ul style="list-style-type: none">► Chapter 3: GHG Emissions Inventory, Projections, and Reduction Targets► Appendix 3: Unincorporated County of San Diego 2019 Greenhouse Gas Emissions Inventory and Projections► Appendix 4: County of San Diego Local Government Operations Greenhouse Gas 2019 Inventory and Projections
(D) Specify measures or a group of measures, including performance standards that substantial evidence demonstrates , if implemented on a project-by-project basis, would collectively achieve the specified emissions level.	<p>The CAP sets forth a package of strategies, measures, and implementing actions and presents analysis demonstrating that their collective implementation would achieve the 2030 and 2045 targets established in the CAP.</p> <ul style="list-style-type: none">► Chapter 4: GHG Emissions Reduction Measures► Appendix 7: Climate Action Plan Combined Measure Workbook► Appendix 8: CAP Consistency Checklist and Guidelines for Determining Significance for Climate Change
(E) Establish a mechanism to monitor the plan’s progress toward achieving the level and to require amendment if the plan is not achieving specified levels.	<p>The CAP includes a plan for implementation and monitoring that will evaluate the effectiveness of CAP measures and actions and include regular emissions inventory updates to ensure the County is on track to meeting the GHG reduction targets.</p> <ul style="list-style-type: none">► Chapter 5: Implementation and Monitoring
(F) Be adopted in a public process following environmental review.	<p>The County has prepared a Supplemental Environmental Impact Report (SEIR) to evaluate the environmental effects of CAP implementation and the Board of Supervisors will consider whether to certify the SEIR and adopt the CAP at a public hearing.</p> <ul style="list-style-type: none">► SEIR available at the CAP SEIR website

Glossary

Table 15 Glossary

TERM	DEFINITION
Active transportation	A mode of transportation that includes walking, running, biking, scootering, skateboarding, and low-speed electrical devices, such as motorized wheelchairs, e-scooters, and electric-assist bicycles.
Anaerobic digestion	A series of processes in which microorganisms break down biodegradable material in the absence of oxygen.
Anthropogenic emissions	GHG emissions caused by human activities, including the burning of fossil fuels and land use development.
Building electrification	A shift to using electricity rather than fossil-fuel burning fuels like oil, gas, and coal for heating and cooking.
California Environmental Quality Act (CEQA)	A State statute that requires public agencies to identify the significant environmental impacts of new development and other projects, including GHG emissions impacts, and avoid or mitigate those impacts, if it is feasible to do so.
California Green Building Standards Code (CALGreen)	A State statute that improves public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices.
Carbon farming	A broad set of agricultural practices that optimize carbon capture on working landscapes by implementing practices that are known to improve the rate at which carbon dioxide is removed from the atmosphere and stored in plant material and/or soil organic matter. Carbon farming practices include the use of compost, no till planting, riparian restoration, alley cropping, and hedgerows, among others.
Carbon cycle	The exchange of carbon between the atmosphere and the Earth. When in balance, emissions from wildfire and plant decomposition are balanced by carbon stored in plants and soils in natural and working lands (e.g., shrubland, grassland, orchards, crops) and waters, resulting in relatively minimal change in the total concentration of atmospheric carbon dioxide that drives climate change.
Carbon stock	An estimate of the amount of carbon stored in natural lands (e.g., forests, wetlands, grasslands), working lands (e.g., cropland), and other land cover types.
Climate adaption	The process of adjustment to actual or expected climate change and its effects.
Climate change	Any significant change in the measures of climate (e.g., temperature, precipitation, or wind patterns, among other effects) lasting for an extended period of time.
Climate resilience	The ability to prepare for changing conditions and withstand, respond to, and recover rapidly from disruptions.
Co-benefits	Holistic benefits for our region and people that create healthy, resilient, and equitable communities and economic opportunities through climate action. These co-benefits can range from secondary environmental and public health benefits (e.g., improved air quality or increased mobility options) to economic benefits (e.g., increased green careers or savings on utility bills).

TERM	DEFINITION
Community choice aggregation	Locally run, not-for-profit public agencies that partner with local investor-owned utilities to deliver cleaner electricity to residents and businesses.
Distributional equity	Prioritizing the fair distribution of resources and benefits to communities that will experience the greatest impacts of climate change.
Environmental justice	The fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws, regulations, and policies.
Frontline communities	Historically marginalized communities that experience the most immediate and worst impacts of climate change and other injustices and are often communities of color and low-income.
General Plan	Provides a policy framework and long-range vision for growth in the unincorporated area. Updated in 2011, it establishes goals, policies, and programs to foster healthy, livable, and sustainable communities and provides a guide for future land use, housing, and economic development.
Greenhouse gas (GHG)	Gases that trap heat in the atmosphere by absorbing and emitting solar radiation within the atmosphere, causing a greenhouse effect that warms the atmosphere and leads to global climate change. The main GHGs are water vapor, carbon dioxide, methane, nitrous oxide, and ozone.
Lifecycle emissions	The total amount of GHG emissions from the import and export of goods.
Metric tons of CO ₂ equivalent (MTCO ₂ e)	The unit of measurement for greenhouse gases, which represents an amount of a GHG whose atmospheric impact has been standardized to that of one unit mass of carbon dioxide (CO ₂), based on the global warming potential of the gas.
Microgrid	An electrical distribution network that is connected to two or more buildings in a local area that can act as a single controllable entity with respect to the energy grid. It can connect and disconnect from the grid to operate in grid-connected or island mode and can improve customer reliability and resilience to grid disturbances.
Natural and working lands	Forests, rangelands, urban green spaces, wetlands, and farms.
Net zero emissions	Achieving a balance between the amount of GHGs that are produced and the amount that are removed from the atmosphere.
Photovoltaic (PV) systems	An electric power system that supplies solar power. Also known as a solar power system.
Potable water	Water that is safe drinking.
Procedural equity	Creating outreach, engagement, and involvement processes that are transparent, fair, and inclusive.
Renewable energy	Energy from a source that is not depleted when used, such as wind or solar power.
Smart growth	A compact, efficient, and environmentally sensitive pattern of development that focuses future growth away from rural areas and closer to existing and planned job centers and public facilities, while preserving open space and making more efficient use of existing urban infrastructure.

TERM	DEFINITION
Smart Growth Alternative	Proposed actions that, if adopted in addition to the CAP measures and actions, are intended to further reduce GHG emissions by reducing vehicle miles traveled through changes in development patterns. The CAP’s Supplemental Environmental Impact Report identified four smart growth alternatives.
Structural equity	Considers the historical underpinnings that have led to economic, social, and racial inequities to develop plans that seek to avoid future unintended negative consequences.
Supplemental Environmental Impact Report (SEIR)	Evaluates the potential environmental impacts anticipated with implementation of the CAP’s measures.
Transportation Demand Management (TDM)	Strategies and policies that reduce travel demand and single-occupancy vehicle trips.
Tribal ecological knowledge	Promotes environmental sustainability and the responsible stewardship of natural resources through relationships between humans and natural environments.
Zero-emission vehicle	Vehicles that run on fuels other than gasoline and include a variety of low-to-no GHG emission technologies, including battery electric vehicles, plug-in hybrid electric vehicles, and hydrogen fuel cell vehicles.
Zero waste	90% waste diversion from landfills.

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California Poppies in Sycamore Canyon Preserve



County of San Diego | June 2024

Draft **Final** 2024 Climate Action Plan

