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## B. Climate Change

As noted in the General Plan introduction, the County developed an integrated approach to addressing climate change in the General Plan by incorporating related policies and programs throughout the General Plan elements, such that the General Plan will also serve as the County's Climate Action Plan (CAP). The purpose of this Climate Change Appendix is to provide further details regarding the General Plan's integrated climate action strategy, including a summary of results of key technical analyses used to develop the strategy. Section B.1 of this Appendix includes the components of the County's greenhouse gas (GHG) emissions reduction strategy, (GHG Strategy), while Section B.2 of this Appendix documents the County's vulnerability to climate change and Climate Adaptation strategy.

This Climate Change Appendix is organized as follows:

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*Note: Information on the County's 2015 Greenhouse Gas Emissions Inventory and GHG Emissions Forecasts is also contained in Appendix D of the Draft Environmental Impact Report (EIR) for the 2040 General Plan, Chapters 2 and 3, and Attachment 2 of the Final EIR for the 2040 General Plan.*



## B.1 Greenhouse Gas Emissions Reduction Strategy

Climate change is a global problem caused by the cumulative warming effects of GHG emissions. Governments at all levels, non-governmental agencies, and private citizens and businesses are now acting to mitigate GHG emissions as quickly as possible to reduce or avoid the most catastrophic effects of climate change.



*For a more detailed overview of climate change science and regulatory background information regarding GHG emissions, see Chapter 12, “Climate Change” in the General Plan Background Report.*

As part of this General Plan update, a GHG emissions reduction strategy (GHG Strategy) was prepared and integrated with the General Plan and will be analyzed in the Program Environmental Impact Report (EIR). Section 6.9, “Greenhouse Gas Emissions”, in the Conservation and Open Space Element includes a goal and policy intended to frame the GHG Strategy and the County’s approach to addressing GHG emissions in the General Plan.

### COS-10

To improve the long-term sustainability of the community through local efforts to reduce greenhouse gas (GHG) emissions.

#### COS-10.1

#### Greenhouse Gas (GHG) Reduction Strategy



The County shall maintain and refer to the General Plan and its integrated greenhouse gas (GHG) Reduction Strategy as the County’s comprehensive plan for reducing community-wide GHG emissions in the unincorporated County. (RDR)

The purpose of the GHG Strategy is to identify and reduce community GHG emissions from existing and future activities and sources within the unincorporated area. The GHG Strategy is consistent with the County’s commitment to address climate change and work towards a more sustainable community by reducing GHG emissions, pursuant to the General Plan Vision and Guiding Principles. The GHG Strategy also serves to identify the County’s local fair-share contribution to meeting statewide GHG emission reduction goals pursuant to state legislation, policies, and guidance.

**The GHG Strategy is intended to function as a stand-alone GHG emissions reduction plan or “Climate Action Plan” (CAP).** However, rather than having a separate stand-alone document, the GHG Strategy includes all the necessary components of a CAP and integrates them into the policy framework of the General Plan and technical analyses included within the associated General Plan Program EIR.

The GHG Strategy was prepared using the best-available guidance at the time the General Plan was prepared, including the latest GHG emissions accounting protocols applicable to a local community (i.e., the U.S. Community Protocol v1.1), California’s 2017 Climate Change Scoping Plan (2017 Scoping Plan) adopted by the California Air Resources Board (CARB), and the 2017 General Plan Guidelines and California Environmental Quality Act (CEQA) Guidelines published by the Governor’s Office of Planning and Research (OPR). The subject of climate change and GHG emissions mitigation continues to evolve rapidly in terms of both policy and technical methodology; thus, the County will need to monitor and update the GHG Strategy over time, as outlined in more detail in Section B.1.5.

The GHG Strategy satisfies the requirements of CEQA to identify and mitigate GHG emissions associated with the General Plan Update as part of the environmental review process. Thus, the GHG Strategy fulfills a regulatory obligation under CEQA to disclose and mitigate potential impacts.

Table B-1 summarizes the core components of the GHG Strategy, their locations in the General Plan and General Plan Program EIR, and relationship to the specific criteria outlined for a qualified “plan for the reduction of greenhouse gases” pursuant to section 15183.5 of the CEQA Guidelines. Each of the GHG Strategy components is described and summarized further below Table B-1.

**Table B-1 Summary of GHG Strategy**

GHG Strategy Component	Policy Document Location(s)	General Plan EIR Location(s)	Corresponding GHG Reduction Plan Criteria per CEQA Guidelines Section 15183.5(b)(1) and (2)
Baseline GHG Emissions Inventory and Forecasts	Results of the GHG inventory and forecasts are summarized in Sections B.1.1 and B.1.2.	More detailed technical information regarding the baseline emissions inventory and forecasts, along with forecasts for 2020, 2030, 2040, and 2050 will be included in the GHG Section of the Program EIR and its technical appendices.	(1)(A) “Quantifies GHG emissions, existing and projected over a specified time period, resulting from activities within a defined geographic area.”  (1)(C) “Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated in the defined geographic area.”
GHG Emissions Reduction Goals and Targets	Policies COS-10.2 and COS-10.3 in the General Plan identify the County’s specific GHG emissions reduction goals and targets, consistent with state guidance and legislation.  These goals and policies and the specific numerical mass emission levels required to achieve the goals and targets are also briefly summarized and described in Section B.1.3.	Detailed technical analysis and modeling results regarding how the targets and goals were calculated will be included in the GHG Section of the Program EIR and its technical appendices.	(1)(B) “Establish a level of GHG emissions, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable.”

GHG Strategy Component	Policy Document Location(s)	General Plan EIR Location(s)	Corresponding GHG Reduction Plan Criteria per CEQA Guidelines Section 15183.5(b)(1) and (2)
GHG Emissions Reduction Measures	<p>Policy COS-10.4 identifies the County’s commitment to implement goals, policies, and programs, included throughout the General Plan, that are considered part of the County’s GHG Strategy, and which contribute to reducing emissions and achieving the County’s targets and goals. Such goals, policies, and programs are tagged with the CAP icon to indicate that they are part of the GHG Strategy.</p> <p>Section B.1.4 provides a brief overview and tabular summary of these policies or programs, by emissions sector; and, for those measures for which quantification is feasible and appropriate, identifies the corresponding quantitative GHG reductions that would be achieved by the specified target or goal year(s).</p>	<p>The GHG Section of the Program EIR will also summarize the results of the GHG emissions reduction analysis and performance of the General Plan policies and programs in achieving the GHG reduction targets and goals. The quantitative GHG analysis will be part of the environmental impact analysis related to GHG emissions.</p> <p>Detailed technical analysis and modeling results for quantifying GHG reduction measures will be included in the technical appendix to the GHG Section of the Program EIR.</p>	<p>(1)(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>
GHG Strategy Implementation and Monitoring Procedures	<p>Implementation Programs A through F describe the County’s commitment and overall program to implement, monitor, report on, and update the GHG Strategy.</p> <p>Section B.1.5 provides more detailed description of the specific criteria and procedures to be used in carrying out the GHG Strategy implementation program.</p>	<p>The GHG Section of the Program EIR will summarize and consider the GHG Strategy, including procedures for implementation, monitoring, reporting, and updating the GHG Strategy.</p>	<p>(1)(E) “Establishes a mechanism to monitor the plan’s progress towards achieving the [GHG reduction] level and to require amendment if the plan is not achieving specified levels.”</p>

## B. Climate Change

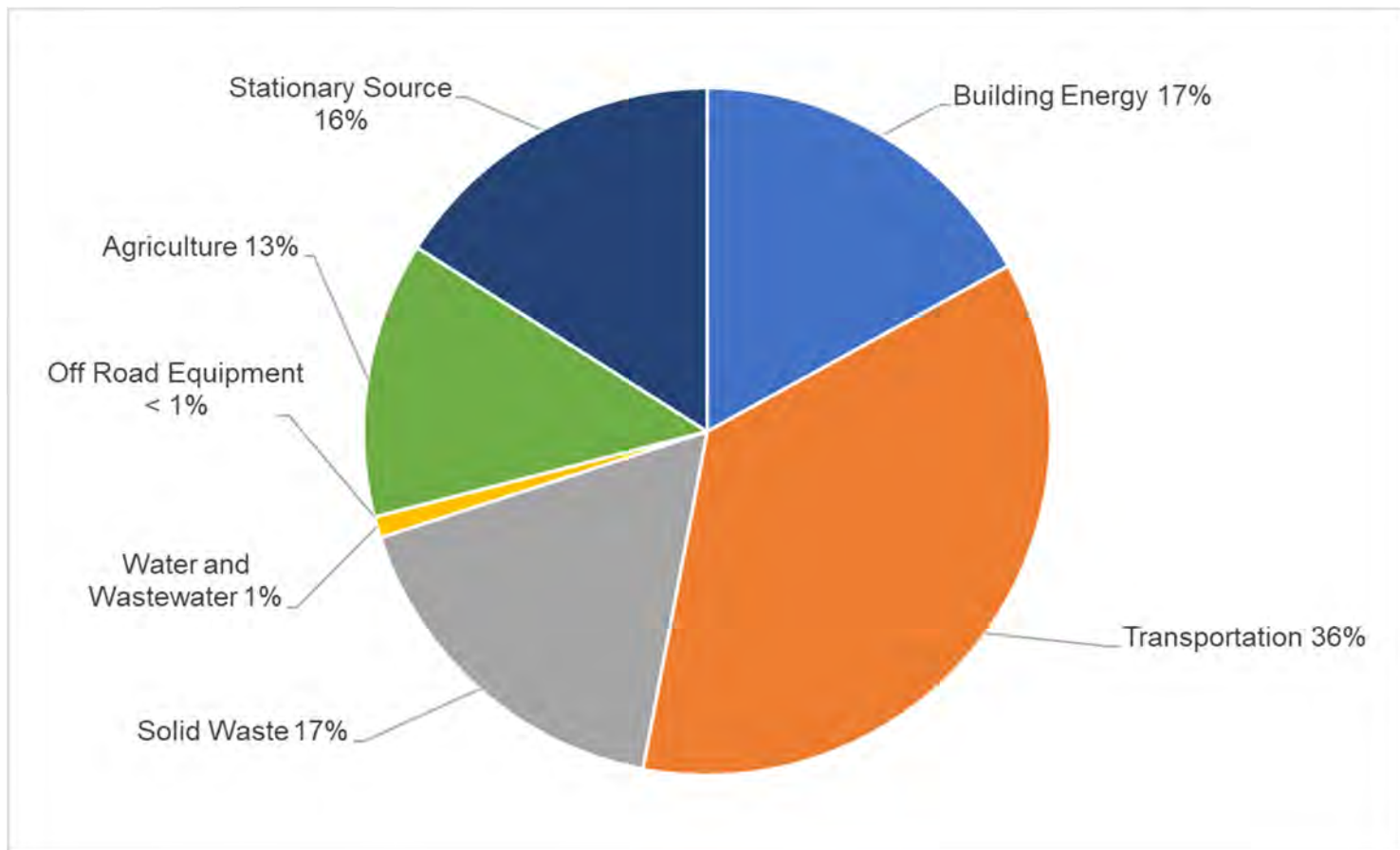
GHG Strategy Component	Policy Document Location(s)	General Plan EIR Location(s)	Corresponding GHG Reduction Plan Criteria per CEQA Guidelines Section 15183.5(b)(1) and (2)
Environmental Review of the GHG Strategy and General Plan	--	<p>The GHG Strategy will be included within the General Plan EIR Project Description and analyzed in the General Plan Program EIR.</p> <p>The General Plan and Program EIR will be made available for a public review and comment period.</p> <p>The General Plan and Program EIR will be brought forward for public hearings and adoption and/or certification by the Board of Supervisors.</p>	(1)(F) "Be adopted in a public process following environmental review."

Notes: CEQA = California Environmental Quality Act; GHG = greenhouse gas; EIR = environmental impact report.  
Source: Ascent Environmental, 2019

**B.1.1. Baseline GHG Emissions Inventory**

A GHG inventory was prepared for the County’s General Plan Update using a baseline year of 2015. The GHG inventory focused on community-wide emissions from residents and businesses operating within the unincorporated area and is organized by sector. The inventory includes sources within each sector that are under some degree of jurisdictional control by the County, in accordance with established GHG accounting protocols and state guidance. A 2015 baseline year was selected based on the availability of data in 2016, the year in which the inventorying process began. The total community-wide emissions for the unincorporated area in 2015 were approximately 1,939,238 metric tons (MT) of carbon dioxide equivalent (CO<sub>2</sub>e) GHG emissions. The GHG emission sectors and the percentage contribution of each sector to total emissions is shown in Figure B-1 and Table B-2.

**Figure B-1 2015 Greenhouse Gas Emissions in Unincorporated Ventura County, by Sector**



Source: Ventura County 2040 General Plan Final EIR.



**Table B-2 2015 Greenhouse Gas Emissions in Unincorporated Ventura County**

Inventory Sector	Community GHG Emissions in 2015 (MT CO <sub>2</sub> e)	Percent of Total Communitywide GHG Emissions
Transportation	692,753	35.7
Building Energy	322,048	16.6
Solid Waste	333,167	17.2
Stationary Sources	317,222	16.4
Agricultural	260,849	13.5
Water and Wastewater	13,148	0.7
Off-road Equipment	52	< 0.1
<b>Total (all sectors)</b>	<b>1,939,238</b>	<b>100</b>

Notes: MT = Metric Tons, CO<sub>2</sub>e = Carbon Dioxide Equivalent, GHG = Greenhouse Gas. Sectors may not add to totals due to rounding. Source: Ventura County 2040 General Plan Final EIR.

Consistent with OPR guidance, the inventory was prepared using the U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Version 1.1 (International Council for Local Environmental Initiatives (ICLEI) 2013). Additionally, the inventory used global warming potential (GWP) values for methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) consistent with the latest version of the Intergovernmental Panel on Climate Change Assessment Report 5 (IPCC AR5).

The 2015 inventory of GHG emissions is organized by the following seven sectors, presented in decreasing order by level of contribution. Summaries of each sector are included in the following paragraphs. For more detailed activity data, assumptions, and calculations used to develop the County’s GHG inventory, see Attachment 1 to Appendix B, Appendix D to the Draft EIR, Chapters 2 and 3 of the Final EIR, and Attachment 2 to the Final EIR.

**Transportation**

The transportation sector comprised the largest share of the inventory at 36 percent, or 692,753 MT CO<sub>2</sub>e. This sector includes on-road light and heavy-duty vehicles and buses operating on local roadways and passenger rail, including Amtrak and Metrolink lines, within the unincorporated area. On-road vehicle emissions were calculated using vehicle miles travelled (VMT) data provided by the Ventura County Transportation Commission (VCTC), which were adjusted using recommended methods from the Senate Bill 375 (2008) Regional Targets Advisory Committee (RTAC) and converted to GHGs using emissions factors from CARB’s Emissions Factor (EMFAC) model. For passenger rail transportation, annual trips were calculated for portions of the railway within the unincorporated area and converted to GHGs using statistics on locomotive engine efficiency published by Oak Ridge National Laboratories and default emissions factors for diesel combustion published by The Climate Registry. Freight rail, ocean freight, and aircraft were excluded from this inventory because the activities and emissions associated with these modes of transport are regulated by federal agencies; thus, they are outside of the County’s jurisdictional control.

### ***Building Energy***

The building energy sector comprised the second largest share of the inventory at 17 percent, or 322,048 MT CO<sub>2</sub>e. This sector includes electricity and natural gas consumption occurring in residential and commercial buildings and electricity consumption for agricultural uses including private irrigation pumping. The electricity and gas consumption data were provided by Southern California Edison (SCE) and Southern California Gas Company (SoCalGas) for the unincorporated area for 2015. Electricity consumption for industrial uses was not available due to the SCE's aggregation rule for third party data requests, which limits the release of electricity consumption data for industrial facilities when a single customer's data accounts for more than 25 percent of total aggregated data or if there are less than five accounts represented (SCE 2019).

Electricity consumption data for the described uses were converted to GHG emissions using calculated 2015 electricity generation emissions factors derived from SCE annual reporting for 2015 (SCE 2015a, 2015b) and the U.S. Environmental Protection Agency (EPA) Emissions & Generation Resource Integrated Database (eGRID) data. Natural Gas consumption data were converted to GHG emissions using default emissions factors for natural gas combustion published by The Climate Registry.

### ***Solid Waste***

The solid waste sector was the third largest sector of the inventory at 17 percent or 333,167 MT CO<sub>2</sub>e. This sector consists of two subsectors: 1) waste-in-place CH<sub>4</sub> and N<sub>2</sub>O emissions generated from the decomposition of previously landfilled waste in existing landfills operating in the unincorporated area, and 2) CH<sub>4</sub> emissions from waste generated annually by County residences and businesses at landfills in various locations. For both subsectors, GHG emissions were calculated using data on the tonnage of mixed solid waste disposed from annual reports submitted by waste facilities to state and federal agencies. The active Toland Road Landfill and Simi Valley Landfill and Recycling Center are the facilities generating the highest levels of emissions in the unincorporated area. Methods used to calculate emissions in this sector are further described in the 2040 General Plan Final EIR, pages 2-12 to 2-13.

### ***Stationary Sources***

Stationary sources comprised 16 percent of the inventory, or 317,222 MT CO<sub>2</sub>e. Methods used to calculate emissions in this sector are described in the 2040 General Plan Final EIR, pages 2-13 to 2-15.

### ***Agriculture***

Agricultural emissions comprised 13 percent of the inventory, or 260,849 MT CO<sub>2</sub>e. This sector includes a wide range of GHG-generating activities including crop burning, enteric fermentation, manure management, farm equipment operation, pesticide use, and fertilizer applications. Within this sector, fertilization of crops, including the application of urea and lime to soils, was responsible for the largest share of agricultural emissions at 152,168 MT CO<sub>2</sub>e followed by the operation of farm equipment at 67,829 MT CO<sub>2</sub>e.

Livestock, pesticide, and fertilizer data for calculating GHG emissions were based on the annual crop reports available from the Ventura County Agricultural Commissioner and county-level statistics for the agricultural sector available from the California Department of Pesticides and California Department of Food and Agriculture. For agricultural equipment the CARB OFFROAD model was used to determine 2015 emissions from a variety of activities associated with agricultural production including the operation of tractors, sprayers, mowers, combines, bailers, tillers and other off-road agricultural equipment. GHG emissions resulting from diesel-fueled irrigation pumping were calculated using 2015 diesel irrigation pump counts provided by the Ventura County Air Pollution Control District (VCAPCD), combined with diesel pump emission factors from CARB.

### ***Water & Wastewater***

Water-related emissions accounted for less than one percent of the GHG inventory at 13,148 MT CO<sub>2e</sub>. Activities analyzed in this sector included emissions resulting from energy use from the conveyance, delivery, and treatment of imported water and the treatment of wastewater. It was assumed that emissions related to the electricity used for groundwater extraction would already be accounted for in the Building Energy sector.

For imported water, supply and demand data provided by the County were translated into energy use, which was then converted to CO<sub>2e</sub> using the same emissions factors for SCE sourced electricity described in the Building Energy sector. For wastewater treatment, the primary source of emissions is fugitive CH<sub>4</sub> from septic tanks and central sewer plants using anaerobic treatment methods.

### ***Off-Road Equipment***

Off-road equipment accounted for less than one percent of the GHG inventory at 52 MT CO<sub>2e</sub>. Activities contributing to these emissions included mobile emissions sources that include portable construction equipment, light commercial vehicles, forklifts, oil drilling equipment and transportation refrigeration units. Emissions from these sources were calculated using county-level results from CARB's OFFROAD emissions model, scaled to the unincorporated county level using 2015 population and employment data available from the California Department of Finance and the Regional Market Trends report included in the draft Background Report for this General Plan update.

## **B.1.2. GHG Emissions Forecasts**

GHG emissions forecasts provide an estimate of future emission levels based on both a continuation of current activities and projected growth and change in a community over time. Forecasts also account for current and future legislative actions from the state and federal government that are expected to reduce future emissions. Forecasts provide insights into the scale of local reductions needed to achieve the GHG emissions reduction targets in the future, accounting for both potential growth and legislative actions.

### ***Business-as-Usual Forecast***

The first step in the emissions forecast process is the preparation of a "business-as-usual" (BAU) forecast. A BAU forecast represents a "no further action" scenario which assumes that no additional efforts or legislative actions will be made to reduce GHG emissions in the future. The BAU forecast is based on growth projected trends in population, housing, employment, and transportation activity over time, consistent with County and regional projections. The BAU forecast does not account for GHG emissions reductions associated with local GHG reduction measures or additional legislative actions.

BAU forecasts were estimated for 2020, 2030, 2040 and 2050 using County-specific demographic and vehicle activity projections. These forecasts, along with percentage growth rates relative to 2015 for forecasted years, are presented in Table B-3. All growth rates are based on forecasts prepared by the Southern California Association of Governments (SCAG) in preparation for the 2020 Regional Transportation Plan and Sustainability Communities Strategy (SCAG 2017). SCAG population growth forecasts were included in Chapter 6 of the General Plan Alternatives Report presented to the Ventura County Board of Supervisors in 2018. Table B-4 summarizes the results of the BAU emissions forecast for unincorporated Ventura County.

**Table B-3 Growth Forecast for Unincorporated Ventura County, 2020 to 2050**

Demographic	2015	2020		2030		2040		2050	
	#	#	% increase from 2015	#	% increase from 2015	#	% increase from 2015	#	% increase from 2015
Population	97,733	99,755	2.1	100,918	3.3	101,832	4.2	102,490	4.9
Employment	32,889	32,988	0.3	34,556	5.1	35,875	9.1	37,941	15.4
Housing	32,191	32,446	0.08	32,959	2.4	33,472	4.0	33,725	4.8

Notes: Employment and housing growth rates for 2040 and 2050 interpolated from reported years 2035 and 2045

Source: Calculated by Ascent Environmental using data provided by the Southern California Association of Governments (SCAG 2017)

**Table B-4 “Business as Usual” Greenhouse Gas Emissions Forecast for Unincorporated Ventura County (MT CO2e)**

Sector	2015	2020	2030	2040	2050
Transportation	692,753	704,364	727,433	750,452	773,467
Building Energy	322,048	323,803	334,079	343,129	354,565
Solid Waste	333,167	338,221	334,763	306,366	280,798
Stationary Sources	317,222	245,340	198,432	160,660	130,212
Agricultural	260,849	256,223	248,882	241,541	234,200
Water and Wastewater	13,148	13,420	13,576	13,699	13,788
Off-road Equipment	52	52	54	56	59
<b>Total BAU Emissions (all sectors)</b>	<b>1,939,238</b>	<b>1,881,423</b>	<b>1,857,220</b>	<b>1,815,904</b>	<b>1,787,089</b>
Percent Change from 2015 Baseline		3.0	4.2	6.4	7.8

Notes: Columns may not add to totals due to rounding. MT CO2e = metric tons carbon dioxide equivalent, BAU = business as usual

Source: Ventura County 2040 General Plan Final EIR.

**Legislative Adjustments to BAU Forecast**

The next step in the forecasting process is to adjust the BAU forecast to account for state and federal legislative actions that will reduce future emissions from activities within the unincorporated area, without any additional local government action. Legislative actions include existing or reasonably foreseeable regulations, programs, or a combination thereof that are required by state or federal legislation and will result in widespread mandatory reductions across various emissions sectors. Table B-5 describes the legislative reductions applied to the BAU forecasts, along with the affected sectors, while Table B-6 summarizes the quantified legislative reductions and adjustments to the BAU forecasts by year.

**Table B-5 Summary of State Legislation for Greenhouse Gas Emissions Forecasts**

Source	State Legislation	Description	Applicable Sectors
State	SB 100 (2018) RPS Program and Zero-Carbon Electricity Standards	Requires California retail electricity providers to procure 33 percent of electricity from renewable sources by 2020, 50 percent renewable by 2026, 60 percent renewable by 2030, and 100 percent zero-carbon by 2045.	Building Energy, Water & Wastewater
State	CARB Oil and Natural Gas Regulations	Regulations adopted by CARB in March 2017 to reduce fugitive and vented emissions <sup>1</sup> of methane from new and existing oil and gas facilities.	Stationary Sources
State	AB 341 (2011) Solid Waste Diversion	Requires California to achieve a 75 percent reduction in solid waste disposal to landfills by 2020, through a combination of waste avoidance, recycling and composting of wastes generated by commercial and multi-family residential land uses.	Solid Waste
State	SB 1383 (2016) Organic Waste Regulations (Pending) <sup>3</sup>	Sets targets for organic waste reduction from landfill disposal, including 50 percent of 2014 levels by 2020 and 75 percent of 2014 levels by 2025. The regulations will implement a portion of the state’s legislatively mandated Short-Lived Climate Pollutant (SLCP) Reduction Strategy. SLCPs are high GWP <sup>2</sup> gases that remain in the atmosphere for a much shorter period than longer-lived climate pollutants, such as CO <sub>2</sub> . The SLCP addressed by this legislation is CH <sub>4</sub> .	Solid Waste
State	AB 1493 (2002) Clean Car Standards	Establishes GHG emission reduction standards for model years 2009 through 2016 that are more stringent than federal CAFE standards.	Transportation
State	CARB Advanced Clean Car Standards (2012). Regulatory update to AB 1493 (2002) Standards	Establishes GHG emission reduction standards for model years 2017 through 2025 that are more stringent than federal CAFE standards.	Transportation

Notes:

<sup>1</sup> Vented emissions include methane that is released due to equipment design or operational procedures.

<sup>2</sup> Global Warming Potential: values that apply a weight to gases that are determined by researchers to have increased greenhouse gas effects relative to most common greenhouse gas, carbon dioxide.

<sup>3</sup> SB 1383 regulatory proceedings are currently underway with adoption expected in late 2019.

RPS = Renewables Portfolio Standard, SB=Senate Bill, AB= Assembly Bill, CARB = California Air Resources Board, CAFE = Corporate Average Fuel Economy, GHG = Greenhouse Gas, SLCP = Short Lived Climate Pollutant, CH<sub>4</sub> = Methane, CO<sub>2</sub> = Carbon Dioxide.

Source: Ascent Environmental, 2019



**Table B-6 Legislative Adjustments to BAU Greenhouse Gas Emissions Forecast for Unincorporated Ventura County, by Sector (MT CO<sub>2</sub>e)**

Sector	2015	2020	2030	2040	2050
Total BAU Emissions (all sectors)	1,939,238	1,881,423	1,857,220	1,815,904	1,787,089
<b>Total GHG Reductions from Legislative Adjustments</b>	<b>0</b>	<b>-108,886</b>	<b>-307,698</b>	<b>-440,006</b>	<b>-498,197</b>
<b>Adjusted BAU</b>	<b>1,939,238</b>	<b>1,772,537</b>	<b>1,549,522</b>	<b>1,375,898</b>	<b>1,288,892</b>
Percent Decrease in GHGs from BAU	0	-6	-17	-24	-28

Notes: BAU = business-as-usual, GHG = greenhouse gas. Negative values.  
 Source: Ventura County 2040 General Plan Final EIR.

### B.1.3. GHG Reduction Goals and Targets

GHG reduction goals and targets in a local GHG reduction plan help to define measurable benchmarks to guide the community’s commitment to achieve emissions reductions in the future. GHG targets and goals are developed relative to baseline emissions levels, and in consideration of future emission forecasts and the effect of ongoing or future legislative actions.

The County’s GHG reduction targets are set at 10-year intervals that are aligned with the state’s GHG reduction targets for 2020 and 2030, the 2040 horizon year for the County’s General Plan, and a longer-term state policy goal for 2050. An overview of the statewide context for target- and goal-setting, followed by a description of the County’s specific GHG targets and goals, is included below.

#### Statewide GHG Reduction Goals and Targets

As directed in Assembly Bill (AB) 32 (2006), Senate Bill (SB) 32 (2016), and Executive Orders (EOs) B-30-15 and S-3-05, the State aims to reduce annual statewide GHG emissions to:

- 1990 levels by 2020,
- 40 percent below 1990 levels by 2030, and
- 80 percent below 1990 levels by 2050.

AB 32 (2006), directed CARB to develop a Scoping Plan outlining a pathway to meeting the state’s 2020 target, which CARB adopted in 2008. The first update occurred in 2013 and indicated that reducing the state’s emissions to 80 percent below 1990 levels by 2050 would be consistent with the IPCC’s analysis of the global emissions trajectory needed to stabilize atmospheric concentrations at 350 parts per million (ppm) or less, to reduce the likelihood of catastrophic global climate change (CARB 2014). Thus, the statutory targets established by AB 32 (2006) and SB 32 (2016), identify interim targets on a downward trajectory towards achieving the longer-term 2050 goal. The state has not yet adopted a Scoping Plan that demonstrates a specific pathway to achieve the longer-term 2050 goal. Accordingly, the term “target” is used to describe future levels of GHG emissions that must be achieved to align with legislative mandates. The term “goal” is used to describe future levels of GHG emissions in the unincorporated area that are aligned with statewide long-term goals established under EOs, but for which no legislative mandate or statewide plan to achieve such goals has been established.

To determine an equivalent set of reduction targets and longer-term goals at the local level, CARB's 2017 Scoping Plan recommends that local agencies establish community-wide GHG reduction goals for local climate action of GHG reduction plans that will help the state achieve its 2030 target and longer-term 2050 goal. CARB notes that it is appropriate to derive evidence-based targets or goals that are based on local emissions sectors and population projections that are consistent with the framework used to develop the statewide targets. CARB also notes that GHG goals and targets should show a "downward trend consistent with the statewide objectives." (CARB 2017).

To meet the Scoping Plan recommendation, the GHG reduction targets included in the General Plan are based on local levels of GHG emissions that would be proportional to the statewide reductions needed to achieve GHG emissions by 40 and 80 percent below 1990 levels by 2030 and 2050, respectively. While the County does not have a 1990 GHG inventory from which to estimate GHG reductions, equivalent targets and goals were calculated for the County relative to the state's 2015 statewide baseline and targets. Specifically, the state's 2015 GHG emissions inventory was compared to the state's 2020, 2030, and 2050 mass emissions goals relative to its 1990 inventory, from which specific percent reductions relative to 2015 were developed. Therefore, consistent with and proportional to the state's target and goals relative to 2015 levels, the County's targets are expressed according to the following percentage reductions in GHG emissions relative to the County's 2015 community-wide GHG emissions levels:

- 2 percent below 2015 levels by 2020,
- 41 percent below 2015 levels by 2030,
- 61 percent below 2015 levels by 2040, and
- 80 percent below 2015 levels by 2050.

These targets and goals are also expressed numerically in Table B-7 in terms of levels mass emissions required relative to the 2015 baseline, while Figure B-2 graphically depicts the targets and goals relative to both baseline and legislative-adjusted emissions forecasts for the corresponding years.

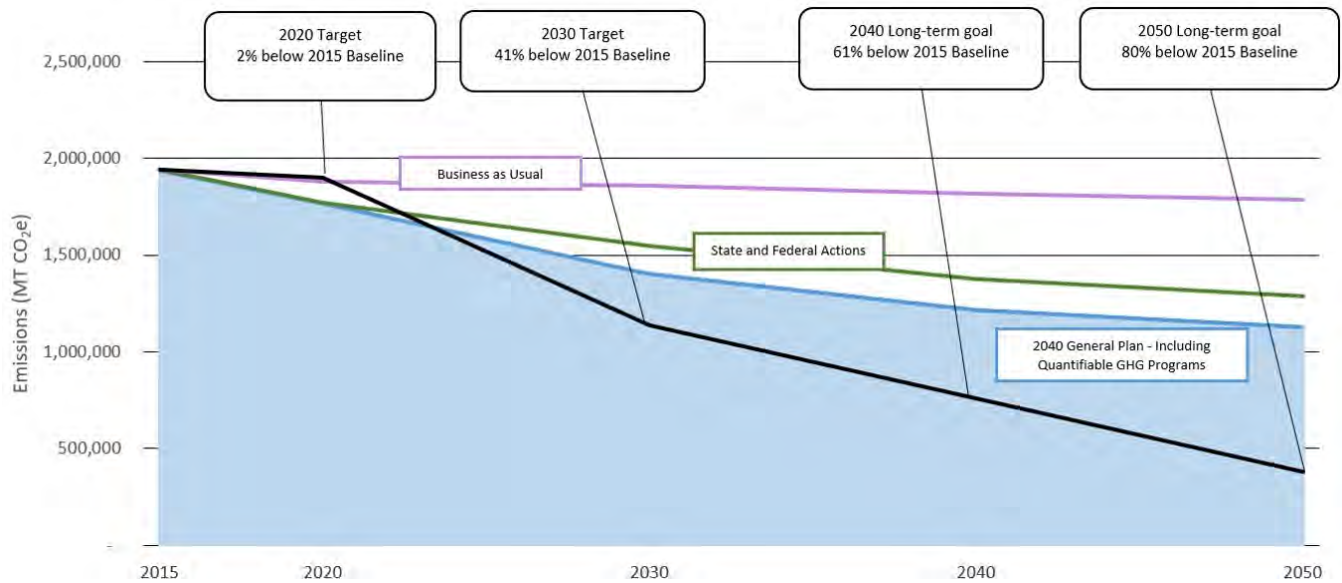
The GHG Strategy is primarily focused on achieving the 2030 target and making substantial progress in achieving the longer-term post-2030 goals. The updated General Plan will not be adopted until 2020; therefore, the 2020 target is illustrative and shown for statewide target comparison purposes only. Under the legislative-adjusted forecast, unincorporated Ventura County is already on track to meet and exceed the 2020 reduction target by 125,310 MT CO<sub>2</sub>e, as shown in Table B-7 and Figure B-2. However, by 2030 a "gap" will begin to develop between the legislatively adjusted forecast emissions level and the mass emissions level needed to achieve the 2030 target. This gap becomes larger in 2040 and 2050. Thus, achievement of the 2030 targets and long-term 2040 and 2050 goals will require the implementation of locally enacted GHG reduction measures, along with ongoing updates to CARB's Scoping Plan and future state and federal actions.

**Table B-7 Community Greenhouse Gas Emissions Reduction Targets and Long-Term Goals for Unincorporated Ventura County**

Emissions (MT CO <sub>2</sub> e)	2020	2030	2040	2050
BAU Emissions with Legislative Reductions	1,772,537	1,549,522	1,375,898	1,288,892
Target for Consistency with State Climate Policy	1,897,847	1,138,708	759,139	379,569
Reductions Needed to Meet Targets	125,310	-410,813	-616,760	-909,323

Notes: Positive figures for reductions needed to meet targets in 2020 indicate that the County is on track to exceed targets due to near-term GHG reductions from state legislation. BAU = business as usual, MT CO<sub>2</sub>e = metric tons carbon dioxide equivalent  
 Source: Ventura County 2040 General Plan Final Environmental Impact Report. (CARB 2018)

**Figure B-2 Community Legislative-Adjusted Business-as-Usual Greenhouse Gas Emissions Forecast and Reduction Targets and Goals**



Source: Ascent Environmental, 2020

The 2030 target and longer-term 2040 and 2050 goals are included as policies in the General Plan, as follows:

### **COS-10.2**      **Community Greenhouse Gas Emissions Reduction Target for 2030**

**CAP**

The County shall work toward achieving a community-wide GHG emissions reduction target of 41 percent below 2015 levels by 2030. RDR

### **COS-10.3**      **Community Greenhouse Gas Emissions Reduction Goals for 2040 and 2050**

**CAP**

The County shall work toward achieving longer-term, post-2030 community-wide GHG emissions reduction goals, as follows:

- 61 percent below 2015 levels by 2040, and
- 80 percent below 2015 levels by 2050.

RDR

## **B.1.4.      GHG Reduction Measures**

Specific General Plan policies and programs have been identified throughout the General Plan that will reduce GHG emissions and/or are part of the County’s integrated GHG Strategy. These specific goals, policies, and programs are tagged with a symbol **CAP** in each of the Elements of the main body of the General Plan. Those policies and programs that reduce GHG emissions are considered “GHG reduction measures”. This is consistent with Policy COS-10.4, which states:

### **COS-10.4**      **Greenhouse Gas Reductions in Existing and New Development**

**CAP**

The County shall reduce GHG emissions in both existing and new development through a combination of measures included in the GHG Strategy, which includes new and modified regulations, financing and incentive-based programs, community outreach and education programs, partnerships with local or regional agencies, and other related actions. (RDR)

The GHG reduction goals, policies, and implementation programs are summarized and presented in Table B-10 (presented Section B.3 of this appendix).

The GHG reduction measures apply to existing sources of emissions in the unincorporated area subject to the County’s land use authority, as well as net increases in emission associated with forecasted growth.

Some of the GHG reduction measures are qualitative in nature because either the methods or data required to quantify GHG reduction are unavailable. In such cases, measure-specific GHG reductions are not shown; however, this does not mean that qualitative measures are not important or should not be considered in the GHG Strategy. Many community-wide CAPs or GHG reduction plans include qualitative measures that, while difficult to quantify on a broad planning level, may still be highly effective at the project or individual site (i.e., household or business) level. This is particularly true for individual or community-driven actions that encourage behavior or lifestyle change through education, outreach, incentives, or other programs. Such measures are often considered critical to increasing community buy-in and participation. Many GHG reduction measures also have important complimentary benefits, such as improving public health, improving air quality, creating jobs, and improving overall quality of life. The County recognizes the linkages between health, climate action, and overall sustainability and resilience in the community, and thus a diverse range of GHG-reducing measures are included in the GHG Strategy.

**B.1.5. GHG Strategy Implementation and Monitoring**

The County’s approach to implementation and monitoring of the GHG Strategy will be coordinated with overall implementation and monitoring of the General Plan. However, the County will implement specific programs outlined herein to ensure that the specific components of the GHG Strategy are working together to achieve the General Plan’s targets, goals, and other beneficial outcomes related to climate change and sustainability.

***GHG Implementation Programs***

GHG implementation programs provide pathways to attain the specific qualitative and quantitative GHG reductions for policies contained in the General Plan. These programs vary considerably, depending on the method, timing, and individual approach. Some GHG reduction policies are programmatic in nature and require further study or subsequent action to fund, develop and implement a new program, form a new partnership, or engage with or support the efforts of other agencies or organizations. Other GHG programs are regulatory in nature and would require the County to amend codes, standards, or specifications and would be implemented through the development review and permitting process. Table B-8 summarizes the implementation programs contained in the plan that are designed to support the plan’s GHG reduction policies.

**Table B-8 GHG Implementation Programs**

Program	
AG-B	Regionally-Grown Products Sales Incentives
AG-C	County Procurement
AG-D	Agricultural Tourism Development Standards
AG-E	Specialty Farming Education
AG-F	Enhanced Access to Locally Grown Products
AG-G	Farm-to-Front Door
AG-H	Nutrient Management Plans
AG-I	Fossil Fuel-Powered Equipment Replacement
AG-J	Alternative Fuel Funding for Agricultural Operations
AG-K	Water-Saving Irrigation Techniques Program
AG-L	Encourage and Facilitate Carbon Farming
AG-M	Research on Effects of Climate Change
AG-N	Subsidies for Resilient Crop Production
COS-C	Update Tree Protection Ordinance
COS-H	County Tree Planting Program
COS-I	Grants for Climate Change Adaptation Activities
COS-M	Oil and Gas Tax
COS-N	Sustainable Building, Siting, and Landscaping Practice Guidelines
COS-O	Assessment of Land Near Electrical Transmission and Distribution Lines



## B. Climate Change

Program	
COS-P	Study to Demonstrate Energy and Greenhouse Gas (GHG) Savings
COS-Q	Incentives for Development of Renewable Energy Projects
COS-R	Performance-Based Building Code for Green Building
COS-S	Building Code Update
COS-T	Energy Consumption Performance
COS-U	Solar Canopies in Non-Residential Projects
COS-V	Improve Energy Conservation Awareness
COS-W	Energy Efficiency and Conservation Program
COS-X	Greenhouse Gas (GHG) Strategy Implementation
COS-Y	Greenhouse Gas (GHG) Strategy Monitoring
COS-Z	Public Reporting on Greenhouse Gas (GHG) Strategy Progress
COS-AA	Greenhouse Gas (GHG) Inventory Updates
COS-BB	Greenhouse Gas (GHG) Strategy Amendments
COS-CC	Climate Emergency Council
COS-DD	Budget and Staffing Plan for CAP Implementation
CTM-A	Traffic Impact Mitigation Fee Program
CTM-B	Initial Study Assessment Guidelines
CTM-C	Vehicle Miles Traveled (VMT) Reduction Program
CTM-D	Regional Road Network Coordination
CTM-H	Complete Streets Guidelines
CTM-I	County Road Standards Update
CTM-J	Vision Zero
CTM-K	Safe Routes to School
CTM-L	Master Bicycle Network Plan
CTM-M	Bicycle Wayfinding Plan Participation
CTM-N	Storage Facilities for Shared Mobility Enterprises
CTM-O	Mobility-as-a-Service Enterprises – Parking
CTM-P	Interim VMT CEQA Assessment Criteria
HAZ-A	Develop and Implement Educational Programs for Wildfire Resilience
HAZ-B	Wildfire Vulnerability Assessment and Mapping
HAZ-F	Develop Climate Change Impact Assessment
HAZ-G	Communication Program for Property Owners at Risk from Sea Level Rise
HAZ-H	Sea Level Rise Analysis in Siting and Design of New Development
HAZ-I	Estuaries, Wetlands, and Groundwater Basins Resilience

Program	
HAZ-P	Identify Critical Infrastructure Vulnerable to Extreme Heat
HAZ-Q	Standards for Solar Photovoltaic (PV) Carports in County Lots
HAZ-R	Adaptation Grant Funding
HAZ-S	Extreme Heat Education and Outreach
HAZ-T	Cool Roof Ordinance
HAZ-U	Incentive Program for Passive Solar Home Design and Use of Green Roofs and Rooftop Gardens
HAZ-V	Cool Pavements Standards
HAZ-W	Incentive Programs for Solar Photovoltaic (PV) Carports
HAZ-AA	Prohibit Natural Gas Infrastructure in New Residential and New Commercial Development
HAZ-BB	Building Energy Saving Ordinance for Industrial Buildings
LU-A	Guidelines for Orderly Development Implementation
LU-P	Annual General Plan Implementation Review
PFS-A	Infrastructure Improvements and Funding
PFS-C	Sea Level Rise Impacts and Monitoring
PFS-D	Sea Level Rise Adaptation and Response
PFS-E	County Purchasing Policy
PFS-F	Trip Reduction for County Staff
PFS-G	Local Agency Management Program
PFS-J	Public Education of Onsite Wastewater Treatment Systems Care
PFS-K	Coordination on Large Onsite Wastewater Treatment Systems Repairs
PFS-L	Solid Waste Reduction
PFS-R	Biogas Control Systems
PFS-S	Organic Waste Recycling at County Facilities and Events
WR-C	Regional Collaboration on Water Issues and Sustainability
WR-E	Well Guidelines Update
WR-F	Discretionary Development Review for Adequate Water and Wastewater
WR-G	Water Conservation
WR-H	County Water Efficiency

**GHG Implementation Program - Monitoring and Reporting**

To ensure that the County’s GHG Strategy is on track to achieve the GHG emissions reduction targets and goals GHG implementation programs have been developed specifically for monitoring the performance of the GHG strategy. The County will implement, monitor, and update the GHG Strategy as described in the GHG Strategy Implementation and Monitoring programs shown in Table B-9.

**Table B-9 GHG Implementation Programs for Monitoring and Reporting**

Programs	Implements Which Policy(ies)	Responsible	2020 – 2025	2026 – 2030	2031 – 2040	Annual	Ongoing
		Supporting Department(s) or Agencies					
<b>6. CONSERVATION AND OPEN SPACE ELEMENT</b>							
<b>COS -X Greenhouse Gas (GHG) Strategy Implementation</b>	See all policies and programs tagged with a <b>CAP</b> symbol in General Plan	RMA <hr/> Varies (see descriptions for individual components or GHG reduction measures)					■
<b>COS -Y Greenhouse Gas (GHG) Strategy Monitoring</b>	The County shall regularly implement, under the overall direction of the CEO and with support of RMA, PWA, GSA, AGC, FD, and other departments as appropriate, the GHG Strategy through specific policies, programs, and implementing actions integrated throughout the General Plan and summarized in Appendix B, Climate Action Plan, as well as other appropriate actions adopted from time to time. The greenhouse gas reduction strategy shall consist of a comprehensive program to systematically reduce greenhouse gas emissions to meet adopted emission reduction targets and deadlines from all sectors – transportation, buildings, solid waste, stationary sources, agriculture, water and wastewater, and off-road equipment.	COS-10.1 COS-10.2 COS-10.3 COS-10.4 <hr/> PWA GSA AGC FD					■

Programs	Implements Which Policy(ies)	Responsible	2020 – 2025	2026 – 2030	2031 – 2040	Annual	Ongoing
		Supporting Department(s) or Agencies					
<b>6. CONSERVATION AND OPEN SPACE ELEMENT</b>							
<b>COS -Z</b> <b>Public Reporting on Greenhouse Gas (GHG) Strategy Progress</b> The County shall prepare public reports on the results of GHG Strategy implementation and monitoring and present these reports to the Board of Supervisors. The first report shall be submitted to the Board of Supervisors two years after the approval of the General Plan, after which the Board of Supervisors will determine the appropriate reporting interval. The County shall also present a more detailed progress report to the Board of Supervisors, including results of the latest GHG inventory update, every five years.	COS-10.1	RMA					■
	COS-10.2						
	COS-10.3	CEO					
	COS-10.4						
<b>COS -AA</b> <b>Greenhouse Gas (GHG) Inventory Updates</b> The County shall update the County’s GHG emissions inventory at least every five years.	COS-10.1	RMA	■	■	■		■
	COS-10.2						
	COS-10.3	CEO					
	COS-10.4						
<b>COS -BB</b> <b>Greenhouse Gas (GHG) Strategy Amendments</b> The County may amend the GHG Strategy to ensure that the County is on track to achieve its 2030 target and making substantial progress towards achieving its longer-term, post-2030 goals.	COS-10.1	RMA					■
	COS-10.2						
	COS-10.3	CEO					
	COS-10.4						

CAP

CAP

CAP

<p><b>COS</b> <b>-CC</b></p>	<p><b>Climate Emergency Council</b></p> <p>The County shall establish a Climate Emergency Council (CEC) by a resolution of the Board of Supervisors to advise the Board of Supervisors on climate action planning and implementation of the Climate Action Plan (CAP) goals, policies, and programs. The County agency or department responsible for implementation of this program shall draft, administer, and maintain the CEC bylaws. Initial establishment of the CEC and its bylaws shall include the following terms, duties, and membership composition:</p> <ul style="list-style-type: none"> <li>▪ Term of each member is two years. At the conclusion of a term, a CEC member may be re-appointed or re-selected, as applicable, for a consecutive term by the appointing authority.</li> <li>▪ Duties of the CEC members include attendance at duly called meetings; review, in advance, of all written material provided in preparation for CEC meetings; serve and participate on committees and/or sub-committees; and contribute to the CEC's advisory recommendations to the Board of Supervisors;</li> <li>▪ The officers of the CEC shall be Chairperson and Vice-Chairperson.</li> <li>▪ Officers shall be elected annually at regular meeting each year by CEC members. Nomination shall be made from the floor. Election shall be by simple majority.</li> <li>▪ Officers shall serve a one-year term. An officer may be re-elected, but no individual shall serve more than three full consecutive terms in the same</li> </ul>	<p>See all policies and programs tagged with a <b>CAP</b> symbol in General Plan</p>	<p>CEO RMA</p>	<p>■</p>
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office. No member shall hold more than one office at a time.

- The Chairperson shall preside at all meetings of the CEC, sign all correspondence, reports, and other materials produced by the CEC, and perform any and all other duties prescribed by the CEC from time to time. The Chairperson may serve as an ex-officio member of all committees.
- The Vice-Chairperson shall represent the Chairperson and/or substitute in performance of the Chairperson during their absence.
- Membership of the CEC shall be comprised of the following:
  - One person representing each Supervisorial District who has demonstrated interest in and knowledge of climate action planning shall be nominated by each of the five members of the Board of Supervisors, and confirmed by a majority of the Board of Supervisors resulting in a total of five Supervisorial District representatives;
  - One resident from each of the designated disadvantaged communities identified in the 2040 General Plan who has demonstrated an understanding of their community's needs as well as an interest in and knowledge of climate action planning shall be appointed by a majority of the Board of Supervisors; and
  - Two additional at-large members who have demonstrated special interest, competence, experience, or knowledge in

Programs	Implements Which Policy(ies)	Responsible	2020 – 2025	2026 – 2030	2031 – 2040	Annual	Ongoing
		Supporting Department(s) or Agencies					
<b>6. CONSERVATION AND OPEN SPACE ELEMENT</b>							
	<p>climate action planning shall be selected by a majority of the CEC members.</p> <ul style="list-style-type: none"> <li>Each member is entitled to one vote on each matter submitted to a vote of the CEC.</li> </ul>						
	<b>CAP</b>						
<b>COS -DD</b>	<p><b>Budget and Staffing Plan for CAP Implementation</b></p> <p>The CEO shall, within six months from the adoption of the General Plan Update and Climate Action Plan, present to the Board of Supervisors a proposed budget and staffing plan (including qualified technical consultants) to implement the Climate Action Plan, and shall update the budget and staffing plan each year.</p> <p><b>CAP</b></p>	<p>COS-10.1                      COS-10.2                      COS-10.3                      COS-10.4</p>	<p>CEO                      _____                      RMA</p>				■

## B.2 Climate Change Adaptation and Resilience Strategy

In accordance with the requirements of SB 379 (2015), codified in Government Code section 65302(g)(4), climate change adaptation and resilience must be addressed in the safety element of all general plans in California. This portion of the Climate Change Appendix to the General Plan policy document serves to summarize the vulnerability assessment and climate adaptation strategy prepared for the County’s General Plan. Chapter 12, “Climate Change,” of the General Plan Background Report, released in January of 2018, summarizes the County’s vulnerabilities to the effects of climate change over the coming century. The key findings of Chapter 12 of the General Plan Background Report include:

- a rise of three to six degrees Fahrenheit (°F) by 2090 in Ventura County;
- coastal erosion of up to 1.36 meters by 2100 due to sea-level rise;
- more frequent flooding events and more extensive and longer duration of flooding;
- elevated groundwater levels and salinity intrusion due to sea-level rise;

- the exposure of approximately 23,300 people countywide to inundation from a 100-year flood event combined with a 1.4-meter (4.6-foot) rise in sea level, many of which are low income or especially vulnerable;
- the exposure of approximately 170 miles of roads and railways, hospitals, schools, emergency facilities, wastewater treatment plants, three power plants, and a naval base from a 100-year flood event combined with a 1.4-meter (4.6-foot) rise in sea level;
- habitat fragmentation due to changes in precipitation, increased temperatures, and rising sea levels;
- an increase of up to 79 extreme heat days per year by 2099; and
- a 15 percent increase countywide in the potential amount of area burned by wildfire between 2020 and 2085 as compared to historical trends.

This background information is further summarized in Section B.2.1, along with the specific goals, policies and implementation programs contained in the General Plan elements in the main body of the Policy Document that address climate vulnerability and adaptation.

### **B.2.1. Existing Adaptation Efforts**

#### ***2015 Ventura County Local Hazard Mitigation Plan***

The 2015 Ventura County Local Hazard Mitigation Plan (LHMP) classifies climate change as a hazard facing the county and identifies mitigation measures that could be implemented to improve resilience to climate change effects. Notably, the LHMP also contains mitigation to reduce the severity of other hazards (i.e., wildfire, flood, landslide, drought), which could be exacerbated by climate change. The following mitigation measures, identified as potential overarching mitigation actions (OA) in the LHMP, would be implemented within the County in combination with the additional adaptation strategies in the General Plan (County of Ventura 2015):

- **OA 4:** Relocate or reinforce bike trails, parking lots, and other beach access amenities away from the shoreline to restore the beach/shoreline in sea-level rise/coastal erosion areas.
- **OA 5:** Restore habitat and improve flood protection for low-lying areas by employing innovative techniques such as constructing levees coupled with gently sloping tidal marshes to help protect from storm wave action and tidal surge.
- **OA 7:** Develop a water conservation public outreach program to increase awareness about the drought, fines, and penalties for overuse and solutions for conserving water.
- **OA 8:** Adopt emergency water conservation measures and/or water conservation ordinance to limit irrigation.
- **OA 13:** Reinforce roads/bridges from flooding through protection activities, including elevating the roads/bridges and installing/widening culverts beneath the roads/bridges or upgrading storm drains.
- **OA 14:** Acquire, relocate, or elevate residential structures, particularly those that have been identified as repetitive loss properties, within the 100-year floodplain.

- **OA 16:** Implement landslide stabilization and/or protection measures. Stabilization measures include grading the unstable portion of the slope to a lower gradient, construction of rock buttresses and retaining walls, and drainage improvements. Protection measures include containment and/or diversion of the moving debris, such as walls, berms, ditches and catchment basins.
- **OA 19:** Create a new vegetation management program that provides vegetation management services to elderly, disables, or low-income property owners who lack the sources to remove flammable vegetation from around their homes.
- **OA 20:** Implement a fuel modification program for new construction by requiring builders and developers to submit their plans, complete with proposed fuel modification zones, to the local fire department for review and approval prior to beginning construction.
- **OA 21:** Develop a hazards fuel treatment program for areas that have been identified as overgrown or contain dead brush and trees to reduce the potential for tree-to-tree ignition. Ensure that the program includes a “maintenance now” component to provide continued fire resistance.

### ***Coastal Resilience Ventura***

The Coastal Resilience is a global program led by The Nature Conservancy that is developing a web-based mapping tool designed to help communities understand their vulnerability to coastal hazards, reduce their risk, and determine the value of nature-based solutions. The Coastal Resilience Ventura project provides coastal managers and planners with the science, support, and technical tools to reduce community and ecological vulnerability to the impacts of climate change. Coastal Resilience has developed a mapping tool that provides the location of coastal areas susceptible to various coastal climate change impacts such as erosion, storm and fluvial flooding, storm wave impact, and rising tides for several benchmark years (i.e., current, 2020, 2060, and 2100) under a spectrum of sea-level rise scenarios (The Nature Conservancy 2019a). In combination with developing this tool, The Nature Conservancy has invested millions of dollars to preserve and restore the habitat of the Santa Clara River and Ormond Beach areas from urban encroachment and agricultural-related waste and pollution (The Nature Conservancy 2019b).

### ***Ventura County Resilient Coastal Adaptation Project Vulnerability Assessment***

On December 14, 2018, the County released the Final Ventura County Resilient Coastal Adaptation Project Vulnerability Assessment (Report). The Report contains maps and analyses intended to serve as planning tools to illustrate the potential for inundation and coastal flooding under a variety of future sea-level rise and storm surge scenarios. The Report is advisory in nature, and not a regulatory or legal standard of review for actions that the County or the California Coastal Commission may take; the Report serves to understand and inform stakeholders of the County’s vulnerability to climate-change induced sea-level rise (Ventura County 2018).

### ***Southern California Association of Governments’ Sustainability Program***

SCAG supports a Sustainability Program to promote the resilience of the transportation systems under the geographic scope of its Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). SCAG offers direct funding for innovative planning initiatives for its member agencies through the Sustainability Planning Grants program. SCAG also tracks the sustainability progress of all cities and counties in the SCAG region based on 25 sustainability topics with its Green Region Initiative V2.0 tracking tool (SCAG 2018).

### ***Southern California Gas Company Climate Adaptation and Resiliency Planning Grant Program***

In 2018, SoCalGas initiated its Climate Adaptation and Resiliency Planning Grant Program to support local planning efforts to prepare for and recover from climate change related impacts such as extreme heat, wildfires, drought, subsidence, sea-level rise, flooding, and mudslides. The program will invest \$100,000 per year to local

planning efforts. In November 2018, SoCalGas awarded two \$50,000 grants to the cities of Redlands and Artesia (SoCalGas 2018).

### ***Association of Water Agencies of Ventura County***

The Association of Water Agencies of Ventura County (AWA) was formed in 1976 to provide a forum for the exchange of information on local and regional water issues. AWA is composed of leaders representing various water-related entities in the Ventura County region (e.g., agriculture, municipalities, water purveyors, small systems, industrial water users, private business, concerned citizens, students). The AWA serves to foster cooperation between agencies to improve water quality, reliability, and supply by encouraging partnerships and engaging in public and small system advocacy (AWA 2018).

### ***Ventura River Watershed Council 2015 Watershed Management Plan***

The Ventura River Watershed Council (VRWC) approved the most recent version of their Watershed Management Plan (Plan) on March 5, 2015. The Plan identifies several goals and objectives to ensure sufficient levels of local water supplies to avoid importing water, support an integrated approach to flood management, and responsibly manage lands and resources within the Ventura River Watershed. Identified as an objective under these goals is the necessity to track the potential impacts of climate change on local land uses and resources so that adaptation strategies can be developed (VRWC 2015).

### ***Ventura County Fire Protection District Unit Strategic Fire Plan***

The Ventura County Fire Protection District (VCFPD) last updated its Unit Strategic Fire Plan (Unit Plan) in May 2018 as part of the California Strategic Fire Plan. The Unit Plan seeks to coordinate with stakeholders and create programs, policies, and procedures that promote the safety of County residents from wildfires. To support the Unit Plan, VCFPD will continue to analyze fuel breaks topography, and fire history to assess at-risk areas; seek sources of funding for vegetation management and fire prevention projects; use CAL FIRE personnel and resources to assist with projects; and educate the public about wildfire preparedness, defensible space, fire hazard reduction, fire-resistant construction and landscaping, and situational awareness (VCFPD 2018)..

### ***Ojai Valley Fire Safe Council Community Wildfire Protection Plan***

Pursuant to the Healthy Forest Restoration Act, the Ojai Valley Fire Safe Council prepared a Community Wildfire Protection Plan (CWPP) in 2010, which covers all of the unincorporated county as well as the incorporated cities of Camarillo, Fillmore, Moorpark, Ojai, Oxnard, Port Hueneme, Santa Paula, Simi Valley, Thousand Oaks, and Ventura. The CWPP was prepared in collaboration with local, county, state, and federal agencies as well as with various community organizations. The CWPP identifies wildfire risks and clarifies priorities for funding and programs to reduce impacts of wildfire in communities at high risk of wildfire within the County. Chaparral comprises the predominant vegetation of concern within the county, and decades of fire suppression combined with consistently hot, dry weather contribute to its susceptibility to ignition. The CWPP estimates that approximately 535,000 people, 185,000 housing units, and 13,700 businesses within the unincorporated county and incorporated cities are vulnerable to wildfire; however, these figures were determined in 2010 and do not account for acres of wildfire burned since the adoption of the CWPP (Ojai Valley Fire Safe Council 2010).

### ***Ventura County Fire Protection District Personal Wildfire Action Plan***

In 2013, the Ventura County Fire Protection District (VCFPD) released “Ready, Set, Go,” a personalized Wildfire Action Plan booklet to educate homeowners of methods to improve resistance to wildfire. “Ready, Set, Go” includes information regarding defensible space, harden homes, and landscaping and emergency planning recommendations to decrease a home’s susceptibility to ignite during a wildfire. The publication also contains user-friendly checklists to promote survival during and after wildfire events (VCFPD 2013).

### B.2.2. Climate Vulnerability, Adaptation, and Implementation

As discussed in Section B.2.1, “Existing Adaptation Efforts,” several agencies and non-governmental organizations have undertaken projects and prepared plans to address climate change-related challenges in Ventura County; however, additional action will need to be implemented over the course of the General Plan horizon (i.e., 20 years) to provide County citizens, infrastructure, and businesses with improved resilience to the effects of climate change. Coordination between private and public stakeholders will be imperative to ensure that Ventura County’s specific vulnerabilities to climate change are further identified and bolstered to withstand increased temperatures, unpredictable changes to historical precipitation patterns, increased frequency and intensity of wildfire, and rising sea levels.

While citizens and businesses may bolster their residences and facilities independently of County goals and policies, obstacles to the application of individual adaptation planning exist which include, but are not limited to, financial restrictions, lack of awareness surrounding climate change, and language barriers. Thus, the County will need to implement measures that promote climate change resilience countywide for both County operations and the community as a whole.

In the following paragraphs, localized climate change impacts to the unincorporated county are summarized to provide context for the following adaptation goals, policies, and implementation programs that will be necessary to combat the effects of climate change. Based on global models cited by IPCCs Fifth Assessment Report and the State of California’s Fourth Climate Assessment Report, implementation timelines are assigned to specific policies in consideration of the level of certainty that an impact will occur as well as the time period an impact is expected to manifest. The goals, policies, and programs related to climate vulnerability are included in Table B-10.

#### ***Increased Temperatures***

Temperature-related impacts from anthropogenic climate change are likely to affect the county in several ways. Increased average temperatures, along with more frequent extreme heat days and waves, will likely exacerbate existing high temperatures, especially in developed areas that experience the urban heat island effect (UHIE). In built-up areas, vegetation is sparse, and roofs and pavement dominate the landscape, absorbing and retaining heat during daytime hours and releasing heat at night. Other human activities that contribute to the UHIE include combustion-engine vehicles and air conditioning. To help curb the UHIE in developed areas, the County will need to encourage or require incorporation of “green” and “cool” infrastructure into new and existing development. Examples of green infrastructure include trees and climate-appropriate landscaping for increased shade and reduced surface area of pavement. Rain gardens, live roofs, and rooftop gardens also mitigate the intensity of the UHIE. The County will also need to require incorporation of cool pavement and cool roofs in existing and new development and the planting of more shade trees in parking lots.

The agricultural industry will also be affected by more extreme temperatures, including both increased summer heat and colder winter temperatures. Projections of climate conditions in the county anticipate a notable temperature increase in summer and fall, and a potential for increasingly cold January temperatures, which could extend periods of freeze and adversely impact crops (Pierce et. al 2018). Measures to improve the adaptive capacity of Ventura County while maintaining a lucrative agricultural industry may include a transition to the production of crops suitable to future climatic conditions.

According to global models by the IPCC, increased global temperatures will occur with a 90 percent and above (very high) degree of certainty (California Natural Resources Agency [CNRA] 2012). Thus, these effects will impact Ventura County with a high degree of certainty and have already begun to manifest and will continue to occur over the course of the century. The goals, policies, and programs related to temperature rise are included in Table B-10.



### ***Changes to Precipitation Patterns***

Climate change will increase Ventura County's exposure to water supply and water quality constraints and reinforce the need to protect water quality and increase water conservation efforts. As discussed in Chapter 12 of the Background Report prepared for the General Plan Update, annual snow and rainfall in the Los Padres National Forest is projected to decrease by 17 percent, which could affect water supply to the Ventura River and Santa Clara River watersheds.

Climate change is expected to exacerbate drought throughout the entire state, which is already historically vulnerable to prolonged dry periods. The Ventura County Watershed Protection District (VCWPD) is allotted a 20,000 acre-feet entitlement from the State Water Project (SWP), which is supplied by snowmelt in the Sierra Nevada Mountain Range. Increased temperatures in the Sierra Nevada will lead to earlier and faster snowmelt, reducing available SWP supplies in historically dry months (i.e., July-September). Furthermore, higher temperatures in the Sierra Nevada will increase the level of precipitation falling as rain rather than snow during the winter months, further reducing supplies that the SWP relies on in historically dry months.

The County is also heavily dependent on groundwater, which provides the majority of water used for agricultural irrigation. During periods of drought, groundwater pumping rates increase which has led to problems in some basins within the county. Furthermore, the quality of groundwater resources near the coast is deteriorating from saltwater intrusion from sea-level rise, which is exacerbated by falling water tables in areas that are over drafted.

These conditions combined with a business-as-usual approach will result in potentially severe impacts on Ventura County's agricultural and municipal water sectors. Increases in flow rates of the Ventura River Watershed may inhibit natural groundwater recharge, which is the primary water supply to the county's agricultural sector. Furthermore, increased temperatures will increase rates of evapotranspiration in plants, which would increase water demand, thus requiring improved irrigation systems and more resilient water supplies. To prepare for these conditions, Ventura County, local water districts, and other stakeholders will need to continue to evaluate the vulnerability of the county's water supply systems and networks through collaboration with water-related Federal, State, and local agencies and organizations. These collaborative efforts will include the deployment of innovative options to improve water-use efficiency and conservation capacity to meet future water demand.

According to global models by IPCC, changes in precipitation patterns will occur with a 66 percent and above (medium) degree of certainty (CNRA 2012). Thus, these effects will impact Ventura County with a medium level of certainty and manifest over the next century. The goals, policies, and programs related to sea-level rise and coastal flooding are included in Table B-10. The adaptation and resilience goals, policies, and programs in Table B-10.

### ***Increased Wildfire Risk***

Portions of Ventura County are at very high risk for wildfire with high concentrations on the northern coast leading inland between Santa Paula and Ojai. Additional high fire hazard severity zones, as characterized by the California Department of Forestry and Fire Protection (CAL FIRE), are located along the southern coast and continue inland toward the City of Simi Valley (CAL FIRE 2007). Periodic natural fire is an important ecosystem disturbance; however, uncontrolled wildfires can be extremely damaging to communities and ecosystems. Approximately 144,000 residents (34 percent of total population) live in high-risk wildfire areas (CDPH 2017).

With rising temperatures combined with changes in precipitation patterns, the county will likely experience an increase in wildfire frequency and intensity as fuel loads become drier and more flammable. Wildfire also presents other health-related impacts associated with emissions of air pollutants during the combustion of organic fuels and other materials. Wildfire events result in substantial emissions of harmful pollutants such as particulates (soot and smoke), carbon monoxide, nitrogen oxides, and others from the burning of vegetation, and can be widely dispersed through a region and degrade air quality conditions. Exposure to these pollutants can cause acute

(short-term) and exacerbate chronic (long-term) respiratory and cardiovascular illnesses, especially in vulnerable populations such as the elderly, children, and agricultural and outdoor workers.

Additionally, wildfire can cause direct and indirect damage to electrical infrastructure. Direct exposure to fire can sever transmission lines, and heat and smoke can affect transmission capacity. Furthermore, fires can cause acute damage to soil structure and moisture retention thus increasing susceptibility to erosion or landslides. Following the Thomas Fire in December 2017, Santa Barbara County experienced powerful landslides following a rain event. The level of precipitation coupled with the exposed landscape resulted in landslides that caused the deaths of 22 people.

To prepare for these conditions, the County and other relevant agencies and organizations will need to adopt measures to reduce the potential for catastrophic wildfires to occur in addition to protecting residents from the adverse health impacts associated with wildfire. Additionally, to preserve water quality and ecological health, the County will need to engage in restoration effects in previously burned areas.

According to California's Fourth Climate Assessment, acres burned by wildfire within the state is expected to increase at a medium to high level of certainty (Governor's Office of Planning and Research [OPR], CNRA, and California Energy Commission [CEC] 2018). Given the characteristics of Ventura County's vegetation, these effects will likely impact the county with a high level of certainty and manifest quickly over the next century (Ventura County 2015). The goals, policies, and programs related to wildfire risk are included in Table B-10.

### ***Sea-level Rise and Coastal Flooding***

California's coastline, which includes more than 2,000 miles of open coast and enclosed bays, is vulnerable to a range of natural hazards, including storms, extreme high tides, and rising sea levels. Sea-level rise also increases the threat of coastal flooding. Sea levels along the central and southern California coast has risen by more than 5.9 inches (15 centimeters [cm]) over the 20th century (OPR, CNRA, and CEC 2018). Climate change scenarios included in the IPCC's Fifth Assessment Report and California Fourth Climate Assessment Report (i.e., representative concentration pathway [RCP] 2.6 and RCP 8.5) indicate that California likely could see between 45.6 inches (106 cm) and 69.6 inches (163 cm) rise in sea level by the end of the century (California Ocean Protection Council 2018). Residential properties, critical transportation and infrastructure corridors, as well as high-value coastal recreation are most vulnerable to sea-level rise within Ventura County. Agriculture, beach, dune, and estuarine systems are also highly vulnerable. Fortunately, there are no critical facilities (i.e., sewage or wastewater treatment plants [WWTPs], energy plants, airports, or hospitals) within the unincorporated areas projected to be impacted (Ventura County 2018).

The Ventura County Resilient Coastal Adaptation Project for Sea-level Rise Vulnerability Assessment (Vulnerability Report) estimates the unincorporated area's vulnerability to up to 58 inches (136 cm) of sea-level rise by the end of the century. According to the Vulnerability Report, residential structures comprise the largest land use type vulnerable to the cumulative effects of rising sea levels totaling approximately \$576,500,000 in economic loss associated with coastal flooding combined with a 100-year flood, \$735,800,000 from tidal inundation, \$1,402,100,000 from erosion, and \$525,700,000 from coastal flooding. Of the 2,159 parcels of mixed, multi-family, and single-family residential properties at risk of these impacts by 2100, single-family residential are considered most vulnerable with 1,910 parcels or 88 percent of total at-risk parcels (Ventura County 2018).

A 2015 study identified the following demographic characteristics that increase a population's vulnerability to floods: age, race, ethnicity, immigration status, language ability, employment, land tenure, and health, among other factors (Rufat et al. 2015). Of the demographic information available, seniors aged 65 and over, number of people living in rental housing units, and Hispanic residents are considered the most vulnerable groups to sea-level rise in Ventura County (Ventura County 2018).

Additionally, rising sea levels will raise the water table in areas close to the ocean. In some areas, elevated water tables may result in groundwater flooding and/or exposure of buried infrastructure. Groundwater quality could degrade due to saltwater intrusion from elevated sea levels (OPR, CNRA, and CEC 2018).

Sea-level rise will also have an impact on Ventura County’s coastal ecosystems. Aquatic ecosystems located in estuaries along the coast could be adversely affected by changes in water quality from saltwater intrusion further upstream. Increased salinity may impact inland soils, freshwater and groundwater resources, the survival of endemic species, and nutrient retention. The quality of on-land coastal ecosystems will be threatened as rising sea levels erode coastal areas resulting in loss of habitat.

According to global models by IPCC, sea-level rise will occur with a 90 percent and above (very high) degree of certainty (CNRA 2012). Thus, these effects will impact Ventura County with a high degree of certainty and would manifest over the course of the century. The goals, policies, and programs related to sea-level rise and coastal flooding are included in Table B-10.

### B.3 GHG Mitigation and Climate Adaptation Measures

Table B-10 provides a consolidated listing of the policies and implementation programs included in the 2040 General Plan.

**Table B-10 GHG Mitigation and Climate Adaptation Measures**

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<b>2. LAND USE AND COMMUNITY CHARACTER ELEMENT</b>			
<b>LU-1.1</b>	<b>Guidelines for Orderly Development</b> The County shall continue to promote orderly and compact development by: <ul style="list-style-type: none"> <li>■ working with cities in Ventura County and the Ventura Local Agency Formation Commission (LAFCO) to promote and maintain reasonable city boundaries and Spheres of Influence to prevent growth-inducing urban development in unincorporated areas, and</li> <li>■ require unincorporated urban development to be located in areas designated as Existing Communities and unincorporated urban centers consistent with the Guidelines for Orderly Development and as defined in Policy LU-1.2.</li> </ul> (RDR, IGC)	■	

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>LU-11.3 Design</b>                      The County shall require new commercial and industrial developments to be designed to be generally compact, grouped and consolidated into functional units providing for sufficient off-street parking and loading facilities, maximize pedestrian and vehicle safety, reduce vehicle miles traveled (VMT), encourage electric vehicle charging, and minimize land use conflicts and traffic congestion. The County shall require that commercial and industrial discretionary development is designed to provide adequate buffering (e.g., walls, landscaping, setbacks) and operational conditions (e.g., hours of operation, and scheduling of deliveries) to minimize adverse impacts (e.g., noise, glare, and odors) on adjoining and adjacent residential areas. (RDR)</p>	■		
<p><b>LU-11.4 Sustainable Technologies</b>                      The County shall encourage discretionary development on commercial- and industrial- designated land to incorporate sustainable technologies, including energy- and water-efficient practices and low- or zero-carbon practices. (RDR)</p>			■
<p><b>LU-16.5 Multimodal Access to Commercial Development</b>                      The County shall encourage discretionary commercial development to promote ease of pedestrian/bicycle access to encourage walk-in business, while providing sufficient off-street parking. (RDR)</p>	■		
<p><b>LU-16.9 Building Orientation and Landscaping</b>                      The County shall encourage discretionary development to be oriented and landscaped to enhance natural lighting, solar access, and passive heating or cooling opportunities to maximize energy efficiency. (RDR)]</p>			■
<p><b>LU-18.5 Participation in Climate Change Planning</b>                      The County shall encourage stakeholders in designated disadvantaged communities who are vulnerable to sea level rise or other climate change impacts to have the opportunity to learn about and participate in the decision-making process for adaptation planning within Ventura County. (PI)</p>			■
<p><b>LU-22.2 Implementation Program Monitoring</b>                      The County shall maintain and annually review the General Plan Implementation Programs before the preparation of the County’s Annual Budget. As part of this process, the County shall update the prioritization of programs based on applicability, relevance, timing of initiation, and availability of funding. (PSR, SO)</p>			■

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>LU-A Guidelines for Orderly Development Implementation</b>                      The County shall continue to implement the Guidelines for Orderly Development and work with cities to promote orderly and compact development, increased options for affordable housing, minimize vehicle miles traveled, and limit sprawl development.</p>	■		
<p><b>LU-P Annual General Plan Implementation Review</b>                      The County shall review the General Plan annually, focusing on the status and progress of program implementation. The County shall prepare a report to the Board of Supervisors summarizing the status of implementation programs and any recommendations for General Plan amendments.</p>			■
<b>4. CIRCULATION, TRANSPORTATION, AND MOBILITY ELEMENT</b>			
<p><b>CTM-2.1 Complete Streets</b>                      The County shall prepare and adopt Complete Streets Design Guidelines to be used when constructing new roadways or improving existing roadways where Complete Streets would be appropriate/feasible. The Complete Streets Design Guidelines shall employ a context-sensitive approach to planning and designing the road and street network to reflect the distinct agricultural, rural, or urban character of a particular location. (MPSP)</p>	■		
<p><b>CTM-2.2 Functional Classification</b>                      The County shall plan a roadway system that has adequate capacity and is designed to provide reasonable and safe use by vehicles, public transportation, bicycles and pedestrians with minimum delay pursuant to LOS standards described in Policy CMT-1.2. The road system should follow Federal Highway Administration (FHWA) classification as identified on Figure 4-4. (MPSP)</p>			■
<p><b>CTM-2.3 County Road Access</b>                      The County shall require discretionary development with access onto a County road to have the access point(s) designed and built to County standards. (RDR)</p>		■	
<p><b>CTM-2.4 Transportation System Safety</b>                      The County shall strive to provide safe operating conditions for all appropriate modes and uses of County roadways. (RDR, MPSP, SO)</p>		■	
<p><b>CTM-2.5 Emergency Services</b>                      The County shall coordinate the development and maintenance of all transportation facilities with emergency service providers to ensure continued emergency service operation and service levels. (ICG)</p>		■	

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>CTM-2.6 Regional Transportation Planning</b>                      The County shall work with Caltrans, Southern California Association of Governments (SCAG), Ventura County Transportation Commission (VCTC), and cities in the county to plan, develop, and maintain regional transportation facilities and services, and to identify existing and future transportation corridors that should be linked across jurisdictional boundaries so that sufficient right-of-way may be preserved. (IGC)</p>			■
<p><b>CTM-2.7 Congestion Management Program</b>                      The County shall coordinate with Ventura County Transportation Commission (VCTC) to implement and update the Congestion Management Program (CMP). The County shall also encourage consideration of multimodal performance measures as part of future updates to the CMP. (MPSP, IGC)</p>	■		
<p><b>CTM-2.8 Congestion Management Program and County Regional Network Consistency</b>                      For those portions of the County’s Regional Road Network currently not designated as part of the Congestion Management Program (CMP), the County shall coordinate with Ventura County Transportation Commission (VCTC) to formally designate applicable County maintained roadways as part of the CMP. (MPSP, IGC)</p>	■		
<p><b>CTM-2.9 State Route 118 Improvement in Saticoy Area</b>                      The County shall work with the Ventura County Transportation Commission (VCTC) and Caltrans to reprioritize the re-striping of SR 118 from Vineyard Avenue to Darling Road on the Ventura County Congestion Management Plan and the Caltrans list of projects to provide for an additional lane in each direction of travel.(IGC)</p>		■	
<p><b>CTM-2.10 Safe Routes to School</b>                      The County shall work with public and private schools to identify and expand safe routes to school, where feasible. (IGC)</p>	■		
<p><b>CTM-2.11 Efficient Land Use Patterns</b>                      The County shall establish land use patterns that promote shorter travel distances between residences, employment centers, and retail and service-oriented uses to support the use of public transportation, walking, bicycling, and other forms of transportation that reduce reliance on single-passenger automobile trips. (RDR, MPSP)</p>			■



Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>CTM-2.12 Countywide Bicycle Lane and Trail System</b>                      The County shall coordinate with the cities in the county and Ventura County Transportation Commission (VCTC) to plan and implement a system of bicycle lanes and multi-use trails that link the cities, unincorporated communities, schools including colleges and universities, commercial/retail, employment centers, health care service facilities, public transportation, and other points of interest. (MPSP, IGC)</p>	■		
<p><b>CTM-2.13 Transportation System Connectivity</b>                      The County shall strive to eliminate “gaps” in roadways, bikeways, and pedestrian networks by planning for and seeking funding to construct necessary improvements to remove barriers and improve transportation system connectivity as well as connections that support first and last mile accessibility to and from public transportation. (MPSP, PSR, FB)</p>	■		
<p><b>CTM-2.14 Bicycle Facility Design</b>                      When designing new bicycle facilities, or modifying existing roadways with bicycle facilities, the County shall prioritize and install features to improve the safety and visibility of bicyclists. (MPSP)</p>	■		
<p><b>CTM-2.15 Bicycle/Pedestrian Design</b>                      The County shall rely on the guidelines and design standards for bicycle and pedestrian facilities established by the California Manual on Uniform Traffic Control Devices (CAMUTCD) and supporting guidelines provided the Federal Highway Administration, Caltrans, and the American Association of State Highway and Transportation Officials (AASHTO). (MPSP, PSR, SO)</p>	■		
<p><b>CTM-2.16 Pedestrian Planning</b>                      The County shall consider the safety and accessibility of pedestrians when preparing transportation plans, studies, and reports. (MPSP)</p>	■		
<p><b>CTM-2.17 Support Regional Bicycle Infrastructure</b>                      The County shall support regional bicycle efforts to improve infrastructure that will make biking more attractive to residents and tourists. (IGC, SO, JP)</p>	■		

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>CTM-2.18 Complete Streets Standards in Existing Communities</b>                      The County shall require discretionary development in designated Existing Communities to construct roadways to urban standards and Complete Streets principles, including curb, gutter, sidewalks, and bike lanes when there is a nexus for improvement. The County shall rely on the guidelines and design standards for Complete Streets design established by the California Manual on Uniform Traffic Control Devices (CAMUTCD), Caltrans in the Highway Design Manual, and Complete Streets Guidelines (pursuant to Deputy Directive-64-R2), Federal Highway Administration, American Association of State Highway and Transportation Officials (AASHTO). (RDR)</p>	■		
<p><b>CTM-2.19 Safety Metrics</b>                      The County shall continue to examine and update safety metrics for California Environmental Quality Act (CEQA) impact analysis as appropriate. Options include but are not limited to: queue spill-back at intersections; mid-block unprotected crossings; and, increased crossing distances. (RDR)</p>	■		
<p><b>CTM-2.20 Safe Pedestrian Crossings</b>                      The County shall improve pedestrian safety at intersections and mid-block locations in Existing Communities through approved features consistent with the California Manual on Uniform Traffic Control Devices (CAMUTCD), Highway Design Manual, Federal Highway Administration, American Association of State Highway and Transportation Officials (AASHTO), and the National Cooperative Highway Research Program Report 498 (Application of Pedestrian Crossing Treatments for Streets and Highways). (RDR, SO)</p>	■		
<p><b>CTM-2.21 Pedestrian/Bicycle Conflicts along Overweight Vehicle Corridor and Surface Transportation Assistance Act (STAA) Truck Routes</b>                      Within Existing Communities, the County shall provide/retrofit separated or buffered pedestrian and bicycle paths from the outside travel lane along County Road Network roads that are designated Overweight Vehicle Corridors and STAA designated Terminal Access Routes. Where the application or retrofitting of separated or buffered facilities is not feasible, the County shall prioritize alternative pedestrian and bicycle connections that encourage and attract pedestrian and bicycle traffic off designated Overweight Vehicle Corridors or STAA designated truck routes. (MPSP)</p>	■		

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>CTM-2.22 Funding and Maintenance for Sidewalks</b>                      The County shall seek funding sources first for construction of new sidewalks in designated disadvantaged communities and then for sidewalk maintenance, particularly in low-income areas. (FB)</p>	■		
<p><b>CTM-2.23 Intercommunity and Countywide Public Transportation System</b>                      The County shall continue to work with Ventura County Transportation Commission (VCTC), Naval Base Ventura County, and local public transportation regional bus service providers to promote the expansion of a safe, efficient, convenient, integrated, and cost-effective intercommunity and countywide public transportation and bus service that provides county residents with access to employment, commercial services, health and medical facilities, social services, educational facilities and institutions, and personal business destinations. (IGC)</p>	■		
<p><b>CTM-2.24 Non-Drivers Living in Rural Areas</b>                      The County shall work with Ventura County Transportation Commission (VCTC) and local public transportation providers to address the needs of non-drivers living in rural areas to provide public transportation and paratransit service. (IGC)</p>			■
<p><b>CTM-2.25 Amtrak Service Improvements</b>                      The County shall support the recommendations of the California State Rail Plan for Amtrak trains, including track and signalization upgrades, increasing service frequencies by adding additional round-trip service to regional destinations north and south of Ventura County, improving passenger information and comfort, and reducing travel time. (IGC)</p>	■		
<p><b>CTM-2.26 Abandoned Railroad Rights-of-Way</b>                      When railroad rights-of-way are abandoned, the County shall evaluate the feasibility of acquiring the land for public use as public transportation, bicycle, pedestrian, or equestrian paths. (MPSP)</p>	■		
<p><b>CTM-2.27 Discretionary Development and Conditions of Approval to Minimize Traffic Impacts</b>                      The County shall require that discretionary development be subject to the following permit conditions of approval, where feasible, to minimize traffic impacts by incorporating pedestrian and bicycle pathways, bicycle racks and lockers, ridesharing programs, transit improvements (bus turnouts, shelters, benches), and/or transit subsidies for employees or residents of the proposed development. (RDR)</p>	■		

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<b>CTM-3.1 Bicycle Network Strategy and Prioritization</b> The County shall identify and prioritize components of a bicycle network to increase public access and ridership on bicycle routes. (MSPR, SO)	■		
<b>CTM-3.2 Inclusive Bicycle Network</b> The County shall develop a bicycle network for all user types and routes across the county. (MPSR, SO, PI)	■		
<b>CTM-3.3 Regional Destination Focus for Bicycle Network</b> The County shall encourage the development of a bicycle network that connects to regional destinations such as parks, trails, educational institutions, employment centers, transit, park and ride lots, and tourist destinations. (IGC)	■		
<b>CTM-3.4 Interjurisdictional Bicycle Network Connectivity</b> The County shall promote bicycle network connectivity between Ventura County communities as well as Santa Barbara and Los Angeles Counties. (IGC)]	■		
<b>CTM-3.5 Bicycle Routes in Rural Areas</b> The County shall plan for bicycle network connectivity in rural, agricultural, and open space areas in a way that supports and complements business and agricultural activities in those areas. (JP) ]	■		
<b>CTM-3.6 Coordination with Bicycle Wayfinding Plan</b> The County shall support the Complete Streets effort by, when feasible, constructing bicycle lanes on County maintained roads listed in the Ventura County Transportation Commission Bicycle Wayfinding Plan. (SO, JP, IGC)	■		
<b>CTM-3.7 Bicycle Trail along Santa Paula Branch Line</b> The County shall encourage the construction of a bicycle trail along the Santa Paula Branch Line Railroad in the unincorporated area between the cities of Ventura and Santa Paula. (SO, JP, IGC)	■		
<b>CTM-3.8 Bicycle Network Routes and Wayfinding</b> The County shall use clear and consistent message and placement for on- and off-street regional bikeways and to regional destinations. (PI, SO)	■		
<b>CTM-3.9 Funding for Bicycle Network and Wayfinding Planning and Improvements</b> The County shall actively pursue outside funding opportunities for bicycle network improvements. (FB, JP)	■		

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>CTM-3.10 Bicycle Storage Facilities</b>                      The County shall require adequate bicycle storage facilities (e.g., bicycle racks, lockers) for discretionary development as determined by allowable land uses at a given site. (RDR)</p>	■		
<p><b>CTM-4.1 Reduce Vehicle Miles Traveled (VMT)</b>                      The County shall work with Caltrans and Ventura County Transportation Commission (VCTC) to reduce VMT by:</p> <ul style="list-style-type: none"> <li>■ facilitating the efficient use of existing transportation facilities;</li> <li>■ striving to provide viable modal choices that make driving alone an option rather than a necessity;</li> <li>■ supporting variable work schedules to reduce peak period VMT; and</li> <li>■ providing more direct routes for pedestrians and bicyclists.</li> </ul> <p>(MPSP, SO)</p>	■		
<p><b>CTM-4.2 Alternative Transportation</b>                      The County shall encourage bicycling, walking, public transportation, and other forms of alternative transportation to reduce Vehicle Miles Traveled (VMT), traffic congestion, and greenhouse gas emissions. (PI)]</p>	■		
<p><b>CTM-4.3 Vehicle Occupancy</b>                      The County shall work with a broad range of agencies (e.g., Caltrans, Ventura County Transportation Commission (VCTC), Amtrak, Ventura County Air Pollution Control District, public transportation providers and shared mobility vendors) to encourage and support programs that increase vehicle occupancy including the provision of traveler information, shuttles, and preferential parking for carpools/vanpools. (IGC, PI)</p>	■		
<p><b>CTM-4.4 Park-and-Ride Facilities</b>                      The County shall coordinate with Caltrans and Ventura County Transportation Commission (VCTC) to identify future park-and-ride lots within the unincorporated areas of Ventura County to facilitate more carpooling, vanpooling, and public transportation use. (IGC)]</p>	■		
<p><b>CTM-6.1 Routine Use of Alternative Transportation Options</b>                      The County shall support the integration of emerging technologies that increase the routine use of alternative transportation options to decrease single-passenger automobile travel. (MPSP)</p>	■		

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<b>CTM-6.3 Permeable Pavement</b> As part of new roadway planning and design as part of discretionary development, the County shall promote the use of permeable paving and other passive drainage features such as bio-swales to prevent flooding, particularly in urban areas (RDR, SO)			■
<b>CTM-6.4 Facilities for Emerging Technologies</b> The County shall support the development of alternative fueling stations (e.g., electric and hydrogen) and vehicle-to-infrastructure (V2I) technology for emerging technologies. (SO)	■		
<b>CTM-6.5 Electric Vehicle Charging Stations</b> The County shall support the installation of electric vehicle charging stations, where feasible, at County facilities, parking lots, park-and-ride lots, truck stops, and new development. (RDR, SO)	■		
<b>CTM-6.6 Neighborhood Electric Vehicles</b> The County shall encourage developments and street systems that support the use of properly licensed Neighborhood Electric Vehicles (NEV) where appropriate. (MPSP).	■		
<b>CTM-6.7 Shared Mobility Operations</b> The County shall encourage and support car share operators at multimodal facilities including public transportation hubs, passenger rail stations, and park-and-ride lots. (RDR)	■		
<b>CTM-6.8 Micro-Mobility Operations</b> The County shall evaluate the feasibility and work to establish requirements for shared micro-mobility (e.g., bike sharing) vendors within unincorporated areas. (RDR)	■		
<b>CTM-6.9 Mobility-as-a-Service Enterprises – Vehicle Operations</b> The County shall encourage Mobility-as-a-Service (MaaS) providers to park between service calls versus driving within unincorporated communities (RDR, SO)	■		
<b>CTM-6.10 Mobility-as-a-Service Enterprises – Support Public Transportation</b> The County shall encourage Mobility-as-a-Service (MaaS) providers to coordinate with public transportation providers that serve unincorporated areas to increase the attractiveness of public transportation through the provision of free or subsidized public transportation patron first and last mile connections within unincorporated communities (IGC, JP)	■		



Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>CTM-A Traffic Impact Mitigation Fee Program</b>                      The County shall update its Traffic Impact Mitigation Fee Program and perform a comprehensive update to the program a minimum once every ten (10) years pursuant to Government Code Section 66000 et seq.</p>	■		
<p><b>CTM-B Initial Study Assessment Guidelines</b>                      The County shall update and adopt its Initial Study Assessment Guidelines (ISAG) no later than 2025 to address Vehicle Miles Traveled (VMT) and safety metrics pursuant to CEQA Guidelines Section 15064.3. This program shall consider inclusion of the following components:</p> <ul style="list-style-type: none"> <li>■ Establishment of screening criteria to define projects not required to submit detailed VMT analysis, such as infill projects, inclusion of locally serving commercial, transit supportive projects, or transportation enhancements that reduce VMT;</li> <li>■ Establishment of thresholds of significant for identifying VMT related transportation impacts to meet or exceed State requirements; at minimum the thresholds will be equivalent to the threshold values for different project types identified in Mitigation Measure CTM-1;</li> <li>■ Standard mitigation measures for significant transportation impacts; and</li> <li>■ Specify the County’s procedures for reviewing projects with significant and unavoidable impacts, under CEQA, related to VMT.</li> </ul>	■		

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>CTM-C Vehicle Miles Traveled (VMT) Reduction Program</b></p> <p>To support climate change related goals and CEQA related VMT policies pursuant to SB 743 (2013), the County shall develop a VMT Reduction Program no later than 2025. This program will contain a range of project- and program-level mitigation measures and VMT reduction strategies, that could include:</p> <ul style="list-style-type: none"> <li>■ Preparation of a Transportation Demand Management (TDM) program to promote mode shifts from single occupant vehicle use to transit, ridesharing, active transportation, telecommuting, etc.; and,</li> <li>■ Transportation System Management applications such as park-and-ride lots, intelligent transportation system (ITS) field deployment, pavement management, etc.</li> </ul> <p>This program shall identify measures to achieve an additional five percent overall reduction in VMT by 2030, and 10 percent by 2040 relative to 2030 and 2040 business as usual scenarios, respectively. During implementation of the 2040 General Plan, the County will review and update the VMT Reduction Program as warranted to provide additional mitigation measures and programs that achieve these levels of VMT reduction.</p>	■		
<p><b>CTM-D Regional Road Network Coordination</b></p> <p>The County shall continue to coordinate across its own agencies as well as with cities in Ventura and Los Angeles Counties and CalTrans to identify needed improvements to the Regional Road Network.</p> <p>This will include identification of funds available and needed for County and cities inter-city road-building purposes to construct improvements.</p>			■

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>CTM-H Complete Streets Guidelines</b>                      The County shall prepare and adopt Complete Streets Design Guidelines/standards to be used when constructing new roadways or improving existing roadways where Complete Streets would be appropriate/feasible. Complete Streets Design Guidelines/standards should be consistent with the pedestrian and bicycle design guidelines and design standards established by Caltrans and supporting state/federal guidelines when designing bicycle/pedestrian facilities. These include the California Manual on Uniform Traffic Control Devices (CAMUTCD), Highway Design Manual, Federal Highway Administration, American Association of State Highway and Transportation Officials (AASHTO).</p> <p>The County shall improve pedestrian safety at intersections and mid-block locations in developed communities by providing pedestrian crossing treatments where appropriate.</p>	■		
<p><b>CTM-I County Road Standards Update</b>                      The County shall update Road Standards to include the Complete Street Design Guidelines/Standards.</p>	■		
<p><b>CTM-J Vision Zero</b>                      The County shall develop a Vision Zero strategy for the County of Ventura with the goal of reducing all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all.</p>	■		
<p><b>CTM-K Safe Routes to School</b>                      The County shall support the Safe Routes to School Program by identifying opportunities to support bike and pedestrian routes to schools, identify needed improvements and opportunities to increase public access and use of these routes.</p>	■		
<p><b>CTM-L Master Bicycle Network Plan</b>                      The County shall develop a master bicycle network plan that includes the recommendations from the Bicycle Wayfinding Study and the prioritized list of bike lanes from the Board approved criteria. ]</p>	■		
<p><b>CTM-M Bicycle Wayfinding Plan Participation</b>                      The County shall continue to participate in and support the Ventura County Transportation Commission in updates to the Bicycle Wayfinding Plan linking all Ventura County cities, unincorporated communities, and CSUCI.</p>	■		

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>CTM-N Storage Facilities for Shared Mobility Enterprises</b>                      The County shall work with the Ventura County Transportation Commission to analyze the feasibility of shared micro-mobility (e.g., bike sharing) vendors being required to provide storage/parking areas or facilities to be designated and/or physically placed outside of the public right-of-way if private shared mobility vendors are allowed to operate within the unincorporated areas of the county.</p>	■		
<p><b>CTM-O Mobility-as-a-Service Enterprises – Parking</b>                      The County shall consider designating parking areas in County parking facilities for Mobility-as-a-Service (MaaS) vehicles to use between customer service runs and will work with cities to provide locations as well.</p>	■		

**CTM-P Interim VMT CEQA Assessment Criteria**

Following June 30, 2020 and prior to completion of Implementation Program CTM-B, all projects (not otherwise exempt from CEQA analysis) shall be evaluated for potential environmental impacts relative to VMT using the State’s minimum reduction standards, as follows:

Project Type	Measurement Unit	Model Trip Types	Minimum Criteria	Baseline VMT	Threshold VMT
Residential	VMT/Capita	Average of all Home Based Trip Types	15% Reduction of Regional Average	9.66	8.21
Office	VMT/Employee	Home Based Work Trips	15% Reduction of Regional Average	13.52	11.49
Industrial	VMT/Employee	Home Based Work Trips	15% Reduction of Regional Average	13.52	11.49
Retail	Unincorporated VMT	All Trip Types	No Net Increase in Regional VMT	7,500,249	7,500,249
Agriculture	Unincorporated VMT	All Trip Types	No Net Increase in Regional VMT	7,500,249	7,500,249
Infrastructure	Unincorporated VMT	All Trip Types	No Net Increase in Regional VMT	7,500,249	7,500,249
All Other Project Types	Unincorporated VMT	All Trip Types	No Net Increase in Regional VMT	7,500,249	7,500,249

If a proposed project is found to have a significant impact on VMT, the impact must be reduced, as feasible<sup>1</sup>, by modifying the project’s VMT to a level below the established thresholds of significance and/or mitigating the impact through multimodal transportation improvements or mitigations to enhance transportation mode shift (use of alternative transportation modes). Following completion and adoption of VMT thresholds as part of the Ventura County ISAG, this implementation program shall no longer apply.

*1. “Feasible” means that this mitigation measure shall be applied to future discretionary projects under the 2040 General Plan when and to the extent it is “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors” as determined by the County in the context of such future projects based on substantial evidence. This definition is consistent with the definition of “feasible” set forth in CEQA (Pub. Res. Code, § 21066.1) and the CEQA Guidelines (§ 15164). The County shall be solely responsible for making this feasibility determination in accordance with CEQA.*

Policy/Program		GHG Reduction Measure	Climate Adaptation Measure	Both
<b>5. PUBLIC FACILITIES, SERVICES, AND INFRASTRUCTURE ELEMENT</b>				
<b>PFS-1.2</b>	<b>Resilient Facilities and Services</b> The County shall monitor the projected impacts of climate change and natural disasters to make adaptive improvements and upgrades to public facilities and services. (SO)		■	
<b>PFS-1.3</b>	<b>Location of New Essential Public Facilities</b> The County shall review plans for constructing new essential public facility, such as a hospital, health care facility, emergency shelter, emergency command center, or emergency communications facility, so that these facilities are located outside of at-risk areas whenever feasible. If such a location is infeasible, then the County shall require the use of construction methods and site design features to minimize potential damage to these facilities. (RDR, SO)		■	
<b>PFS-1.10</b>	<b>Efficient County Operation and Maintenance</b> The County shall operate and maintain County facilities in an efficient manner that meets community needs while conserving financial and natural resources. (SO)			■
<b>PFS-2.1</b>	<b>Sustainable Plans and Operations</b> The County shall encourage energy efficiency, greenhouse gas reduction features, and resiliency planning into County facility and service plans and operations. (PSP, SO)			■
<b>PFS-2.2</b>	<b>Sustainable Community Facility Design</b> The County shall encourage the incorporation of sustainable design features in community facilities to reduce energy demand and environmental impacts, such as solar reflective roofing, permeable pavement, and incorporation of shade trees. (SO, IGC)			■
<b>PFS-2.3</b>	<b>Energy Efficient Facility Construction, Purchases, Leases, Retrofits, and Expansions</b> The County shall prioritize energy efficiency and water conservation as key design features when constructing, purchasing, leasing, retrofitting or expanding County facilities. (SO)			■
<b>PFS-2.4</b>	<b>Recycling Receptacles and Biodegradable/Recycled-Materials Products</b> The County shall provide recycling and composting receptacles and use of biodegradable or recycled-material products at County facilities and events, where feasible. (SO)	■		



Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<b>PFS-2.5 County Employee Trip Reduction</b> The County shall encourage its employees to reduce the number and distance of single-occupancy vehicle work trips. (SO)	■		
<b>PFS-2.6 County Alternative Fuel Vehicle Purchases</b> The County shall review market-available technologies for alternative fuel vehicles and prioritize purchase of vehicles to reduce greenhouse gas emissions where economically feasible. (SO)	■		
<b>PFS-2.8 Electric Vehicle Charging Station Infrastructure</b> The County shall include electrical vehicle charging station infrastructure in new County-initiated facility construction to the extent feasible. The County shall also look for opportunities to install EV charging stations as part of any major renovation, retrofit or expansion of County facilities. (SO)	■		
<b>PFS-4.4 Groundwater Resource Protection</b> The County shall encourage wastewater treatment facilities to provide the maximum feasible protection and enhancement of groundwater resources. (SO, IGC)		■	
<b>PFS-4.6 Reclaimed Water</b> The County shall encourage public wastewater system operators to upgrade existing wastewater treatment systems to reclaim water suitable for reuse for landscaping, irrigation, and groundwater recharge. (SO, IGC)		■	
<b>PFS-5.4 Food Waste Reduction</b> The County shall continue to provide educational and informational materials to restaurants, grocery stores, and other food providers, as part of food facility inspections, to support donation of safe, unused food to non-profit service agencies.	■		
<b>PFS-5.5 Agricultural Waste Reuse</b> The County shall support the beneficial reuse of agricultural wastes for activities such as composting and energy generation. (RDR, SO)			■
<b>PFS-5.6 Value-Added Alternatives to Waste Disposal</b> The County shall promote value-added alternatives to solid waste management, such as compost, energy, biochar, and wood products to avoid open burning of agricultural biomass wastes. (SO, PI)	■		

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>PFS-6.3 Climate Change Impacts on Flood Control and Drainage Facilities - Capacity</b>                      The County shall monitor projected climate change impacts, and coordinate with local, regional, state, and federal agencies to identify existing and potential projected impacts and develop strategies to maintain and improve flood control facilities accordingly. (SO, IGC)</p>		■	
<p><b>PFS-6.4 Climate Change Impacts on Flood Control and Drainage Facilities - Retention</b>                      The County shall coordinate with local, regional, state, and federal agencies to identify existing and potential infrastructure improvements to increase water retention to respond to drought conditions. (SO, IGC)</p>		■	
<p><b>PFS-7.2 Reduce Transmission Facility Fire Hazard Risk</b>                      The County shall work with utility companies to modernize and upgrade transmission lines and associated equipment to reduce the risk of fire in areas with a high wildfire hazard risk. (JP)</p>		■	
<p><b>PFS-7.6 Smart Grid Development</b>                      The County shall work with utility providers to implement smart grid technologies as part of new developments and infrastructure projects. (JP)</p>			■
<p><b>PFS-12.4 Consistent Fire Protection Standards for New Development</b>                      The County, in coordination with local water agencies and the Fire Protection District, shall require new discretionary development to comply with applicable standards for fire flows and fire protection. (RDR, IGC)</p>			■
<p><b>PFS-A Infrastructure Improvements and Funding</b>                      The County shall prepare, adopt, and periodically update capital improvement programs for all County-owned and operated facilities and services to maintain adequate levels of service and consistency with the General Plan.</p>			■
<p><b>PFS-C Sea Level Impacts Monitoring</b>                      The County shall conduct, and periodically update, Climate Change Impacts Monitoring reports to map locations of communication, energy, public service, transportation facilities, and infrastructure that are vulnerable to rising sea levels and coastal flooding.</p>		■	

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>PFS-D Sea Level Adaptation Response</b> Based on findings from the Climate Change Impacts Monitoring reports, in cases where existing County facilities are found to be vulnerable to sea-level rise or coastal flooding, the County shall identify funding and create an action plan to protect, accommodate, or manage the retreat of County facilities to areas of higher elevation or reduced flood exposure. For facilities operated by other entities, the County shall work with these entities create an action plan to protect, to protect, accommodate, or manage the retreat of their facilities to areas of higher elevation or reduced flood exposure.</p>		■	
<p><b>PFS-E County Purchasing Policy</b> The County shall prioritize the procurement of products made from recycled materials (e.g., office products and equipment, recycled asphalt use in roads and bike paths) and for reusing or sharing equipment/resources, when feasible.</p>	■		
<p><b>PFS-F Trip Reduction for County Staff</b> The County shall provide support for the following trip-reduction methods for County staff members:</p> <ul style="list-style-type: none"> <li>■ carpooling/vanpooling,</li> <li>■ active transportation options (e.g., pedestrian or biking),</li> <li>■ use of electric or alternative energy vehicles, and</li> <li>■ public transit use.</li> </ul> <p>These will be accomplished through incentives, such as dedicated parking areas, electric vehicle (EV) charging stations at County facilities, carpool/vanpool coordination, and flexible work shifts.</p>	■		
<p><b>PFS-G Local Agency Management Program</b> The County shall review and update the Local Agency Management Program plan every five years consistent with the State Water Resources Control Board Onsite Wastewater Treatment Systems Policy.</p>			■
<p><b>PFS-J Public Education of Onsite Wastewater Treatment Systems Care</b> The County shall promote and support programs to educate homeowners on the care and maintenance of private onsite wastewater treatment systems and environmental implications of improper maintenance.</p>			■

Policy/Program		GHG Reduction Measure	Climate Adaptation Measure	Both
<b>PFS-K</b>	<p><b>Coordination on Large Onsite Wastewater Treatment Systems Repairs</b></p> <p>The County shall coordinate with the Los Angeles Regional Water Quality Control Board to address compliance and repair issues for large onsite wastewater treatment systems (over 5,000 gallons) and package treatment systems.</p>			■
<b>PFS-L</b>	<p><b>Solid Waste Reduction</b></p> <p>The County shall continue to support and promote programs focused on solid waste prevention, reduction, recycling, and composting efforts, including food waste reduction in cases where consumable food can be redistributed rather than disposed.</p>	■		
<b>PFS-R</b>	<p><b>Biogas Control Systems</b></p> <p>The County shall review and update regulations to allow the development of appropriate biogas facilities near the source of organic waste materials and develop a program to coordinate public-private local investment in biogas control systems to encourage their development.</p>			
<b>PFS-S</b>	<p><b>Organic Waste Recycling at County Facilities and Events</b></p> <p>The County shall evaluate the feasibility of establishing organic waste recycling programs at County facilities and County-sponsored events.</p>	■		
<b>6. CONSERVATION AND OPEN SPACE ELEMENT</b>				
<b>COS-1.13</b>	<p><b>Partnerships for Protection of Natural and Biological Resources</b></p> <p>The County shall continue to work in partnership with agencies, organizations, and entities responsible for the protection, management, and enhancement of the county's biological resources. (IGC)</p>			■
<b>COS-1.15</b>	<p><b>Countywide Tree Planting</b></p> <p>The County shall establish and support a countywide target for the County, cities in Ventura County, agencies, organizations, businesses, and citizens to plant two million trees throughout the county by 2040. (SO, JP, IGC)</p>		■	
<b>COS-2.2</b>	<p><b>Beach Nourishment</b></p> <p>The County shall support activities that trap or add sand through beach nourishment, dune restoration, and other adaptation strategies to enhance or create beaches in areas susceptible to sea-level rise and coastal flooding. (MPSP)</p>		■	

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>COS-2.10 Saltwater Intrusion</b>                      The County shall work with Federal, State, and local jurisdictions, agencies, and organizations to monitor saltwater intrusion and take proactive steps to reduce intrusion, including:</p> <ul style="list-style-type: none"> <li>■ working to maintain and restore coastal wetlands buffers;</li> <li>■ enhancing groundwater management to prevent excessive pumping in order to restore groundwater levels needed to reduce saltwater intrusion; and</li> <li>■ implementing mitigation measures to prevent saltwater intrusion into estuaries and groundwater basins including, but not limited to, implementation of reactive barriers and use of pumps to divert saltwater.</li> </ul> <p>(PSR, IGC, JP)</p>		■	
<p><b>COS-3.2 Tree Canopy</b>                      The County shall encourage the planting of trees and the protection of existing urban forests and native woodlands, savannahs, and tree canopy throughout the county, including along State or County designated scenic roadways and in residential and commercial zones throughout the county, especially those located within designated disadvantaged communities. (MPSP, RDR)</p>			■
<p><b>COS-3.3 Utility Undergrounding Priority</b>                      The County shall give overhead utility undergrounding within high fire hazard areas and Scenic Resource Areas first priority when allocating County Utility Undergrounding Funds. (MPSP, FB)</p>		■	
<p><b>COS-5.3 Soil Productivity</b>                      The County shall encourage landowners to participate in voluntary programs that reduce soil erosion and increase soil productivity. To this end, the County shall promote coordination between the Natural Resources Conservation Service, Ventura County Resource Conservation District, University of California Cooperative Extension, and other similar agencies and organizations. (RDR)</p>	■		
<p><b>COS-7.2 Oil Well Distance Criteria</b>                      The County shall require new discretionary oil wells to be located a minimum of 1,500 feet from residential dwellings and 2,500 from any school. (RDR)</p>	■		

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>COS-7.4 Electrically-Powered Equipment for Oil and Gas Exploration and Production</b>                      The County shall require discretionary development for oil and gas exploration and production to use electrically-powered equipment from 100 percent renewable sources and cogeneration, where feasible, to reduce air pollution and greenhouse gas emissions from internal combustion engines and equipment. (RDR)</p>	■		
<p><b>COS-7.7 Conveyance for Oil and Produced Water</b>                      The County shall require new discretionary oil wells to use pipelines to convey oil and produced water; oil and produced water shall not be trucked. (RDR)</p>	■		
<p><b>COS-8.1 Reduce Reliance on Fossil Fuels</b>                      The County shall promote the development and use of renewable energy resources (e.g., solar, thermal, wind, tidal, bioenergy, hydroelectricity) to reduce dependency on petroleum-based energy sources. (IGC, RDR)</p>	■		
<p><b>COS-8.2 Incentives for Energy Efficiency</b>                      The County shall encourage the State, community choice aggregation programs, and energy utility companies to provide programs, rebates, and incentives for energy efficiency installation and retrofit projects. (IGC)</p>	■		
<p><b>COS-8.3 Coordinate Climate Action Plan with Cities and Organizations</b>                      The County shall facilitate the coordination of its Climate Action Plan implementation and maintenance with the cities in the county, the Air Pollution Control District, and other organizations to promote countywide collaboration on addressing climate change. (SO, IGC)</p>			■
<p><b>COS-8.4 Clean Power Alliance</b>                      The County, as a signatory to a legal entity created under a Joint Powers Authority with neighboring communities, shall continue to serve as an active member of the Clean Power Alliance or similar organization providing local customer access to electricity generated from low carbon renewable energy sources in excess of State requirements. (SO, IGC)</p>	■		
<p><b>COS-8.5 Decarbonize Communitywide Electricity Supplies</b>                      The County shall work with utility providers to offer residents options to purchase and use renewable energy resources. (SO, IGC, JP)</p>	■		
<p><b>COS-8.6 Zero Net Energy and Zero Net Carbon Buildings</b>                      The County shall support the transition to zero net energy and zero net carbon buildings, including electrification of new buildings. (RDR)</p>			■



Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>COS-8.7 Sustainable Building Practices</b>                      The County shall promote sustainable building practices that incorporate a “whole systems” approach for design and construction that consumes less energy, water, and other non-renewable resources, such as by facilitating passive ventilation and effective use of daylight. (RDR)</p>			■
<p><b>COS-8.8 Renewable Energy Features in Discretionary Development</b>                      The County shall encourage the integration of features that support the generation, transmission, efficient use, and storage of renewable energy sources in discretionary development (RDR)</p>			■
<p><b>COS-8.9 Urban Tree Canopy Improvements for Energy Conservation</b>                      The County shall encourage discretionary development to include the planting of shade trees on each property and within parking areas to reduce radiation heat production. (RDR)</p>			■
<p><b>COS-8.10 Battery Energy Storage Systems</b>                      The County shall encourage battery energy storage systems as an option for optimizing the management of electricity generated by renewable resources. (RDR)</p>			■
<p><b>COS-9.1 Open Space Preservation</b>                      The County shall preserve natural open space resources through:</p> <ul style="list-style-type: none"> <li>■ the concentration of development in Urban Areas and Existing Communities;</li> <li>■ use of cluster or compact development techniques in discretionary development adjacent to natural open space resources;</li> <li>■ maintaining large lot sizes in agricultural areas, rural and open space areas;</li> <li>■ discouraging conversion of lands currently used for agricultural production or grazing;</li> <li>■ limiting development in areas constrained by natural hazards; and</li> <li>■ encouraging agricultural and ranching interests to maintain natural habitat in open space areas where the terrain or soil is not conducive to agricultural production or grazing.</li> </ul> <p>(RDR)</p>			■
<p><b>COS-9.3 Open Space Preservation</b>                      The County shall place a high priority on preserving open space lands for recreation, habitat protection, wildlife movement, flood hazard management, public safety, water resource protection, and overall community benefit. (PSP)</p>			■

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>COS-10.1 Greenhouse Gas (GHG) Reduction Strategy</b>                      The County shall maintain and refer to the General Plan and its integrated greenhouse gas (GHG) Reduction Strategy as the County’s comprehensive plan for reducing community-wide GHG emissions in the unincorporated County. (RDR)</p>	■		
<p><b>COS-10.2 Community Greenhouse Gas Emissions Reduction Target for 2030</b>                      The County shall work toward achieving a community-wide GHG emissions reduction target of 41 percent below 2015 levels by 2030. (RDR)</p>	■		
<p><b>COS-10.3 Community Greenhouse Gas Emissions Reduction Goals for 2040 and 2050</b>                      The County shall work towards achieving longer-term, post-2030 community-wide GHG emissions reduction goals, as follows:</p> <ul style="list-style-type: none"> <li>■ 61 percent below 2015 levels by 2040, and</li> <li>■ 80 percent below 2015 levels by 2050.</li> </ul> (RDR)	■		
<p><b>COS-10.4 Greenhouse Gas Reductions in Existing and New Development</b>                      The County shall reduce GHG emissions in both existing and new development through a combination of measures included in the GHG Strategy, which includes new and modified regulations, financing and incentive-based programs, community outreach and education programs, partnerships with local or regional agencies, and other related actions. (RDR)</p>	■		
<p><b>COS-C Update Tree Protection Ordinance</b>                      The County shall update existing Tree Protection Regulations in the Non-Coastal Zoning Ordinance to further enhance conservation of our urban forests and the preservation of the County’s oak woodland resources. Updates shall include incorporation of Board-adopted recommendations from the Ventura County Oak Woodlands Management Plan (2007), which includes tree replacement offsets for ministerial development projects that remove protected trees. The County shall also re-evaluate and modify, if necessary, mitigation ratios for tree removal and oak woodland impacts for discretionary development projects, evaluate existing protections for invasive, non-native trees and consider the degree to which they provide habitat for a species during critical life stages (e.g., colonial roost sites, breeding sites, etc.). In addition, the evaluation shall also include anticipated effects of climate change on the urban forest environment.</p>			■

Policy/Program		GHG Reduction Measure	Climate Adaptation Measure	Both
<b>COS-H</b>	<b>County Tree Planting Program</b> The County shall plant at least one thousand trees annually.			■
<b>COS-I</b>	<b>Grants for Climate Change Adaptation Activities</b> The County shall apply for grants through the California Coastal Commission and other organizations for beach nourishment, dune restoration, and other adaptation activities to improve the resilience of county beaches to sea-level rise and coastal flooding.		■	
<b>COS-M</b>	<b>Oil and Gas Tax</b> The County shall evaluate the feasibility of establishing a local tax on all oil and gas operations located in the unincorporated county. ]	■		
<b>COS-N</b>	<b>Sustainable Building, Siting, and Landscaping Practice Guidelines</b> The County shall prepare sustainable building, siting, and landscaping practice guidelines that promote a whole systems approach to building designs and construction techniques that reduce consumption of non-renewable resources such as oil, gas and water and promote renewable energy use.			■
<b>COS-O</b>	<b>Assessment of Land Near Electrical Transmission and Distribution Lines</b> The County shall conduct a study and prepare a publicly available assessment of suitable undeveloped lands near electrical transmission and distribution lines that serve as priority areas for the development of utility-scale solar energy generation and storage projects. If suitable locations are identified, the County shall establish a new zone, if necessary, called a Renewable Energy Priority Zone, for these sites in the County’s Coastal and Non-Coastal Zoning Ordinances.			■
<b>COS-P</b>	<b>Study to Demonstrate Energy and Greenhouse Gas (GHG) Savings</b> The County shall conduct a study that demonstrates the energy and greenhouse gas (GHG) savings of the options identified in Implementation Program COS-R using modeled building prototypes. To satisfy state regulatory requirements for Energy Reach Code adoption, the study shall also demonstrate long-term cost savings of the options through a life-cycle cost analysis that considers the initial costs of efficiency improvements offset by utility bill cost savings and other relevant factors.	■		
<b>COS-Q</b>	<b>Incentives for Development of Renewable Energy Projects</b> To incentivize the development of the Renewable Energy projects, the County shall consider waiving permit fees for renewable energy generation or storage projects.			■

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>COS-R Performance-Based Building Code for Green Building</b>                      The County shall maintain and update as needed the Building Code to establish performance-based standards that incentivize green building techniques.</p>			■
<p><b>COS-S Building Code Update</b>                      The County shall update the Building Code to include a mandatory Energy Reach Code.</p>			■
<p><b>COS-T Energy Consumption Performance</b>                      The County shall continue to review its energy consumption performance and implement programs designed to increase energy efficiency in County-owned buildings, including, but not limited to:</p> <ul style="list-style-type: none"> <li>■ reduced operating hours for heating, ventilating and lighting systems,</li> <li>■ installation of weather stripping on all openable doors and windows,</li> <li>■ development of energy audit and energy management programs,</li> <li>■ implementation of operation and maintenance programs which contribute to energy conservation,</li> <li>■ develop energy audits and energy management programs for all County-owned facilities,</li> <li>■ develop a plan to re-invest utility company rebates and utility savings into a long-range funding program for on-going conservation projects,</li> <li>■ implement operational and maintenance programs which contribute to energy conservation,</li> <li>■ investigate and implement new energy technologies such as solar and fuel cells,</li> <li>■ install energy management systems in all County-owned facilities to control air conditioning and lighting systems where beneficial,</li> <li>■ install ceiling, wall, and roof insulation whenever feasible,</li> <li>■ install plumbing flow restrictors in toilets, lavatories and showers, and</li> <li>■ provide energy conservation training and literature to all County agencies.</li> </ul>			■

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>COS-U Solar Canopies in Non-Residential Projects</b>                      The County shall amend the County’s Coastal and Non-Coastal Zoning Ordinances to require parking lots for new non-residential construction projects, with floor area of greater than 50,000 square feet, to include solar canopies.</p>			■
<p><b>COS-V Improve Energy Conservation Awareness</b>                      The County shall encourage community members to conserve energy and reduce greenhouse gas emissions and increase awareness about energy efficiency and conservation and climate change and adaptation, to conduct targeted outreach to homeowners and contractors to encourage installation of electric appliances upon routine replacement of natural gas appliances and heaters and provide information regarding financial incentives.</p>	■		
<p><b>COS-W Energy Efficiency and Conservation Program</b>                      The County shall develop a behavior change program for energy efficiency and conservation. This program would provide energy literacy training for low-income customers on buying energy-efficient products or using energy more efficiently; develop and offer digital applications offering real-time energy use information to residents and businesses; offer anonymized data on community energy use for residents to compare performance; and provide rewards or rebates for improved energy conservation.</p>	■		
<p><b>COS-X Greenhouse Gas (GHG) Strategy Implementation</b>                      The County shall implement the General Plan GHG Strategy through specific policies, programs, and implementing actions integrated throughout the General Plan and summarized in Appendix B.</p>	■		
<p><b>COS-Y Greenhouse Gas (GHG) Strategy Monitoring</b>                      The County shall implement, under the overall direction of the CEO and with support of RMA, PWA, GSA, AGC, FD, and other departments as appropriate, the GHG Strategy through specific policies, programs, and implementing actions integrated throughout the General Plan and summarized in Appendix B, Climate Action Plan, as well as other appropriate actions adopted from time to time. The greenhouse gas reduction strategy shall consist of a comprehensive program to systematically reduce greenhouse gas emissions to meet adopted emission reduction targets and deadlines from all sectors – transportation, buildings, solid waste, stationary sources, agriculture, water and wastewater, and off-road equipment.</p>	■		

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>COS-Z Public Reporting on Greenhouse Gas (GHG) Strategy Progress</b>                      The County shall prepare public reports on the results of GHG Strategy implementation and monitoring and present these reports to the Board of Supervisors. The first report shall be submitted to the Board of Supervisors two years after the approval of the General Plan, after which the Board of Supervisors will determine the appropriate reporting interval. The County shall also present a more detailed progress report to the Board of Supervisors, including results of the latest GHG inventory update, every five years.</p>	■		
<p><b>COS-AA Greenhouse Gas (GHG) Inventory Updates</b>                      The County shall update the County’s GHG emissions inventory at least every five years.</p>	■		
<p><b>COS-BB Greenhouse Gas (GHG) Strategy Amendments</b>                      The County may amend the GHG Strategy to ensure that the County is on track to achieve its 2030 target and making substantial progress towards achieving its longer-term, post-2030 goals.                      ]</p>	■		

**COS-CC**

**Climate Emergency Council**



The County shall establish a Climate Emergency Council (CEC) by a resolution of the Board of Supervisors to advise the Board of Supervisors on climate action planning and implementation of the Climate Action Plan (CAP) goals, policies, and programs. The County agency or department responsible for implementation of this program shall draft, administer, and maintain the CEC bylaws. Initial establishment of the CEC and its bylaws shall include the following terms, duties, and membership composition:

- Term of each member is two years. At the conclusion of a term, a CEC member may be re-appointed or re-selected, as applicable, for a consecutive term by the appointing authority.
- Duties of the CEC members include attendance at duly called meetings; review, in advance, of all written material provided in preparation for CEC meetings; serve and participate on committees and/or sub-committees; and contribute to the CEC's advisory recommendations to the Board of Supervisors;
- The officers of the CEC shall be Chairperson and Vice-Chairperson.
- Officers shall be elected annually at regular meeting each year by CEC members. Nomination shall be made from the floor. Election shall be by simple majority.
- Officers shall serve a one-year term. An officer may be re-elected, but no individual shall serve more than three full consecutive terms in the same office. No member shall hold more than one office at a time.
- The Chairperson shall preside at all meetings of the CEC, sign all correspondence, reports, and other materials produced by the CEC, and perform any and all other duties prescribed by the CEC from time to time. The Chairperson may serve as an ex-officio member of all committees.
- The Vice-Chairperson shall represent the Chairperson and/or substitute in performance of the Chairperson during their absence.
- Membership of the CEC shall be comprised of the following:
  - One person representing each Supervisorial District who has demonstrated interest in and knowledge of climate action planning shall be nominated by each of the five members of the Board of Supervisors, and confirmed by a majority of the Board of Supervisors resulting in a total of five Supervisorial District representatives;
  - One resident from each of the designated disadvantaged communities identified in the 2040 General Plan who has demonstrated an understanding of their community's needs as well as an interest in and knowledge of climate



Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p>action planning shall be appointed by a majority of the Board of Supervisors; and</p> <ul style="list-style-type: none"> <li>▪ Two additional at-large members who have demonstrated special interest, competence, experience, or knowledge in climate action planning shall be selected by a majority of the CEC members.</li> <li>▪ Each member is entitled to one vote on each matter submitted to a vote of the CEC.</li> </ul>			
<p><b>COS-DD Budget and Staffing Plan for CAP Implementation</b>                      The CEO shall, within six months from the adoption of the General Plan Update and Climate Action Plan, present to the Board of Supervisors a proposed budget and staffing plan (including qualified technical consultants) to implement the Climate Action Plan, and shall update the budget and staffing plan each year.</p>			■
<b>7. HAZARDS AND SAFETY ELEMENT</b>			
<p><b>HAZ-1.1 Fire Prevention Design and Practices</b>                      The County shall continue to require development to incorporate design measures that enhance fire protection in areas of high fire risk. This shall include but is not limited to incorporation of fire-resistant structural design, use of fire-resistant landscaping, and fuel modification around the perimeter of structures. (RDR, PI)</p>		■	
<p><b>HAZ 1.2 Defensible Space Clear Zones</b>                      The County shall require adherence to defensible space standards, or vegetation “clear zones,” for all existing and new structures in areas that are designated as Hazardous Fire Areas by the Ventura County Fire Protection District and High Fire Hazard Severity Zones by the California Department of Forestry and Fire Protection. (IGC, PI, RDR)</p>		■	
<p><b>HAZ-1.3 Controlled Burns and Other Fire Prevention Measures</b>                      The County shall continue to recognize the role of fire in local ecosystems by supporting controlled burns and other fire prevention measures. (IGC)</p>		■	

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>HAZ-1.4 Development in High Fire Hazard Severity Zones and Hazardous Fire Areas</b>                      The County shall require the recordation of a Notice of Fire Hazard with the County Recorder for all new discretionary entitlements (including subdivisions and land use permits) within areas designated as Hazardous Fire Areas by the Ventura County Fire Department or High Fire Hazard Severity Zones by the California Department of Forestry and Fire Protection (CAL FIRE). (RDR)</p>		■	
<p><b>HAZ-1.6 Wildfire Risk Education</b>                      The County shall continue to develop and distribute educational materials and conduct educational outreach activities informing the public about wildfire risk and protection strategies. (PSR, IGC, PI)</p>		■	
<p><b>HAZ-3.1 Sea Level Rise Planning and Adaptation</b>                      The County shall continue to actively plan for sea level rise by using the best available science to analyze critical vulnerabilities, identify measures to conserve coastal resources, minimize impacts on residents and businesses, maintain public services, and strengthen resiliency. (MPSP)</p>		■	
<p><b>HAZ-3.2 County Infrastructure Projects and Sea Level Rise</b>                      County-initiated infrastructure projects sited along or seaward of Highway 101, such as bridges and levees, that will provide 100 years or more of service, shall be planned with the potential to be easily modified to accommodate 100-years of projected sea level rise in accordance with the H++ extreme risk aversion sea level rise scenario. (PSR, IGC)</p>		■	
<p><b>HAZ-3.3 Sea Level Rise Educational Outreach</b>                      To the extent feasible, the County shall incorporate education elements into coastal adaptation projects to inform the public about the risks of sea level rise and options for adaptation. (RDR, SO, JP)</p>		■	
<p><b>HAZ-10.1 Air Pollutant Reduction</b>                      The County shall strive to reduce air pollutants from stationary and mobile sources to protect human health and welfare, focusing efforts on shifting patterns and practices that contribute to the areas with the highest pollution exposures and health impacts. (MPSP, RDR, SO, IGC, PI, JP)</p>	■		

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>HAZ-10.5 Air Pollution Impact Mitigation Measures for Discretionary Development</b>                      The County shall work with applicants for discretionary development projects to incorporate bike facilities, solar water heating, solar space heating, incorporation of electric appliances and equipment, the use of zero and/or near zero emission vehicles and other measures to reduce air pollution impacts and reduce greenhouse gas (GHG) emissions. (RDR)</p>	■		
<p><b>HAZ-10.6 Transportation Control Measures Programs</b>                      The County shall continue to work with the Ventura County Air Pollution Control District (APCD) and Ventura County Transportation Commission (VCTC) to develop and implement Transportation Control Measures (TCM) programs consistent with the APCD’s Air Quality Management Program (AQMP) to facilitate public transit and alternative transportation modes within the county. (IGC, FB)</p>	■		
<p><b>HAZ-10.7 Fuel Efficient County Vehicles</b>                      When purchasing new County vehicles, the County shall give strong preference to fuel efficient vehicles, including the use of zero emission vehicles when feasible. (SO, FB) [</p>	■		
<p><b>HAZ-10.8 Alternative Transportation Modes</b>                      The County shall promote alternative modes of transportation that reduce single-occupancy vehicle (SOV) travel and enhance “last-mile” transportation options to improve air quality. (IGC, JP, PI)</p>	■		
<p><b>HAZ-11.1 Critical Vulnerable Infrastructure</b>                      The County shall identify and protect critical infrastructure locations that are vulnerable to damage from extreme heat. (SO, FB, PSR, IGC)</p>		■	
<p><b>HAZ-11.2 Climate Change-Related Partnerships</b>                      The County shall partner with Southern California Association of Governments (SCAG), utilities, nonprofit organizations and other entities to implement future and ongoing heat-related climate change initiatives. The County’s partnership in ongoing programs and future initiatives could include helping other organizations increase participation in existing programs through education and promotion, and by using and integrating them in County programs and activities, where feasible. (JP) ]</p>		■	

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>HAZ-11.3 Limit Impacts of Climate Change on Designated Disadvantaged Communities</b>                      The County shall work with public, private, and nonprofit partners to limit impacts of climate change on Designated Disadvantaged Communities by focusing planning efforts and interventions on communities with the highest need and ensuring representatives of these communities have a role in the decision-making process for directing climate change response. (MPSP, SO)</p>		■	
<p><b>HAZ-11.4 Education and Outreach on Effects of Climate Change</b>                      The County shall support efforts of agencies and organizations that provide effective education and outreach to Designated Disadvantaged Communities on the effects of climate change, including increasing temperatures, wildfires, flooding, sea level rise, poor air quality, extreme weather events, disease prevention, and other public health effects. (PI)</p>		■	
<p><b>HAZ-11.5 Outdoor Worker Protection</b>                      The County shall work with State and County health agencies and local organizations to provide educational programs and resources targeted at reducing the impacts of exposure to sun and heat. (ICG, JP, PI)</p>		■	
<p><b>HAZ-11.6 Accessible Cooling Centers</b>                      The County shall expand partnerships with local governments, non-government organizations, churches, and businesses to provide additional cooling centers, particularly in designated disadvantaged communities. (SO, IGC, JP, PI)</p>		■	
<p><b>HAZ-11.7 Green Building Design Features</b>                      The County shall encourage development to include new building designs or retrofits to improve building performance through strategic building design features, including insulation to reduce energy usage, solar-reflective white roofs, solar panels, green roofs (vegetation on roofs), and battery storage for energy. (RDR)</p>			■
<p><b>HAZ-11.8 Undergrounding Utilities</b>                      The County shall work with utility providers to underground overhead power lines (both existing and as part of discretionary development) to increase the resilience of the energy grid and reduce wildfire potential, especially in Existing Communities. (JP)</p>		■	

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>HAZ-11.9 Urban Greening</b>                      The County shall promote the use of urban greening techniques, such as cool pavement technology, parking lot shading, landscaping, and other methods to offset climate change impacts and reduce greenhouse gas emissions for discretionary development and County-initiated projects. (RDR, FB, SO)</p>			■
<p><b>HAZ-11.10 Solar Photovoltaic Carports</b>                      The County shall promote the use of solar photovoltaic carports for discretionary development and County initiated projects. (RDR)</p>			■
<p><b>HAZ-A Develop and Implement Educational Programs for Wildfire Resilience</b>                      In coordination with federal, state, and local partners (e.g., CAL FIRE), the County shall update and maintain educational programs related to such issues as:</p> <ul style="list-style-type: none"> <li>■ Learning how to recognize the first signs of fire and take appropriate action;</li> <li>■ Living with the risks of fire within the wildland/urban interface; and</li> <li>■ Methods of improving the resilience of homes and other structures.</li> </ul>		■	
<p><b>HAZ-B Wildfire Vulnerability Assessment and Mapping</b>                      In collaboration with the federal, state, and local partners (e.g., CAL FIRE), U.S. Forest Service, other agencies involved in wildfire response planning), the County shall update and map new locations that may be vulnerable to wildfire hazards including: damage to electrical, transportation, and communication infrastructure; increased rates of erosion, landslide, and water quality degradation; loss of residential, commercial, and industrial structures; and ecological disturbance.</p>		■	
<p><b>HAZ-F Develop Climate Change Impact Assessment</b>                      The County shall work with the Naval Base Ventura County (NBVC), other jurisdictions, the Oxnard Harbor District (OHD), California Department of Conservation, and the Department of Defense (DOD) to develop a Climate Change Impact Assessment that addresses issues related to climate change and military installations, including sea level rise, wildfires, and stormwater runoff intensities.</p>		■	

Policy/Program		GHG Reduction Measure	Climate Adaptation Measure	Both
<b>HAZ-G</b>	<p><b>Communication Program for Property Owners At-Risk from Sea Level Rise</b></p> <p>The County shall seek funding to prepare and implement a communication program that periodically provides updates to the Board of Supervisors, and other stakeholders regarding impacts from sea level rise and planning decisions to address those impacts.</p>		■	
<b>HAZ-H</b>	<p><b>Sea Level Rise Analysis in Siting and Design of New Development</b></p> <p>The County shall consider the feasibility of amending the Non-Coastal Zoning Ordinance and Coastal Zoning Ordinance to require technical analysis of projected sea level rise exposure for the siting and design of new discretionary development.</p>		■	
<b>HAZ-I</b>	<p><b>Estuaries, Wetlands, and Groundwater Basins Resilience</b></p> <p>The County shall coordinate with regional stakeholders to assess vulnerabilities from the effects of, and opportunities to enhance the resiliency to, sea level rise on estuaries, wetlands, and groundwater basins. This assessment should consider factors that influence the conditions of an estuary or wetland, including sea level rise, rainfall, surface heat budget, wind, and ocean acidification.</p>		■	
<b>HAZ-P</b>	<p><b>Identify Critical Infrastructure Vulnerable to Extreme Heat</b></p> <p>The County shall map locations of county-owned facilities and infrastructure that may be vulnerable to the effects of extreme heat. When necessary, the County will develop a plan to upgrade such infrastructure to be more resilient to periods of high heat, which may include the use of heat-tolerant, reflective, or other resilient types of materials.</p>		■	
<b>HAZ-Q</b>	<p><b>Standards for Solar Photovoltaic (PV) Carports in County Lots</b></p> <p>The County shall establish feasible standards for inclusion of solar PV carports in County-owned parking lots.</p>			■
<b>HAZ-R</b>	<p><b>Adaptation Grant Funding</b></p> <p>The County shall apply for grant funding for climate change adaptation planning efforts from available private and public sources.</p>		■	
<b>HAZ-S</b>	<p><b>Extreme Heat Education and Outreach</b></p> <p>The County shall provide multilingual education and outreach to residents and businesses to publicize the symptoms and dangers of heat-related illness, cooling center locations, how to sign up for the Ready Ventura County VC Alert Program, worker-related protections, and practical methods for preventing heat-related illness during periods of high heat.]</p>		■	

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>HAZ-T Cool Roof Ordinance</b>                      The County shall adopt a Cool Roof Ordinance that exceeds the prescriptive cool roof requirements of the 2019 California Building Energy Efficiency Standard for Residential and Nonresidential Buildings by 25 percent (California Energy Code). Under a Cool Roof Ordinance, the County would require new construction to replace or re-coat 2,500 square feet for nonresidential and 1,250 square feet of roof space for residential buildings, or 72.5 percent or more of roofs.</p>			■
<p><b>HAZ-U Incentive Program for Passive Solar Home Design and Use of Green Roofs and Rooftop Gardens</b>                      The County shall develop incentive programs to promote passive solar home design and the use of green roofs and rooftop gardens when feasible. The program shall include but may not be limited to, permit streamlining and permit fee reductions to apply passive solar home design to future residential buildings.</p>			■
<p><b>HAZ-V Cool Pavements Standards</b>                      The County shall incorporate cool pavement standards into the County’s development standards for County and private development projects, in both new construction and changes to existing on-site paved surface areas (e.g., parking lots, private roadways, other hardscapes).</p>			■
<p><b>HAZ-W Incentive Programs for Solar Photovoltaic (PV) Carports</b>                      The County shall establish incentive programs, which may include rebate programs, permit fee reductions, and tax deductions, to incentivize the installation of solar photovoltaic (PV) carports in existing and future parking lots.</p>			■



Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>HAZ-AA Prohibit Natural Gas Infrastructure in New Residential and New Commercial Development</b></p> <p>To support the proposed reach codes under COS-S, the 2040 General Plan shall include a new program in the Hazards and Safety element that prohibits the installation of new natural gas infrastructure in new residential development through amendments to the Ventura County Building Code. This program shall also be extended to new commercial development including but not limited to offices, retail buildings, and hotels. The County may exempt new commercial development from these requirements upon making findings based on substantial evidence that the use of natural gas is critical to business operations, and that it is not feasible<sup>1</sup> to replace critical appliances or equipment with electricity powered equivalents. This program shall be completed no later than 2023.</p> <p><i>1. "Feasible" means that this mitigation measure shall be applied to future discretionary projects under the 2040 General Plan when and to the extent it is "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors" as determined by the County in the context of such future projects based on substantial evidence. This definition is consistent with the definition of "feasible" set forth in CEQA (Pub. Res. Code, § 21066.1) and the CEQA Guidelines (§ 15164). The County shall be solely responsible for making this feasibility determination in accordance with CEQA.</i></p>	■		
<p><b>HAZ-BB Building Energy Saving Ordinance for Industrial Buildings</b></p> <p>To address GHG emissions associated with electricity consumption by industrial buildings, which were not quantified in the GHG Inventory and Forecasting due to utility privacy rules, the County shall implement a program to adopt a Building Energy Saving Ordinance, no later than 2025, for industrial buildings over 25,000 square feet in size, modeled after the local benchmarking ordinances adopted in other local jurisdictions in California (CEC 2019). The County shall prepare reports showing the energy performance of industrial buildings relative to similar buildings in California and the United States and make these reports available to the public by request. The County, through its building department shall provide recommendations on energy efficiency retrofits and green building strategies to improve energy performance to property owners and tenants subject to the reporting requirements.</p>			

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both	
<b>8. AGRICULTURE ELEMENT</b>				
<b>AG-1.1</b>	<b>Agricultural Land Protection and Preservation</b> The County shall continue to protect and preserve agricultural land by directing growth away from productive agricultural lands into cities, unincorporated urban areas, or existing communities and by supporting the acquisition or voluntary dedication of agriculture conservation easements. (RDR, MPSP)			■
<b>AG-3.2</b>	<b>Integrated Pest Management Practices</b> The County shall encourage and support the use of Integrated Pest Management practices to reduce pesticide use and human health risks. (JP, PI)			■
<b>AG-3.3</b>	<b>Public Education for Agricultural Products and Integrated Pest Management</b> The County shall collaborate with the agricultural community to provide information on Integrated Pest Management and agricultural products and practices in Ventura County. (JP, PI)			■
<b>AG-4.1</b>	<b>Connections to Local Produce</b> The County shall strive to enhance access to and consumption of fresh, local produce by encouraging direct connections between local farmers/ranchers and markets, restaurants, institutions, schools, hospitals, food banks, and other businesses. (JP)	■		
<b>AG-4.3</b>	<b>Technological Innovation</b> The County shall encourage the use of technology that supports agricultural production, while enhancing environmental sustainability and natural resource conservation. (JP)			■
<b>AG-4.4</b>	<b>Pest Management</b> The County shall continue to monitor leading research findings on methods and technologies for reducing harm to the agricultural sector from invasive plants, pests, and diseases and modify and expand agricultural practices when appropriate and feasible. (SO)		■	
<b>AG-5.1</b>	<b>Inorganic Nitrogen Based Fertilizers</b> The County shall encourage farmers to reduce fertilizer application and transition to products that reduce or avoid nitrous oxide (N <sub>2</sub> O) emissions, such as organic composting and enhanced efficiency fertilizers. (MPSP)	■		
<b>AG-5.2</b>	<b>Electric- or Renewable-Powered Agricultural Equipment</b> The County shall encourage and support the transition to electric- or renewable-powered or lower emission agricultural equipment in place of fossil fuel-powered equipment, when feasible. (PI, JP)	■		

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>AG-5.3 Electric- or Renewable- Powered Irrigation Pumps</b>                      The County shall encourage farmers to convert fossil fuel-powered irrigation pumps to systems powered by electric or renewable energy sources, such as solar-power, and encourage electric utilities to eliminate or reduce stand-by charges. (SO)</p>	■		
<p><b>AG-5.4 Alternative Irrigation Techniques</b>                      The County shall encourage farmers to continue and enhance the water-saving irrigation techniques designed to reduce water consumption. (RDR, JP)</p>			■
<p><b>AG-5.5 Carbon Farming Practices</b>                      The County shall encourage and support the efforts of resource conservation districts, farmers, and other stakeholders to expand carbon farming practices, such as reduced tilling, cover-cropping, composting, biochar, and other activities that both reduce greenhouse gas (GHG) emissions and increase carbon sequestration and storage, when feasible. (JP)</p>	■		
<p><b>AG-6.1 Monitor Climate Change Research</b>                      The County shall support and monitor research on the effects of a changing climate on the agricultural industry within Ventura County. (PSR)</p>			■
<p><b>AG-6.2 Crop Resiliency</b>                      The County shall engage the agricultural sector to understand the tolerance of current crop mixes to withstand the impacts of climate change, including increased temperatures, disease, and pests, and explore options to diversify crops. (JP)</p>			■
<p><b>AG-B Regionally-Grown Products Sales Incentives</b>                      The County shall develop a program that encourages sales and distribution of regionally-grown (in Ventura County or neighboring counties of Los Angeles, Santa Barbara, or Kern) produce to local retailers, restaurants, and markets, and encourage chain stores to develop local distribution centers. The program will encourage residents to select locally grown food products for freshness, local economic development benefits, and reduced greenhouse gas (GHG) emissions.</p>	■		
<p><b>AG-C County Procurement</b>                      The County shall develop a program to identify opportunities to continue to provide organic and locally grown foods into cafeteria services, the jail, Ventura County Medical Center, and other County-sponsored services and events that provide food service, to the extent feasible.</p>	■		

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>AG-D Agricultural Tourism Development Standards</b>                      The County shall revise the Non-Coastal Zoning Ordinance to include regulations and development standards for agricultural tourism while protecting both the grower and the public. Ordinance revisions may also include additional development standards for agricultural promotional uses, if necessary.</p>			■
<p><b>AG-E Specialty Farming Education</b>                      The County shall continue to collaborate with and support the UC Cooperative Extension Office on education programs that inform and assist local farmers, ranchers, and agricultural managers in diversifying and establishing expertise in specialty agricultural products.</p>	■		
<p><b>AG-F Enhanced Access to Locally Grown Products</b>                      The County shall conduct a study to identify barriers to local farm stands and take action to remove these barriers, which may include an update to the Non-Coastal Zoning Ordinance, as necessary.</p>			■
<p><b>AG-G Farm-to-Front Door</b>                      The County shall study the feasibility of encouraging “Farm-to-Front Door” business model and its potential benefits to businesses and residents in Ventura County.</p>			■
<p><b>AG-H Nutrient Management Plans</b>                      The County shall continue to collaborate with the UC Cooperative Extension Office and UC Agriculture and Natural Resources to implement Nutrient Management Plans for commonly grown local crops featuring best management practices for nitrous oxide (N<sub>2</sub>O) emission reductions. ]</p>	■		
<p><b>AG-I Fossil Fuel-Powered Equipment Replacement</b>                      The County shall coordinate with the Air Pollution Control District and electric utilities to develop a program to establish a countywide fossil fuel-powered equipment conversion target, track progress on conversions to renewable energy sourced electric powered systems and provide technical assistance to users considering replacement of pumps.</p>	■		
<p><b>AG-J Alternative Fuel Funding for Agricultural Operations</b>                      The County shall coordinate with the Air Pollution Control District to develop a program to identify funding sources or develop financial or regulatory incentives to encourage the switch to electric or alternatively fueled agricultural equipment, when feasible.</p>	■		

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<b>AG-K Water-Saving Irrigation Techniques Program</b> The County shall continue to collaborate with and support the UC Cooperative Extension Office on educational programs on irrigation techniques to maximize water use efficiency, when feasible.			■
<b>AG-L Encourage and Facilitate Carbon Farming</b> The County shall collaborate with University of California Cooperative Extension to encourage and facilitate carbon farming projects, including development of demonstration projects and site-specific carbon farm plans, to guide implementation of carbon farming practices throughout the county, when feasible.	■		
<b>AG-M Research on Effects of Climate Change</b> The County shall research the potential effects of climate change on the county’s existing agricultural industry as well as the resulting challenges and opportunities associated with these changes. Research partners may include the California Climate and Agriculture Network (CalCAN), University of California Cooperative Extension, Ventura County Farm Bureau, and the Agricultural Commissioner’s Office. The research shall address, but may not be limited to, loss of chill hours, increased populations of or new species of pests, higher rates of evapotranspiration, and opportunities created by warmer climate to grow crops that were previously unsuitable based on historic climate conditions.			■
<b>AG-N Subsidies for Resilient Crop Production</b> The County should encourage programs and obtain grants to seek funding to subsidize efforts to breed crops that are resilient to high heat, shade crops and installation of light reflectors, and reduce rates of tilling to promote soil health and combat increased temperatures as recommended by federal, state, and local agencies.			■
<b>9. WATER RESOURCES ELEMENT</b>			
<b>WR-3.1 Non-Potable Water Use</b> The County shall encourage the use of non-potable water, such as tertiary treated wastewater and household graywater, for industrial, agricultural, environmental, and landscaping needs consistent with appropriate regulations. (RDR)			■

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>WR-3.2 Water Use Efficiency for Discretionary Development</b>                      The County shall require the use of water conservation techniques for discretionary development, as appropriate. Such techniques include low-flow plumbing fixtures in new construction that meet or exceed the California Plumbing Code, use of graywater or reclaimed water for landscaping, retention of stormwater runoff for direct use and/or groundwater recharge, and landscape water efficiency standards that meet or exceed the standards in the California Model Water Efficiency Landscape Ordinance.</p>			■
<p><b>WR-3.3 Low-Impact Development</b>                      The County shall require discretionary development to incorporate low impact development design features and best management practices, including integration of stormwater capture facilities, consistent with County’s Stormwater Permit. (RDR)</p>			■
<p><b>WR-3.4 Reduce Potable Water Use</b>                      The County shall strive for efficient use of potable water in County buildings and facilities through conservation measures, and technological advancements. (SO)</p>			■
<p><b>WR-4.1 Groundwater Management</b>                      The County shall work with water suppliers, water users, groundwater management agencies, and groundwater sustainability agencies to implement the Sustainable Groundwater Management Act (SGMA) and manage groundwater resources within the sustainable yield of each basin to ensure that county residents, businesses, agriculture, government, and the environment have reliable, high-quality groundwater to serve existing and planned land uses during prolonged drought years. (IGC, RDR, SO)</p>			■
<p><b>WR-4.3 Groundwater Recharge Projects</b>                      The County shall support groundwater recharge and multi-benefit projects consistent with the Sustainable Groundwater Management Act and the Integrated Regional Water Management Plan to ensure the long-term sustainability of groundwater. (IGC, RDR, SO)</p>			■
<p><b>WR-4.4 In-Stream and Recycled Water Use for Groundwater Recharge</b>                      The County shall encourage the use of in-stream water flow and recycled water for groundwater recharge while balancing the needs of urban and agricultural uses, and healthy ecosystems, including in-stream waterflows needed for endangered species protection. (RDR)</p>			■

Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>WR-6.1 Water for Agricultural Uses</b>                      The County should support the appropriate agencies in their efforts to effectively manage and enhance water quantity and quality to ensure long-term, adequate availability of high quality and economically viable water for agricultural uses, consistent with water use efficiency programs. (IGC)</p>		■	
<p><b>WR-6.2 Agricultural Water Efficiency</b>                      The County should support programs designed to increase agricultural water use efficiency and secure long-term water supplies for agriculture. (PI)</p>			■
<p><b>WR-6.3 Reclaimed Water Use</b>                      The County should encourage the use of reclaimed irrigation water and treated urban wastewater for agricultural irrigation in accordance with federal and state requirements in order to conserve untreated groundwater and potable water supplies. (IGC, RDR, SO)</p>		■	
<p><b>WR-C Regional Collaboration on Water issues and Sustainability</b>                      The County shall continue to provide data and staff resources to support collaboration on climate change and sustainability, and for planning and implementing projects that address local and regional water issues.</p>			■
<p><b>WR-E Well Guidelines Update</b>                      The County shall coordinate with the local groundwater management agencies and local groundwater sustainability agencies to update County of Ventura Ordinance 4468 and related guidelines on the location, construction, and abandonment of water wells, if necessary.</p>		■	
<p><b>WR-F Discretionary Development Review for Adequate Water and Wastewater</b>                      The County shall verify that all discretionary development proposals demonstrate an adequate long-term supply of water, adequate methods for sewage disposal, provide adequate drainage to avoid flooding, prevent erosion, and prevent contamination of local water.</p>		■	
<p><b>WR-G Water Conservation</b>                      The County shall continue to implement ongoing programs to educate County residents on incentives for water conservation features, including drought-tolerant landscaping, removal of turf, graywater, and water-saving plumbing technologies.</p>			■



Policy/Program	GHG Reduction Measure	Climate Adaptation Measure	Both
<p><b>WR-H County Water Efficiency</b>                      Ventura County GSA shall work with County departments and agencies to review water usage and develop recommendations for water saving practices or facility improvements, including turf removal to conserve water.</p>			■
<b>10. ECONOMIC VITALITY ELEMENT</b>			
<p><b>EV-4.4 Renewable Energy Facilities</b>                      The County shall identify appropriate locations to allow for development of renewable energy generation and storage facilities and encourage the development of innovative approaches to renewable energy deployment, including solar power, wind power, wave energy, distributed power systems and micro-grids, and other appropriate renewable sources and storage and distribution systems. (MPSP, JP)</p>			■

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