RIVERSIDE COUNTY
PLANNING DEPARTMENT

9:30 A.M. **DECEMBER 4, 2019**

AGENDA
REGULAR MEETING
RIVERSIDE COUNTY PLANNING COMMISSION
Eastern Municipal Water District – Board Room
2270 Trumble Road, Perris, CA 92570

Planning Commissioners 2019

1st District
Carl Bruce Shaffer

2nd District
Aaron Hake

3rd District
Ruthanne Taylor-Berger

4th District
Bill Sanchez
Chairman

5th District
Eric Kroencke
Vice-Chairman

Assistant TLMA Director
Charissa Leach, P.E.

Legal Counsel
Michelle Clack
Deputy County Counsel

Any person wishing to speak must complete a "SPEAKER IDENTIFICATION FORM" and submit it to the Hearing Secretary. The purpose of the public hearing is to allow interested parties to express their concerns. Please do not repeat information already given. If you have no additional information, but wish to be on record, simply provide your name and address and state that you agree with the previous speaker(s).

Any person wishing to make a presentation that includes printed material, video or another form of electronic media must provide the material to the Project Planner at least 48 hours prior to the meeting.

In compliance with the Americans with Disabilities Act, if you require reasonable accommodations please contact Elizabeth Sarabia, TLMA Commission Secretary, at (951) 955-7436 or e-mail at esarabia@rivco.org. Requests should be made at least 72 hours prior to the scheduled meeting. Alternative formats are available upon request.

CALL TO ORDER:
SALUTE TO THE FLAG – ROLL CALL

1.0 CONSENT CALENDAR: 9:30 a.m. or as soon as possible thereafter (Presentation available upon Commissioners' request)

1.1 **ADOPTION OF THE 2020 PLANNING COMMISSION CALENDAR**

2.0 GENERAL PLAN AMENDMENT INITIATION PROCEEDINGS: 9:30 a.m. or as soon as possible thereafter (Presentation available upon Commissioners' request)

NONE

3.0 PUBLIC HEARING – CONTINUED ITEMS: 9:30 a.m. or as soon as possible thereafter.

NONE

4.0 PUBLIC HEARING – NEW ITEMS: 9:30 a.m. or as soon as possible thereafter

NONE

5.0 PUBLIC MEETING:

5.1 **2019 CLIMATE ACTION PLAN UPDATE**

6.0 WORKSHOPS:

6.1 **ORDINANCE NO. 348 UPDATE**

7.0 ORAL COMMUNICATION ON ANY MATTER NOT ON THE AGENDA

8.0 DIRECTOR'S REPORT

9.0 COMMISSIONERS' COMMENTS

2020 PLANNING COMMISSION CALENDAR

Wednesdays at 9:00 a.m. on the dates and location noted below (unless noted)

Riverside:	**County Administration Center, Board Chambers 1st floor, 4080 Lemon Street**
Desert/Other:	**Location TBD (9:30 a.m.)**
No Meeting:	**Dark**
Holidays:	**Closed**

January

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Review the agenda prior to meeting date to confirm the time and location. The meeting dates, times, and locations are subject to change.

Draft: 10-09-19

2020 Planning Commission Hearing Dates Wednesdays at 9:00 a.m. or as noted	Hearing location
County Administration Center Board Chambers 4080 Lemon Street 1st floor	Riverside
Steve Robbins Administration Building CVWD – Administration Board Room 75515 Hovley Lane East (9:30 a.m.)	Palm Desert
January 15, 2020	Riverside
January 29, 2020	Desert
February 5, 2020	Riverside
February 19, 2020	Riverside
March 4, 2020	Riverside
March 18, 2020	Riverside
April 1, 2020	Riverside
April 22, 2020	Riverside
May 6, 2020	Riverside
May 20, 2020	Desert
June 3, 2020	Riverside
June 17, 2020	Riverside
July 1, 2020	Riverside
July 15, 2020	Riverside
August 5, 2020	Riverside
August 19, 2020	Riverside
September 2, 2020	Riverside
September 23, 2020	Desert
October 7, 2020	Riverside
October 21, 2020	Riverside
November 4, 2020	Riverside
November 18, 2020	Riverside
December 2, 2020	Riverside
December 16, 2020	Riverside

COUNTY OF RIVERSIDE
PLANNING DEPARTMENT
STAFF REPORT

Agenda Item No.

5.1

Area Plan: All
Zoning: All
Supervisorial District: All
Project Planner: Peter Hersh
Planning Commission: December 4, 2019

2019 Climate Action Plan Update
CEQA Compliance: Addendum to General Plan Amendment Environmental Impact Report No. 521
Applicant: County of Riverside

Charissa Leach P.E.
Assistant TLMA Director

COUNTY OF RIVERSIDE PLANNING DEPARTMENT STAFF REPORT

PROJECT DESCRIPTION:

A review and update of the County's Climate Action Plan (CAP) is required to occur by 2020 and every four years thereafter pursuant to General Plan Air Quality Element Policy AQ 18.5 and Environmental Impact Report No. 521 Mitigation Measure No. 4.7.A-N-3. In compliance with the policy and mitigation measure, the proposed 2019 Climate Action Plan update includes revised policies and implementation measures to ensure that the County is on track toward achieving its Greenhouse Gas (GHG) reduction targets. The proposed 2019 CAP update refines the County's efforts to meet post-2020 greenhouse gas (GHG) reduction strategies, specifically for the years 2030 and 2050. The CAP update builds upon the GHG reduction strategies provided in the existing CAP.

2015 CAP AND SUBSEQUENT COUNTY ACTIONS:

Riverside County adopted its CAP along with General Plan Amendment No. 960 (GPA No. 960), and certified the associated Environmental Impact Report No. 521 (EIR No. 521) on December 8, 2015.

GPA No. 960 updated the Air Quality Element of the General Plan to include specific policies that framework the County's GHG Emission Reduction Strategy. This strategy aims to minimize, to the extent feasible, GHG emissions resulting from any County activity or development approval and minimize the contribution of individual actions to cumulative GHG emissions, unless such impacts for future projects are approved subject to an appropriate statement of overriding considerations pursuant to the California Environmental Quality Act (CEQA). Thus, the reduction strategies will eventually attain Riverside County's long-range GHG emission reduction goals as required by State regulations and subsequent case law.

On January 6, 2016, the Sierra Club, the Center for Biological Diversity, and the San Bernardino Audubon Society, collectively filed an action that challenged the County's certification of EIR No. 521 and approval of GPA No. 960 and CAP pursuant to CEQA. A Partial Settlement Agreement (Settlement) dated September 18, 2017, was executed by the County and other parties for Sierra Club, et al. v. County of Riverside, et al (Riverside County Superior Court Case No. RIC 1600159). The County adopted text amendments to the Air Quality Element, EIR No. 521 Mitigation Measures, CAP, and Ordinance No. 348 on July 17, 2018 in accordance to the Settlement Agreement.

On September 18, 2019, the Planning Commission held a public workshop on the CAP update. The Sierra Club, the Center for Biological Diversity, and the San Bernardino Audubon Society as well as the Building Industry Association-Riverside County were notified in writing of the workshop. No testimony from these entities or the general public was provided at the workshop.

LEGISLATION AND GOVERNOR EXECUTIVE ORDER REQUIREMENTS FOR CAP PREPARATION:

The California Legislature passed the California Global Warming Solutions Act of 2006, Assembly Bill 32 (AB 32) in 2006. AB 32 created a multi-year program aimed to reduce GHG emissions in California. AB 32 requires the California Air Resources Board (CARB) to monitor sources of GHG emissions that cause global warming and adopt rules and regulations that would reduce statewide GHG emissions levels. Furthermore, Senate Bill 97 (SB 97), enacted in 2007, amended CEQA to clearly establish that GHG Emissions and effects of GHG emissions are appropriate subjects for CEQA analysis. It directed California Office of Planning and Research to develop revisions to CEQA Guidelines for the mitigation of GHG emissions or the effects of GHG emissions. CEQA Guidelines revisions pursuant to SB 97 became effective in July 2010. SB 97 also established criteria for Climate Action Plans used in the tiering and streamlining of CEQA analysis of GHGs for future development projects.

In 2016, the Legislature then passed Senate Bill (SB) 32. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. This legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide greenhouse gas reduction target of 80% below 1990 levels by 2050.

Pursuant to these legislative and executive order requirements, the 2015 CAP and the proposed update provide for continuous monitoring, periodic review, and implementation of GHG reduction strategies to ensure that Riverside County is meeting the State's and County's GHG Reduction Targets established through AB 32 and the subsequent SB 32, existing and future Executive Orders, existing and future amendments to California Air Resources Board's Climate Change Scoping Plan, and subsequent case laws.

2019 CAP UPDATE

The 2019 CAP update builds upon the GHG reduction programs and measures provided in the 2015 CAP by carrying forward such programs and measures approved with the adoption of the 2015 CAP, revising and updating them, and providing additional ones that will move the County toward compliance with reduction requirements to meet 2030 targets and beyond, specifically to reduce emissions of carbon dioxide, methane, and nitrous oxide, with carbon dioxide accounting for more than 75% of all GHG emissions caused by humans.

This CAP update assesses the previous GHG reduction targets identified in the 2015 CAP and proposes new targets that are consistent with the State policies in order to meet the requirements of SB 32. The State recommends a 15 percent reduction below 2005–2008 baseline levels by 2020, a 49 percent reduction below 2008 levels by 2030, and an 83 percent reduction below 2008 levels by 2050.

Per the CAP update, the County is already in compliance with 2020 reduction targets, and with implementation of the local programs and reduction measures, as well as evolving federal and state policies and programs particularly affecting on-road transportation and energy production, is expecting to meet 2030 reduction targets. Achieving reduction targets for the two decades beyond will require the enhancement of existing technologies and development of new technologies such as effecting SB100 to

produce energy from 100% renewable sources by 2045. Nevertheless, the County has a path to meet its 2050 reduction target.

As noted, the County adopted its first CAP in 2015 which included GHG inventories of community-wide and municipal sources using the baseline data for the year 2008. The 2015 CAP used the GHG reduction target of 15 percent below 2008 levels by 2020. The inventory baseline year 2008, was established as a starting point against which other inventories may be compared and targets may be set, and was the earliest year with a full emissions inventory. As recommended in the AB 32 Scoping Plan, the County had set a target to reduce emissions back to 1990 levels by the year 2020. Based on the County's socio-economic growth projections per the 2015 General Plan Update, this target was calculated as a 15 percent decrease from 2008 levels by 2020 and was determined sufficient for the County to meet the AB 32 target.

The CAP update analyzes GHG emission sources from on-road transportation, agriculture, electricity and natural gas consumption, solid waste processing, water and wastewater production and processing, aviation activity, and off-road sources. The highest emission levels (metric tons of carbon dioxide equivalent) are being produced by on-road transportation and agricultural activity sources with the latter being affected by large areas in cultivation in the unincorporated county.

Table 1, below, provides the GHG emissions for 2017 and the expected increase in emissions through 2020 in the absence of federal, state and local emission reduction programs and measures. When federal and state as well as local policies particularly in the Land Use and Air Quality General Plan Elements are applied, GHG emissions are reduced well below the emissions reduction target for 2020 as noted on the bottom of the third column.

Table 1 2017 and 2020 GHG Emissions Comparison

Source Category	Metric Tons of CO_2e			
	2017	2020 BAU	Reduced 2020 (ABAU)	% Change (2017-2020 ABAU)
Transportation (on-road)	1,766,784	1,999,268	1,835,938	3.9
Agriculture	1,670,954	1,565,873	1,565,873	-6.2
Electricity	712,928	774,289	653,541	-8.3
Natural Gas	475,211	515,845	510,268	7.3
Solid Waste	204,365	223,448	223,448	9.3
Water and Waster	44,606	48,771	41,377	-7.2
Aviation	26,786	26,786	26,786	0.0
Off-Road Sources	3,883	4,024	4,024	3.6
Total	4,905,518	5,158,305	4,861,256	-0.9
Emissions Reduction Target[1]	-	15% below 2008 levels	5,960,997 (Target met)	-

Note: Mass emissions of CO_2e shown in the table are rounded to the nearest whole number. Totals shown may not add up due to rounding.
[1] The reduction target for 2020 is based on a 15% decrease from Riverside County's 2008 emissions inventory.
BAU = Business-As-Usual
ABAU = Adjusted Business-As-Usual
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas

Table 2, below, projects out the increase in GHG emissions for 2030 and 2050. Even with the application of the 2020 state and local policies, the County would not meet reduction targets for 2030 and 2050 without additional local GHG programs and reduction measures. The deficiencies for 2030 and 2050 are noted at the bottom of columns three and six, respectively.

Table 2 Projected 2030 and 2050 GHG Emissions Comparison

Source Category	Metric Tons of CO_2e						
	2017	2030 BAU	2030 ABAU	% Change (2017-2030 ABAU)	2050 BAU	2050 ABAU	% Change (2017-2050 ABAU)
Transportation (on-road)	1,766,784	3,018,767	1,361,200	-22.9	6,882,509	1,174,310	-33.5
Agriculture	1,670,954	1,262,044	1,261,044	-24.5	817,858	817,858	-51.0
Electricity	712,928	1,017,153	466,971	-34.4	1,756,843	480,289	-32.6
Natural Gas	475,211	676,742	652,578	37.3	1,165,761	1,104,421	132.0
Solid Waste	204,365	298,585	298,585	46.1	533,154	533,154	160.8
Water and Waste Water	44,606	65,171	30,413	-31.8	116,370	32,584	-26.9
Aviation	26,786	26,786	26,786	0.0	26,786	26,786	0.0
Off-Road Sources	3,883	4,531	4,531	16.6	5,744	5,744	47.9
Total	4,905,518	6,368,781	4,102,109	-16.3	11,305,026	4,175,146	-14.8
Reduction Target[1]	-	49% below 2008 levels	525,511 (Reductions needed)	-	83% below 2008 levels	2,982,947 (Reductions needed)	-

Note: Mass emissions of CO_2e shown in the table are rounded to the nearest whole number. Totals shown may not add up due to rounding.
[1] The reduction targets for 2030 and 2050 are based on 49% and 83% decreases from Riverside County's 2008 emissions inventory, respectively.
BAU = Business-as-Usual
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas

Chapter 4 of the CAP update discusses the proposed local GHG reduction programs and measures in order to achieve reduction targets for 2030 and 2050. Compliance with General Plan policies in the Land Use, Air Quality, Circulation and Multipurpose Open Space elements which have been applied to meet the 2020 targets would be carried forward for the next three decades, along with state vehicular fuel component and mileage standards These are designated as the "R1" reduction measures in Chapter 4 of the CAP update. In order to meet 2030 and 2050 reduction targets additional measures designated as "R2" are proposed in the areas of transportation (e.g., fleet electrification, alternative transportation options, increased ride sharing), energy efficiency (e.g., non-residential building retrofits, exceeding energy efficiency requirements in new residences), clean energy (e.g., bulk clean energy purchase by jurisdictions), advanced measures (e.g., use of light reflecting surfaces), water efficiency (e.g., increased use of recycled water), and solid waste (e.g., further reduction of landfill waste).

Table 3, below provides the GHG reductions to be achieved for each of the R2 measures. The total reduction to be achieved for 2030 and 2050 from the R2 measures is provided at the bottom of columns one and three, respectively.

Table 3 R2 Measures and Associated Emissions Reduced from 2030 and 2050 Inventories

	2030 MT CO_2e Reductions	2030 % of BAU Emissions	2050 MT CO_2e Reductions	2050 % of BAU Emissions
Transportation				
R2-T1: Alternative Transportation Options	161,932	2.5	368,711	3.3
R2-T2: Adopt and Implement A Bicycle Master Plan to Expand Bike Routes Around the County	2,234	<0.1	5,086	<0.1
R2-T3: Ride-Sharing and Bike-to-Work Programs within Businesses	182,846	2.9	416,332	3.7
R2-T4: Electrify the Fleet	274,370	4.3	624,729	5.5
Transportation Total	621,382	9.8	1,414,858	12.5
Energy				
R2-EE1: Energy Efficiency Training, Education, and Recognition in the Residential Sector	-[1]	-	-	-
R2-EE2: Increase Community Participation in Existing Energy Efficiency Programs	16,845	0.3	28,091	0.2
R2-EE3: Home Energy Evaluations	-[1]	-	-	-
R2-EE4: Residential Home Energy Renovations	11,749	0.2	19,592	0.2
R2-EE5: Exceed Energy Efficiency in New Residential Units	39,408	0.6	318,632	2.8
R2-EE6: Energy Efficiency Training, Education, and Recognition in Commercial Sector	-[1]	-	-	-
R2-EE7: Increase Business Participation in Existing Energy Efficiency Programs	31,878	0.5	67,730	0.6
R2-EE8: Non-Residential Building Energy Audits	-[1]	-	-	-
R2-EE9: Non-Residential Building Retrofits	173,554	2.7	368,747	3.3
R2-EE10: Energy Efficiency Enhancement of Existing and New Infrastructure	-[1]	-	-	-
R2-EE11: Exceed Energy Efficiency in New Commercial Units	33,418	0.5	580,161	5.1
Energy Total	306,851	4.8	1,382,953	12.2
Clean Energy				
R2-CE1: Clean Energy	34,204	0.5	34,204	0.3
R2-CE2: Community Choice Aggregation Program Reductions (If Implemented)	609,022	9.6	609,022	5.4
Clean Energy Total	643,226	10.1	643,226	5.7
Advanced Measures				
R2-L1: Tree Planting for Shading and Energy Saving	13	<0.1	22	<0.1
R2-L2: Light-Reflecting Surfaces for Energy Saving	1,845	<0.1	3,294	<0.1
Advanced Measures Total	13	<0.1	22	<0.1
Water Efficiency				
R2-W1: Water Efficiency through Enhanced Implementation of Senate Bill X7-7	5,666	0.1	10,114	0.1
R2-W2: Exceed Water Efficiency Standards	116	<0.1	206	<0.1
Water Efficiency Total	5,781	0.1	10,320	0.1
Solid Waste				
R2-W1: Reduce Waste to Landfills	88,362	1.4	157,742	1.4
Solid Waste Total	88,362	1.4	157,742	1.4
Total Reductions	1,667,460	26.2	3,612,416	32.0

[1] Supportive measure. No GHG reductions were calculated.
BAU = business-as-usual
MT CO_2e = metric ton carbon dioxide equivalent

As noted in Table 1, at the bottom of column three, the 2020 reduction target is currently being met with the County doing better than the 2020 reduction target. When the above total reductions in columns one and three of Table 3 are applied to the emissions expected for 2030 and 2050 (top line of the fourth and fifth column on Table 4, below) reduction targets will also be met, and exceeded for 2030 and 2050 as noted on the bottom line of columns four and five.

Table 4 Community-Wide Emissions and Targets Comparison

	2008 MT CO_2e	2017 MT CO_2e	2020 MT CO_2e	2030 MT CO_2e	2050 MT CO_2e
BAU Emissions	7,012,938	4,905,518	5,158,305	6,368,781	11,305,026
Reduction Target	--	--	5,960,997	3,576,598	1,192,199
State and Federal Reductions	--	--	297,049	2,266,672	7,129,879
Local Measures Reductions	--	--	--	1,667,460	3,612,416
Total Adjusted Emissions	--	--	4,861,256	2,434,649	562,730
Additional Reductions Needed	--	--	Target Met	Target Met	Target Met

BAU = Business-as-Usual
MT CO_2e = metric tons of carbon dioxide equivalent

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) COMPLIANCE

The 2019 CAP updates the previous GHG reduction targets identified in the 2015 CAP (i.e., Approved Project) in accordance with State policies in order to meet the requirements of SB 32. In 2015, the County completed a comprehensive update of its General Plan and certified an Environmental Impact Report No. 521 (2015 General Plan Amendment EIR), State Clearinghouse (SCH) No. 200904105. The County's General Plan update included a Sustainability and Global Environmental Stewardship vision culminating in the 2015 County of Riverside Climate Action Plan (2015 CAP); this is referred to as the Approved Project. The 2019 CAP Update builds upon the countywide GHG reduction measures adopted under the 2015 CAP and proposes new and enhanced measures in order to achieve the updated reduction targets established pursuant to SB 32.

As an update to the 2015 CAP, the 2019 CAP Update constitutes a subsequent action to the 2015 CAP which as noted above is the Approved Project. Prior to approval of subsequent actions that constitute a "project" under the California Environmental Quality Act (CEQA), such as the 2019 CAP Update, the County is required to determine whether the environmental effects of such actions are within the scope of prior environmental analysis, or whether additional environmental analysis is required. That decision is influenced by whether the subsequent actions result in new significant impacts or increase the severity of previously identified significant impacts.

CEQA requires that the proposed 2019 CAP Update be reviewed to determine the environmental effects that would result if the project is approved and implemented. California Public Resources Code Section 21166 and *CEQA Guidelines* (Title 14 of the California Code of Regulations) Sections 15162 and 15164 set forth the criteria for determining whether a subsequent EIR, subsequent negative declaration, addendum, or no further documentation be prepared in support of further agency action on the project.

In reviewing the requirements of Sections 15162 and 15164, the County has evaluated the potential environmental impacts of the proposed 2019 CAP Update. The County, acting as the Lead Agency, has determined that none of the CEQA conditions listed which would necessitate an EIR or Negative Declaration applies. Therefore, an Addendum to the prior environmental documentation (2015 General Plan Amendment EIR No. 521, SCH No. 200904105) is appropriate for the proposed 2019 CAP Update, and an Addendum is appropriate for compliance with CEQA as described in the *CEQA Guidelines*. An Addendum does not need to be circulated for public review, but rather can be attached to the prior environmental documentation [*CEQA Guidelines* §15164(c)]. Prior to adopting 2019 CAP Update, the County will consider this Addendum together with the previously certified EIR (2015 General Plan Amendment EIR No. 521, SCH No. 200904105) and will make a decision regarding the 2019 CAP Update [*CEQA Guidelines* §15164(d)].

2019 CAP UPDATE ADOPTION PROCESS

The staff recommended action for the Planning Commission is to "receive and file" the CAP update and EIR Addendum. Subsequent to this meeting, the Board of Supervisors will be considering the approval of an Addendum to the previously certified EIR (2015 General Plan Amendment EIR No. 521, SCH No. 200904105) pursuant to *CEQA Guidelines* Sections 15162 and 15164 and Adoption of the 2019 CAP Update.

The role of the Planning Commission for the CAP update is different than its traditional role for zone changes and general plan amendments which is to provide recommendations to the Board of Supervisors after public hearings. No public hearing is required for adoption of the CAP update and no Planning Commission recommendation is required. Nevertheless, staff believes that a Planning Commission public meeting would be a beneficial forum to receive input from the Commission and public which will be transmitted the Board of Supervisors when it considers adoption of the CAP update and approval of the EIR Addendum as a "Policy" agenda item.

Notification of the public meeting was provided in the *Press Enterprise* and *Desert Sun*. Additionally, the Sierra Club, the Center for Biological Diversity, and the San Bernardino Audubon Society who collectively challenged the adoption of the 2015 CAP were notified of the public meeting in writing along with the county office of the Building Industry Association. The 2019 CAP update and EIR addendum have also been posted on the Planning Department web site.

STAFF RECOMMENDATION:

STAFF RECOMMENDS THAT THE PLANNING COMMISSION RECEIVE AND FILE THE 2019 CLIMATE ACTION PLAN UPDATE AND ADDENDUM TO THE RIVERSIDE COUNTY GENERAL PLAN ENVIRONMENTAL IMPACT REPORT NO. 521.

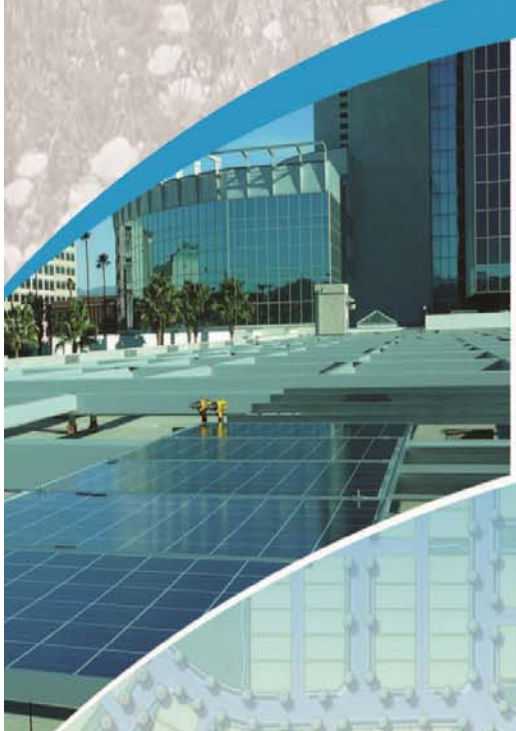
ATTACHMENTS:

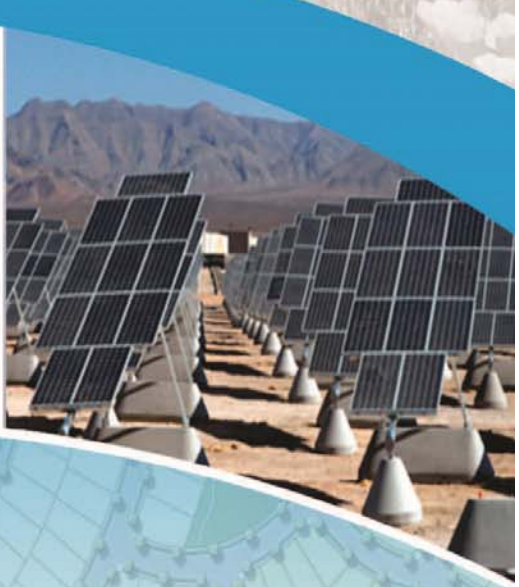
Attachment A: **2019 Climate Action Plan Update**
Attachment B: **Addendum to the Riverside County General Plan Environmental Impact Report No. 521**

County of Riverside

Climate Action Plan

UPDATE





RIVERSIDE COUNTY
PLANNING DEPARTMENT

November 2019

County of Riverside | Transportation and Land Management Agency | Planning Department
4080 Lemon Street, 12th Floor | Riverside, CA 92502-1409 | Phone: (951) 955-3200 | Fax: (951) 955-1811

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ACKNOWLEDGEMENTS

This Riverside County Climate Action Plan Update is the outcome of work contributed by a number of individuals. The County wishes to thank all individuals who contributed to the success of this report, in particular:

- Riverside County, Office of County Counsel, Land Use/Code Enforcement Division, Aaron Gettis, Deputy County Counsel
- Riverside County, Planning Department, Peter Hersh, Planning Consultant
- Riverside County, Planning Department, TLMA-Planning, Phayvanh Nanthavongdouangsy, Principal Planner
- Riverside County, Planning Department, Robert Flores, Urban Regional Planner IV
- Riverside County, Department of Waste Resources, Ryan Ross, Principal Planner
- Riverside County, Economic Development Agency – Aviation Division, Michelle Moore
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ACRONYMS

°C	degrees Celsius
°F	degrees Fahrenheit
AB 32	Assembly Bill 32, The California Global Warming Solutions Act of 2006
ABAU	Adjusted Business-As-Usual
AEP	Association of Environmental Professionals
Anza	Anza Electric Cooperative, Inc.
ARRA	American Recovery & Reinvestment Act
BAU	Business- As- Usual
BTU	British Thermal Unit
C_2F_6	hexafluoroethane
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal EPA	California Environmental Protection Agency
CalGreen	California's Green Building Standard Code
Cal Recycle	California Department of Resources Recycling and Recovery
CAP	Climate Action Plan
CAP Update	Riverside County Climate Action Plan Update
CARB	California Air Resources Board
CAS	California Climate Adaption Strategy
CCA	Community Choice Aggregation
CCAR	California Climate Action Registry
CCAT	California Climate Action Team
CCR	California Code of Regulations
CCTP	Climate Change Technology Program
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CF_4	carbon tetrafluoride
CFC	chlorofluorocarbons
CH_4	methane
CIWMB	California Integrated Waste Management Board
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	County of Riverside
CSI	California Solar Initiative
CTC	California Transportation Commission

CWSRF	Clean Water State Revolving Funds
DPM	diesel particulate matter
EECBG	Energy Efficiency Community Block Grant
eGRID	Emissions and Generation Resource Integrated Database
EMFAC2007	On-Road Emission Factors (published by CARB in 2007)
EO	Executive Order
EVs	all-electric vehicles
GCC	Global Climate Change
GHG	Greenhouse Gas
GMS	Grants Management System
GWh	gigawatt hours
GWP	Global Warming Potential
HFC	hydrofluorocarbons
HFC-134	hydrofluorocarbon 134
HFC-152a	difluoroethane
HFC-23	trifluoromethane
HERO	Home Energy Renovation Opportunity
I-10	Interstate 10
I-15	Interstate 15
I-215	Interstate 215
ICLEI	International Council of Local Environmental Initiatives
IFT	Inventory, Forecasting, and Target-Setting
IID	Imperial Irrigation District
IIP	Interregional Improvement Program
IM	Implementation Measures
IPCC	Intergovernmental Panel on Climate Change
ITS	Intelligent Transportation Systems
LCFS	low carbon fuel standard
LEED	Leadership in Energy and Environmental Design
LEV	low-emission vehicle
LGOP	Local Government Operations Protocol
MBTU	million British Thermal Units
MMT	million metric tons
mpg	miles per gallon
MT	metric tons
MWh	megawatt hours
N_2O	nitrous oxide

NSHP	New Solar Home Program
O_3	ozone
PACE	Property Assessed Clean Energy
PFCs	perfluorocarbons
ppb	parts per billion
ppm	parts per million
RCTC	Riverside County Transportation Commission
RIP	Regional Improvement Program
RIVTAM	Riverside County Traffic Analysis Model
RPS	Renewable Portfolio Standard
RTIP	Regional Transportation Improvement Program
RTPs	Regional Transportation Plans
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCS	Sustainable Communities Strategy
SoCalGas	Southern California Gas Company
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
STIP	State Transportation Improvement Plan
TLMA	Transportation Land Management Agency
URBEMIS 2007	Urban Emissions Model, Version 9.2 (published in June 2007)
USEPA	United States Environmental Protection Agency
VMT	vehicle miles traveled
VOCs	volatile organic compounds
WRCOG	Western Riverside Council of Governments
ZEVs	zero-emission vehicles

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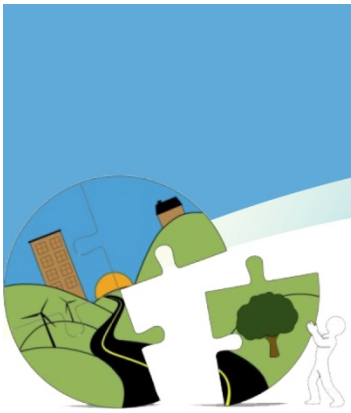

Executive Summary

Riverside County (County) is committed to planning sustainably for the future while ensuring a livable, equitable, and economically vibrant community. Planning sustainably includes acknowledging the local role in climate change and the ways in which the County can mitigate the greenhouse gas (GHG) emissions resulting from the County's growth and development in different economic sectors. By using energy more efficiently, harnessing renewable energy to power buildings, recycling waste, and enhancing access to sustainable transportation modes, Riverside County can keep dollars in its local economy, create new green jobs, and improve the community's health, safety, and welfare in addition to addressing climate change. To that end, Riverside County has implemented a number of sustainability and conservation efforts and seeks to continue those efforts through local planning and partnerships. This Riverside County Climate Action Plan (CAP) Update (CAP Update) integrates the County's past and current efforts with its future efforts to grow and thrive sustainably.

Following the State's adoption of Assembly Bill (AB) 32in 2006,[1] the California Air Resources Board (ARB) developed a climate change scoping plan that included directives for local governments to reduce GHG emissions associated with land use 15 percent below baseline levels by 2020. The County adopted its first Climate Action Plan (CAP) in 2015 that included GHG inventories of community-wide and municipal sources using the baseline data for the year 2008. The 2015 CAP included the GHG reduction target of 15 percent below 2008 levels by 2020. The inventory baseline year 2008, was established as a starting point against which other inventories may be compared and targets may be set, and was the earliest year with a full emissions inventory. As recommended in the AB 32 Scoping Plan, the County had set a target to reduce emissions back to 1990 levels by the year 2020. Based on the County's socio-economic growth projections per the 2015 General Plan Update, this target was calculated as a 15 percent decrease from 2008 levels by 2020 and was determined sufficient for the County to meet the AB 32 target. The most recent inventory has the most relevant data for planning purposes, whereas multiple inventory years provide context and may help identify trends or anomalies in the community emissions.

In 2016 the Sierra Club, Center for Biological Diversity, San Bernardino Audubon Society, and respondents challenged particular aspects of the CAP related to commitments to solar, electric vehicles (EV), energy efficient traffic signals, and future updates of the CAP. In 2017 the County and the Petitioners entered into a Settlement

[1] The passage of AB 32, the California Global Warming Solutions Act of 2006, marked a watershed moment in California's history. By requiring in law a sharp reduction of greenhouse gas (GHG) emissions, California set the stage for its transition to a sustainable, low-carbon future. AB 32 is the first program in the country to take a comprehensive, long-term approach to addressing climate change, and does so in a way that aims to improve the environment and natural resources while maintaining a robust economy (website: https://www.arb.ca.gov/cc/ab32/ab32.htm).

Agreement[2] with commitments to solar, EV chargers, LED traffic signals and periodic updates that enhances the CAP goals and maintains the County's Land Use authority.

Since the 2015 CAP adoption and 2017 Settlement Agreement, new legislation and several policies have been proposed, such as Executive Order (EO) B-30-15[3] and SB 32[4] that extended the goals of AB 32 and set a 2030 goal of reducing emissions to 40 percent below 1990 levels by 2030. Further, the emissions reduction target of 40 percent below 1990 levels by 2030 is an interim-year goal to make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This action keeps California on target to achieve the level of reductions scientists say is necessary to meet the Paris Agreement goals[5]. The ARB was directed to develop a climate change scoping plan update that would provide the regulations and policies to achieve the 2030 reduction target. On December 14, 2017, the ARB finalized California's 2017 Climate Change Scoping Plan, providing quantitative summaries of the regulation needed to achieve the 2030 reduction target. This CAP Update re-evaluates the County's GHG reduction targets and existing reduction strategies. The new goals and supporting measures are proposed to reflect and ensure compliance with changes in the local and State policies and regulations such as SB 32 and California's 2017 Climate Change Scoping Plan. The GHG inventories, based on the most recent data available for the year 2017, are calculated, and the future growth in emissions for the Business-As-Usual (BAU) and Adjusted BAU (ABAU) scenarios (the ABAU scenario takes into account the State policies) for the years 2020, 2030, and 2050 are projected. Sources of emissions include on-road and off-road transportation, agriculture, electricity and natural gas use, landscaping, water and wastewater pumping and treatment, and treatment and decomposition of solid waste.

Per the CAP Update, Riverside County's 2017 GHG emissions totaled 4,905,518 metric tons (MT) of carbon dioxide equivalent (CO_2e) for that year. Under the BAU forecast, emissions will be 5,158,305 MT CO_2e in 2020; 6,368,781 MT CO_2e in 2030; and 11,305,026 MT CO_2e in 2050. These emissions levels are 5.1 percent higher in 2020 than 2017, 29.8 percent higher in 2030 than 2017, and more than double 2017 emissions by 2050. Under the ABAU forecast (which represents State efforts in reducing GHG emissions within the County), emissions will be 4,861,256 MT CO_2e in 2020; 4,102,109 MT CO_2e in 2030; and 4,175,146 MT CO_2e in 2050. Compared to 2017, these emissions levels are 0.9 percent lower in 2020, 16.0 percent lower in 2030, and 14.8 percent lower in 2050. This CAP Update assesses the previous GHG reduction targets identified in the 2015 CAP and proposes new targets that are consistent with the State policies in order to meet the requirements of SB 32. The State recommends a 15 percent reduction below 2005–2008 baseline levels[6] by 2020, a 49 percent reduction below 2008 levels by 2030, and an 80 percent reduction below 2008 levels by 2050.[7] To continue reductions consistent with the State's long-term emissions reduction goals, the County would need to reduce emissions in 2030 by

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2 Partial Settlement Agreement, 2017. Petitioners: Sierra Club, Center for Biological Diversity, San Bernardino Audubon Society and Respondents: County of Riverside and Riverside County Board of Supervisors.

3 On April 29, 2015, California Governor Jerry Brown announced through EO B-30-15 that by 2030, California shall reduce GHG emissions to 40 percent below 1990 levels. The emissions reduction target of 40 percent below 1990 levels by 2030 is an interim-year goal to make it possible to reach the ultimate goal of reducing emissions 80 percent under 1990 levels by 2050 (website: https://www.climatechange.ca.gov/state/executive_orders.html).

4 Senate Bill 32 was signed by Sen. Jerry Brown on September 8, 2016 and requires that there be a reduction in GHG emissions to 40% below the 1990 levels by 2030.

5 California's 2017 Climate Change Scoping Plan Executive Summary. California Air Resources Board (website: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017_es.pdf).

6 For Riverside County, the baseline year was identified as 2008 per the 2015 Climate Action Plan.

7 State goals are to achieve 1990 levels of emissions by 2020 (15 percent below 2008 baseline levels), 40 percent below 1990 levels of emissions by 2030 (49 percent below 2008 baseline levels) and 80 percent below 1990 levels of emissions by 2050 (83 percent below 2008 baseline levels).

525,511 MT CO_2e from an ABAU forecast and by 2,982,947 MT CO_2e from an ABAU forecast by 2050. Table ES-1 (2017 and 2020 GHG Emissions Comparison), below, summarizes the community-wide emissions for 2017 and 2020, and the reduced, ABAU 2020 inventory.

The CAP Update summarizes various State and local policies that will contribute to reduced GHG emissions in Riverside County by the year 2020 and beyond. Some of these policies include updated building codes for energy efficiency, the low carbon fuel standard, Pavley (California Assembly Bill) vehicle emissions standards, and the Renewable Portfolio Standards for utility companies. By supporting the State in the implementation of these measures, Riverside County will experience substantial GHG emissions reductions. In order to reach the reduction target, the County of Riverside would also need to implement the additional local reduction measures described in this report. These measures encourage energy efficiency and renewable energy, development and penetration of zero-emission vehicles (ZEVs), water conservation, and increased waste diversion. In addition to local government, efforts at the local business and community level would be required to achieve these targets. Public education and outreach would play a crucial role in educating stakeholders about the importance of implementing these measures.

It is important to note that the post 2030 reduction targets identified in this CAP Update may need adjustments based on State updates and guidance when the State sets new reduction goals. As 2030 approaches, Riverside County would have implemented the first two phases of this CAP Update and would have a better understanding of the effectiveness and efficiency of the reduction strategies toward achieving the current 2050 GHG reduction target and may need to make adjustments. Furthermore, the federal, State, and local (County level) programs and policies for GHG reductions in the near term (2020-2030) are likely to be well underway; and continuing technological change in the fields of energy efficiency, alternative energy generation, vehicles, fuels, methane capture, and other areas will occur. Riverside County will then be able to take the local, regional, State, and federal context into account and may consider updating the GHG reduction targets for the period between 2030 and 2050.

Table ES-1 2017 and 2020 GHG Emissions Comparison

Source Category	Metric Tons of CO_2e			
	2017	2020 BAU	Reduced 2020 (ABAU)	% Change (2017-2020 ABAU)
Transportation (on-road)	1,766,784	1,999,268	1,835,938	3.9
Agriculture	1,670,954	1,565,873	1,565,873	-6.2
Electricity	712,928	774,289	653,541	-8.3
Natural Gas	475,211	515,845	510,268	7.3
Solid Waste	204,365	223,448	223,448	9.3
Water and Waster	44,606	48,771	41,377	-7.2
Aviation	26,786	26,786	26,786	0
Off-Road Sources	3,883	4,024	4,024	3.6
Total	4,905,518	5,158,305	4,861,256	-0.9
Emissions Reduction Target[1]	-	15% below 2008 levels	5,960,997 (Target met)	-

Note: Mass emissions of CO_2e shown in the table are rounded to the nearest whole number. Totals shown may not add up due to rounding.
[1] The reduction target for 2020 is based on a 15% decrease from Riverside County's 2008 emissions inventory.
BAU = Business-As-Usual
ABAU = Adjusted Business-As-Usual
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas

Table ES-2 (Projected 2030 and 2050 GHG Emissions Comparison) summarizes the 2030 and 2050 emissions for Riverside County based on the anticipated growth rates included in Riverside County's General Plan update. The reductions needed to meet the County's 2030 and 2050 goals are also summarized. After 2020, GHG emissions would continue to increase; however, the growth in Riverside County's future emissions would be offset by the reductions from incorporation of the State and local policies identified in this CAP Update. The additional, reduction measures included in the CAP Update have been developed to meet the reduction targets for the year 2020 and beyond; however, the implementation of the CAP Update would require periodic updates to ensure that Riverside County is continually tracking GHG emissions and making adjustments as necessary to ensure that future targets are met. It is important to note that post 2030, the amount of reductions needed to meet the 2050 targets would be 73 percent below BAU. The proposed State and local measures that will continue beyond 2030 are expected to yield significant reductions. However, as discussed above, the policy and regulatory landscape beyond 2030 (for example, Senate Bill 100[8], which requires 100 percent renewables by 2045) and technological innovations will require a re-consideration of the future GHG reduction targets.

Table ES-2 Projected 2030 and 2050 GHG Emissions Comparison

Source Category	Metric Tons of CO_2e						
	2017	2030 BAU	2030 ABAU	% Change (2017-2030 ABAU)	2050 BAU	2050 ABAU	% Change (2017-2050 ABAU)
Transportation (on-road)	1,766,784	3,018,767	1,361,200	-22.9	6,882,509	1,174,310	-33.5
Agriculture	1,670,954	1,262,044	1,261,044	-24.5	817,858	817,858	-51.0
Electricity	712,928	1,017,153	466,971	-34.5	1,756,843	480,289	-32.6
Natural Gas	475,211	676,742	652,578	37.3	1,165,761	1,104,421	132.0
Solid Waste	204,365	298,585	298,585	46.1	533,154	533,154	160.8
Water and Waste Water	44,606	65,171	30,413	-31.8	116,370	32,584	-26.9
Aviation	26,786	26,786	26,786	0.0	26,786	26,786	0.0
Off-Road Sources	3,883	4,531	4,531	16.6	5,744	5,744	47.9
Total	4,905,518	6,368,781	4,102,109	-16.3	11,305,026	4,175,146	-14.8
Reduction Target[1]	-	49% below 2008 levels	525,511 (Reductions needed)	-	83% below 2008 levels	2,982,947 (Reductions needed)	-

Note: Mass emissions of CO_2e shown in the table are rounded to the nearest whole number. Totals shown may not add up due to rounding.

1 The reduction targets for 2030 and 2050 are based on 49% and 83% decreases from Riverside County's 2008 emissions inventory, respectively.

BAU = Business-as-Usual

CO_2e = carbon dioxide equivalent

GHG = greenhouse gas

This CAP Update describes Riverside County's GHG emissions for the year 2017, projects how these emissions will increase into 2020, 2030, and 2050, and includes strategies to reduce emissions to a level consistent with the State of California's emissions reduction targets. These strategies complement Riverside County's General Plan policies and are consistent with Riverside County's vision for a more sustainable community.

8 SB 100 California Renewables Portfolio Standard Program (website: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100, accessed February 2019).

Chapter 1 Introduction

The County of Riverside (County) is committed to planning sustainably for the future while ensuring a livable, equitable, and economically vibrant community. Planning sustainably includes acknowledging the local role in climate change and the ways in which the County can mitigate the greenhouse gas (GHG) emissions resulting from the County's growth and development in different economic sectors. By using energy more efficiently, harnessing renewable energy to power buildings, recycling waste, and enhancing access to sustainable transportation modes, the County can keep dollars in its local economy, create new green jobs, and improve the community's health, safety, and welfare in addition to addressing climate change. To that end, the County has implemented a number of sustainability and conservation efforts and seeks to continue those efforts through local planning and partnerships. This Riverside County Climate Action Plan (CAP) Update (CAP Update) integrates the County's past and current efforts with future efforts to grow and thrive sustainably.

1.1 Purpose

The County of Riverside CAP Update has three primary purposes:

- Present the County's Updated GHG inventory, forecasts, and target setting for achieving sustainability by utilizing resources effectively, reducing GHG emissions, and preparing for potential climate-related impacts.
- Identify how the County will effectively implement this CAP Update to comply with the State and local GHG reduction policies by promoting economic competiveness, obtaining funding for program implementation, and tracking and monitoring the progress of Plan implementation over time.
- Allow streamlined California Environmental Quality Act (CEQA) compliance for new development by completing CEQA compliance for the CAP Update and developing screening tools that provide clear guidance to developers and other project proponents.

1.2 Climate Change Science

Climate change is a term used to describe large-scale shifts in historically observed patterns in the Earth's climate system. Although the climate has historically responded to natural drivers, recent climate change has been unequivocally linked to increasing concentrations of greenhouse gases (GHGs) in the Earth's atmosphere.

Gases that trap heat in the atmosphere are called "greenhouse gases" because they transform the light of the sun into heat, similar to the glass walls of a greenhouse. Human-generated GHG emissions significantly contribute to the changes in the global climate, which have a number of physical and environmental effects. Effects associated

with global climate change include sea level rise, an increase in the frequency and intensity of droughts, and increased temperatures. Increased GHG emissions are largely the result of increasing energy consumption, particularly through the combustion of fossil fuels.

The Intergovernmental Panel on Climate Change (IPCC) assesses scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC identifies six key GHG compounds: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and hydrofluorocarbons (HFCs). Each GHG has a different capacity to trap heat and therefore GHG emissions are generally reported in metric tons (MT) of carbon dioxide equivalents (CO_2e). Non-CO_2 emissions are converted to CO_2e using each GHG's Global Warming Potential (GWP). IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of CO_2e, which compares the gas in question to that of the same mass of CO_2 (CO_2 has a GWP of 1 by definition). Common GHGs included in the CAP Update are CO_2, CH_4, and N_2O, which are the GHGs that most commonly result from human activities, and are detailed below.[9]

- **Carbon Dioxide** is the most important anthropogenic GHG and accounts for more than 75 percent of all GHG emissions caused by humans. Its atmospheric lifetime of 50–200 years ensures that atmospheric concentrations of CO_2 will remain elevated for decades, even after mitigation efforts to reduce GHG concentrations are implemented. The primary sources of anthropogenic CO_2 in the atmosphere include the burning of fossil fuels (including motor vehicles), gas flaring, cement production, and land use changes (e.g., deforestation and oxidation of elemental carbon). CO_2 can be removed from the atmosphere by photosynthetic organisms (e.g., plants and certain bacteria). Atmospheric CO_2 has increased from a pre-industrial concentration of 280 parts per million (ppm) to 408 ppm in 2018.[10]
- **Methane (CH_4)**, the main component of natural gas, is the second most abundant GHG, and has a GWP of 25. Sources of anthropogenic emissions of CH_4 include using natural gas, burning fossil fuels, landfill outgassing, certain agricultural practices, and mining coal. Certain land uses also function as both sources and sinks for CH_4. For example, the primary terrestrial source of CH_4 is wetlands, whereas undisturbed, aerobic soils act as a CH_4 sink (i.e., they remove CH_4 from the atmosphere). Atmospheric CH_4 has increased from a pre-industrial concentration of 715 parts per billion (ppb) to 1,860 ppb in 2018.[11]
- **Nitrous Oxide (N_2O)** is a powerful GHG, with a GWP of 298. Anthropogenic sources of N_2O include combustion of fossil fuels, agricultural processes (e.g., fertilizer application), and nylon production. In the United States, more than 70 percent of N_2O emissions are related to agricultural soil management practices, particularly fertilizer applications. N_2O concentrations in the atmosphere have increased nearly 21 percent, from pre-industrial levels of 270 ppb to 330 ppb in 2018.[12]

[9] Intergovernmental Panel on Climate Change (IPCC). Website: https://www.ipcc.ch/ (accessed November 15, 2018).
[10] National Oceanographic and Atmospheric Administration (NOAA). Earth System Research Laboratory, Global Monitoring Division. Trends in Atmospheric Carbon Dioxide. Annual Greenhouse Gas Index (AGGI). Website: https://www.esrl.noaa.gov/gmd/ccgg/trends/ (accessed December 26, 2018).
[11] NOAA. Earth System Research Laboratory, Global Monitoring Division. Trends in Atmospheric Methane. Annual Greenhouse Gas Index (AGGI). Website: https://www.esrl.noaa.gov/gmd/ccgg/trends_ch4/ (accessed December 26, 2018).
[12] NOAA. Earth System Research Laboratory, Global Monitoring Division. Annual Greenhouse Gas Index (AGGI). Website: https://www.esrl.noaa.gov/gmd/aggi/aggi.fig2.png (accessed December 26, 2018).

1.3 Benefits of the CAP Update

This CAP Update, while addressing climate change, also benefits the County in many direct ways:

- **Local Control**: This CAP Update allows the County to identify strategies to reduce resource consumption, costs, and GHG emissions in all economic sectors in a way that maintains local control over the issues and fits the character of the community. It also may position the County for funding to implement programs tied to climate goals.
- **Energy and Resource Efficiency**: This CAP Update identifies opportunities for the County to increase energy efficiency and lower GHG emissions in a manner that is most feasible in the community. Reducing energy consumption through increasing the efficiency of energy technologies, reducing energy use, and using alternative sustainable sources of energy are effective ways to reduce GHG emissions. Energy efficiency also provides opportunities for cost savings.
- **Increased Public Health**: Many of the GHG reduction strategies identified in this CAP Update also have local public health benefits. Benefits include local air quality improvements, creating a more active community through implementing sustainable living practices, and reducing health risks such as heat stroke, which is elevated by climate change impacts such as increased extreme heat days.
- **Demonstrating Consistency with State GHG Reduction Goals**: A GHG reduction plan may be used as GHG mitigation in a General Plan to demonstrate that the County is aligned with State goals for reducing GHG emissions to a level considered less than cumulatively considerable.
- **Meeting California Environmental Quality Act Requirements**: CEQA requires impacts from GHG emissions to be reviewed. A qualified GHG reduction plan may be used in future development projects as the GHG analysis for their CEQA document, resulting in greater certainty for developers and cost-effectiveness for developers and County staff.

1.4 Regulatory Setting

In an effort to stabilize GHG emissions and reduce impacts associated with climate change, international agreements, as well as federal and State actions, were implemented beginning as early as 1988. The government agencies discussed below work jointly, as well as individually, to address GHG emissions through legislation, regulations, planning, policy-making, education, and a variety of programs.

A. Federal

Clean Air Act

In 2007, through *Massachusetts v. Environmental Protection Agency* (Docket No. 05–1120), the United States Supreme Court held that the United States Environmental Protection Agency (USEPA) has authority to regulate GHGs. As such, the United States Supreme Court ruled that the USEPA should be required to regulate CO_2 and other GHGs as pollutants under Section 202(a)(1) of the federal Clean Air Act.

B. State

California Air Resources Board Standards and Programs

The California Air Resources Board (CARB), a part of the California Environmental Protection Agency (CalEPA) is responsible for the coordination and administration of both federal and State air pollution control and climate change programs within California. In this capacity, CARB conducts research, sets California ambient air quality standards (CAAQS), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products, and various types of commercial equipment.

Executive Order S-3-05

On June 1, 2005, California Governor Arnold Schwarzenegger announced through Executive Order (EO) S-3-05, the following GHG emissions targets:

- By 2010, California shall reduce GHG emissions to 2000 levels.
- By 2020, California shall reduce GHG emissions to 1990 levels.
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.
- EO S-3-05 also laid out responsibilities among the State agencies for implementation and for reporting on progress toward the targets.

Executive Order B-30-15

On April 29, 2015, California Governor Jerry Brown announced through EO B-30-15 the following GHG emissions target:

- By 2030, California shall reduce GHG emissions to 40 percent below 1990 levels.

The emissions reduction target of 40 percent below 1990 levels by 2030 is an interim-year goal to make it possible to reach the ultimate goal of reducing emissions 80 percent under 1990 levels by 2050. The order directs CARB to provide a plan with specific regulations to reduce State-wide sources of GHG emissions. EO B-30-15 does not include a specific guideline for local governments.

Assembly Bill 1493, Clean Car Standards

Also known as "Pavley I," Assembly Bill (AB) 1493 standards were the nation's first GHG standards for automobiles. AB 1493 requires CARB to adopt vehicle standards that will lower GHG emissions from new light-duty automobiles to the maximum extent feasible. In January 2012, CARB adopted the Advanced Clean Cars Program to achieve additional GHG emission reductions for passenger vehicles for model years 2017–2025. That Program includes low-emission vehicle (LEV) regulations and zero-emission vehicle (ZEV) regulations. Together, the two standards are expected to increase average fuel economy to roughly 43 miles per gallon (mpg) by 2020 (and more for years beyond 2020).

Assembly Bill 32 (AB 32) and Senate Bill 32 (SB 32), California Global Warming Solutions Act

AB 32 requires CARB to reduce State-wide GHG emissions to 1990 levels by 2020. As part of this legislation, CARB was required to prepare a "Scoping Plan" that demonstrates how the State will achieve this goal. The Scoping Plan was adopted in 2011, and in it, local governments were described as "essential partners" in meeting the State-wide goal, recommending a GHG reduction level 15 percent below 2005–2008 levels (depending on when a full emissions inventory is available) by 2020.

CARB released the 2017 Scoping Plan Update on January 20, 2017. The 2017 Scoping Plan Update provides strategies for achieving the 2030 target established by EO B-30-15 and codified in Senate Bill (SB) 32 (40 percent below 1990 levels by 2030). The 2017 Scoping Plan Update recommends local plan-level GHG emissions reduction goals. CARB recommends that local governments aim to achieve emissions of no more than 6 MT CO_2e per capita by 2030 and no more than 2 MT CO_2e per capita by 2050.

Assembly Bill 341, Commercial Recycling

AB 341 sets a State-wide goal of 75 percent recycling, composting, or source reduction of solid waste by the year 2020. As required by AB 341, the California Department of Resources Recycling and Recovery (CalRecycle) adopted the Mandatory Commercial Recycling Regulation on January 17, 2012. The regulation was approved by the Office of Administrative Law on May 7, 2012. It became effective immediately and clarifies the responsibilities in implementing mandatory commercial recycling. The Mandatory Commercial Recycling Regulation focuses on increased commercial waste diversion as a method to reduce GHG emissions. The regulation is designed to achieve a reduction in GHG emissions of 5 million MT CO_2, which equates to roughly an additional 2–3 MT of currently disposed commercial solid waste being recycled by 2020 and thereafter.

Senate Bill 97

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. The legislation directed the California Office of Planning and Research to develop draft CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions" and directed the Resources Agency to certify and adopt the State CEQA Guidelines. CEQA Guidelines Section 15183.5, Tiering and Streamlining the Analysis of GHG Emissions, was added as part of the CEQA Guideline amendments that became effective in 2010 and describes the criteria needed in a GHG reduction plan that would allow for the tiering and streamlining of CEQA analysis for development projects.

Executive Order S-1-07, Low Carbon Fuel Standard

California EO S-01-07 mandates (1) that a State-wide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020, and (2) that a low carbon fuel standard (LCFS) for transportation fuels be established in California. CARB developed the LCFS regulation pursuant to the State's authority under AB 32 and the Federal Clean Air Act and adopted it in 2009.

Executive Order S-13-08, The Climate Adaptation and Sea Level Rise Planning Directive

EO S-13-08 provides clear direction on how the State should plan for future climate impacts. EO S-13-08 calls for the implementation of four key actions to reduce the vulnerability of California to climate change:

- Initiate California's first State-wide Climate Adaptation Strategy that will assess the State's expected climate change impacts, identify where California is most vulnerable, and recommend climate adaptation policies.
- Request that the National Academy of Sciences establish an expert panel to report on sea level rise impacts in California in order to inform State planning and development efforts.
- Issue interim guidance to State agencies on how to plan for sea level rise in designated coastal and floodplain areas for new and existing projects.
- Initiate studies on critical infrastructure and land use policies that are vulnerable to sea level rise.

California Code of Regulations Title 24, Part 6

California Code of Regulations (CCR) Title 24, Part 6 (California's Energy Efficiency Standards for Residential and Nonresidential Buildings) (Title 24), was established in 1978 to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels and natural gas use result in GHG emissions, and energy-efficient buildings require less electricity and natural gas. Therefore, increased energy efficiency will result in decreased GHG emissions.

The California Energy Commission (CEC) adopted 2008 Standards on April 23, 2008, in response to AB 32. The 2008 Standards were adopted to (a) provide California with an adequate, reasonably priced, and environmentally sound supply of energy; (b) pursue California energy policy, which states that energy efficiency is the resource of first choice for meeting California's energy needs; (c) meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of State building codes every 3 years; and (d) meet the Executive Order in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards. The latest update of CCR Title 24, Part 6, went into effect on January 1, 2017, which will significantly increase the energy efficiency of new residential buildings.

CALGreen Building Code

CCR Title 24, Part 11 (California's Green Building Standard Code [CALGreen]), was adopted in 2010 and went into effect on January 1, 2011. Further updates to CALGreen went into effect on January 1, 2017. CALGreen is the first State-wide mandatory green building code and significantly raises the minimum environmental standards for construction of new buildings in California. The mandatory provisions in CALGreen will reduce the use of volatile organic compounds (VOCs) emitting materials, will strengthen water conservation, and will require construction waste recycling.

Senate Bill x7-7

SB x7-7 requires water suppliers to reduce urban per capita water consumption 20 percent from a baseline level by 2020.

Senate Bill 375, Sustainable Communities Strategy

SB 375 provides for a new planning process that coordinates land use planning, regional transportation plans, and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 requires regional transportation plans, developed by Metropolitan Planning Organizations (MPOs) to incorporate a

Sustainable Communities Strategy (SCS) in their Regional Transportation Plans (RTPs). The goal of the SCS is to reduce regional vehicle miles traveled (VMT) through land use planning and consequent transportation patterns. SB 375 also includes provisions for streamlined CEQA review for some infill projects such as transit-oriented development.

Renewable Portfolio Standard

The Renewable Portfolio Standard (RPS) requires energy providers to derive 33 percent of their electricity from qualified renewable sources by 2020. In August 2018, the State Assembly passed SB 100, which requires energy providers to derive 60 percent of their electricity from qualified renewable sources by 2030 and 100 percent by 2045. The bill is anticipated to be passed by the Senate and signed by the Governor. The RPS is anticipated to lower emission factors (i.e., fewer GHG emissions per kilowatt-hour used) from utilities across the State, including Southern California Edison (SCE).

1.5 County Setting

Riverside County is located in the Riverside-San Bernardino-Ontario Metropolitan Statistical Area, also known as the Inland Empire, and is the fourth largest county in the State. Roughly rectangular, the County covers 7,208 square miles in Southern California, spanning from the Greater Los Angeles area to the Arizona border. Interstate 10 (I-10), Interstate 15 (I-15) and Interstate 215 (I-215) are the major freeways in the County. More than three quarters of the County's land area, and one quarter of the County's population, lie in an unincorporated County region.

The unincorporated area of Riverside County has approximately 364,413 residents (SCAG 2017). The population is diverse in age. The ethnicity is approximately 50 percent Latino, 38 percent White, and 12 percent other ethnicities. The unincorporated area of Riverside County has 112,292 households and provides a total of 81,754 jobs.

2015 CAP

Following the State's adoption of Assembly Bill (AB) 32in 2006,[13] the California Air Resources Board (ARB) developed a climate change scoping plan that included directives for local governments to reduce GHG emissions associated with land use 15 percent below baseline levels by 2020. The County adopted its first Climate Action Plan (CAP) in conjunction with a comprehensive General Plan Update (GPA No. 960) in 2015. The CAP included GHG inventories of community-wide and municipal sources using the baseline data for the year 2008. The 2015 CAP included the GHG reduction target of 15 percent below 2008 levels by 2020 and a set of reduction measures to achieve the 2020 target.

[13] The passage of AB 32, the California Global Warming Solutions Act of 2006, marked a watershed moment in California's history. By requiring in law a sharp reduction of greenhouse gas (GHG) emissions, California set the stage for its transition to a sustainable, low-carbon future. AB 32 is the first program in the country to take a comprehensive, long-term approach to addressing climate change, and does so in a way that aims to improve the environment and natural resources while maintaining a robust economy (website: https://www.arb.ca.gov/cc/ab32/ab32.htm).

Partial Settlement Agreement

In 2016 the Sierra Club, Center for Biological Diversity, San Bernardino Audubon Society, and respondents (Petitioners) challenged particular aspects of the CAP related to commitments to solar, electric vehicles, energy efficient traffic signals, and future updates of the CAP. In 2017 the County and the Petitioners entered into a Settlement Agreement[14] that enhances the County CAP and maintains the County's Land Use authority. In the Settlement Agreement, the County agreed to update the CAP with the following enhancements:

- The County requires all new residential development to install EV charging stations in the garages of the residential units. The Settlement Agreement further states that the capacity and circuits for installation of EV charging stations to be provided in the garages of residential units and all new large-scale commercial buildings that are over 162,000 square feet.
- The County requires that on-site renewable energy production (including but not limited to rooftop photovoltaic solar panels) shall apply to any tentative tract map, plot plan, or conditional use permit that proposes to add more than 75 new dwelling units of residential development or one or more new buildings totaling more than 100,000 gross square feet of commercial, office, industrial, or manufacturing development.
- Consideration of a policy to require the use of high-efficiency bulbs at all new traffic signal lights and converting 100 percent existing traffic signal lights to high-efficiency bulbs by 2020.
- Every four years, the County must update the GHG inventory, review the effectiveness of specific measures in the CAP, and revise associated point values in the screening tables according to the available evidence. If measures included in this CAP are found to be ineffective, those measures will be removed or revised in the update.

1.6 Plan Structure

The remainder of this CAP Update includes four additional chapters:

- **Chapter 2** summarizes the methodologies used to calculate the County's GHG emissions and forecasts.
- **Chapter 3** summarizes the County's historic and future GHG emissions and the reduction targets the County has established.
- **Chapter 4** details the reduction strategies that will be implemented to meet the reduction targets identified in Chapter 3. Measures also include the potential energy savings and local co-benefits of the measures.
- **Chapter 5** includes the implementation of the measures, potential funding sources, and how the CAP Update will be monitored and updated over time. It also summarizes the outreach and CEQA review process conducted as part of this CAP Update.

[14] Partial Settlement Agreement, 2017. Petitioners: Sierra Club, Center for Biological Diversity, San Bernardino Audubon Society and Respondents: County of Riverside and Riverside County Board of Supervisors.

Chapter 2 Methodology

2.1 Overview

The Climate Action Plan (CAP) is a comprehensive roadmap that outlines the specific activities that the County, will undertake to reduce GHG emissions. The CAP Update builds upon the information gathered by the GHG inventories and forecasts emissions for 2030 and 2050. These forecasts of emissions using the inventory and anticipated growth in population and the economy are called Business As Usual (BAU) forecasts. Since the inventories are derived from emissions data, they are the most accurate foundation to develop forecasts. Therefore, BAU forecasts are used as the first step in the forecasting process. Once the BAU forecasts were completed, the next step was to forecast anticipated future State actions that will reduce GHG emissions. These forecasts that include future State actions are called Adjusted BAU (ABAU). The CAP Update uses ABAU to determine the additional amount of GHG emissions reductions that are needed to achieve the reduction targets. The CAP Update focuses on those activities that can achieve the greatest emission reductions in the most cost effective manner in achieving the reduction targets. For these reasons GHG emissions inventories are the foundation of the CAP Update[15]. Establishing an inventory of emissions helps to identify and categorize the major sources of emissions produced over a single calendar year[16]. A community-wide inventory includes GHG emissions that result from the activities by residents and businesses within the unincorporated communities, and County government operations within Riverside County. The inventories identify the major sources of GHGs emissions caused by activities in sectors that are specific to community activities.

The County prepared community inventories for the years 2008 and 2017. The 2008 inventory is considered the baseline year. A baseline year is established as a starting point against which other inventories may be compared and targets may be set, and is generally the earliest year with a full emissions inventory. The most recent inventory (2017) has the most relevant data for planning purposes, while multiple inventory years provide context and may help identify trends or anomalies in the community emissions. The County prepared a detailed GHG Inventory, Forecasting, and Target-Setting (IFT) Report, included as Appendix A, which contains detailed methodology of the information summarized in this chapter.

The GHG inventories include all major sources of emissions attributable directly or indirectly to activities within the unincorporated communities served by the County of Riverside, as well as County government operations. The methodology for preparing the GHG inventories incorporates the protocols and methods, and emission

[15] Institute for Local Government: Climate Action Plans (website: https://www.ca-ilg.org/climate-action-plans).

[16] Importance of Climate Action Planning (CAP) for cities (website: http://e-lib.iclei.org/wp-content/uploads/2016/02/Guiding-Principles-for-City-Climate-Action-Planning.pdf).

factors found in the International Council of Local Environmental Initiatives' (ICLEI) United States Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions (Community Protocol, U.S. Community GHG Protocol Version 1.0, 2012), the Association of Environmental Professionals (AEP) California Supplement to the U.S, Community GHG Protocol (2013), The Climate Registry General Reporting Protocol (Version 2.1, 2016), and the Climate Registry Local Government Operations Protocol (LGOP, Version 1.1, 2010). The analysis herein is tailored to include all existing and projected emission sources within the unincorporated areas of Riverside County to provide, to the fullest extent feasible, a comprehensive analysis of GHG reductions. The AB 32 Scoping Plan establishes a comprehensive program of regulatory and market mechanisms to achieve real, quantifiable, cost-effective reductions of GHG emissions.

2.2 Calculation of GHGs

The coefficients, modeling inputs, and other assumptions, used in the calculations of GHGs are included in Appendix B of this report. GHG emissions are typically segregated into direct and indirect sources. However, it is important to note that direct and indirect sources are not completely independent of each other and are often combined into other more encompassing categories. For example, although natural gas combustion is a direct source and electricity generation is an indirect source, they both are typically discussed under a heading of "Energy" when policies are put in place to reduce emissions. Therefore, this CAP Update discusses emissions with respect to the general source categories of on-road and off-road transportation, energy, water and wastewater, solid waste, aviation, and agriculture sources.

A. Energy

Electricity

Emissions of CO_2, CH_4, and N_2O within Riverside County result from the use of electricity. Annual electricity usage in 2017, obtained from SCE, Imperial Irrigation District (IID), and Anza Electric Cooperative, Inc. (Anza), the three major commercial electricity providers serving Riverside County, was used in determining community-wide electricity consumption and generation emission estimates for the existing inventory. For 2020, 2030, and 2050, emissions forecasts were calculated based on the anticipated growth in population, housing, and employment for the County of Riverside. The growth projections were interpolated from the County's General Plan Update Land Use Element[17] growth rates.

Emissions from electricity were determined by multiplying annual usage in megawatt hours per year (MWh/year) by the SCE emission factors for CO_2e obtained from SCE's Corporate Responsibility & Sustainability Report[18] while CO_2, CH_4, and N_2O were obtained from the USEPA's Emissions and Generation Resource Integrated Database[19] (eGRID).

The 2008 inventory included two gas-to-energy facilities, one at the Badlands Landfill and one at the El Sobrante Landfill. However, these landfills no longer send their landfill gas to these facilities but to a flare station.[20] Flare

[17] County of Riverside. 2015. *General Plan*. December.
[18] Southern California Edison (SCE). 2016. *Corporate Responsibility & Sustainability Report*.
[19] USEPA. 2016. Emissions and Generation Resource Integrated Database (eGRID) Summary Tables.
[20] Email correspondence with Riverside County Department of Waste Resources on August 13, 2018.

burning does not contribute to GHG emissions or provide any carbon credit to the energy sector. Therefore, neither the gas-to-energy facilities nor the flare station are included in the 2017 inventory.

Natural Gas Combustion

The residents and businesses in Riverside County emit GHGs from the combustion of natural gas, most often used for heating. The annual natural gas usage for the unincorporated areas of Riverside County measured in million British Thermal Units (MBTUs) was multiplied by the respective emissions factors for CO_2, CH_4, and N_2O to determine the emissions from natural gas combustion. Existing inventory consumption levels for the community as a whole were obtained from the Southern California Gas Company (SoCalGas), and future community-wide consumption estimates were based on anticipated population and economic growth in Riverside County. These growth rates came from the Southern California Association of Governments (SCAG) statistics and the County of Riverside General Plan Update Land Use Element.

B. Water Supply

Water-related emissions are indirectly produced as a result of electrical consumption to pump and treat water imported from outside Riverside County. There are many water agencies that operate in Riverside County providing both potable and non-potable water to customers in unincorporated areas. Refer to Appendix A for a full list of agencies that provided data used in determining water-related energy consumption emission estimates for the existing inventory.

The category, "Water Supply," addresses the GHG emissions resulting from energy used to collect, treat, convey, and distribute imported sources of water from their sources to Riverside County. This separate category is necessary, as the energy used is accrued across a variety of providers and is not included in the data collected from SCE, IID, or Anza. For local water sources, the data collected from SCE and IID include associated electricity usage and, hence GHG emissions are included under the "Electricity" category described above. Showing GHG emissions associated with local water sources in the "Electricity" category avoided double counting as the electricity used to pump local water supplies was embedded in the SCE reported electrical consumption data for unincorporated Riverside County.

C. Wastewater Treatment

As with the local water supply, GHG emissions associated with wastewater (that is, sewage, urban runoff, and, in some cases, industrial or manufacturing runoff) are based on the electricity needed to pump and treat the wastewater. Again, since wastewater treatment occurs locally within Riverside County, these emissions are also accounted for under the "Electricity" section of the community-wide inventory to avoid double counting of GHG emissions identical to how the locally pumped water supply was treated.

D. Solid Waste Management

The Riverside County Waste Management Department is responsible for managing the County's landfills, including both active and closed landfills, with one exception – the El Sobrante Landfill, which is privately owned and operated. The County of Riverside collects fees and has control over the portion of the El Sobrante Landfill waste collected from within Riverside County. Therefore, the emissions associated with solid waste within the inventory are limited to the portion of waste collected within Riverside County.

Emissions from solid waste result from three different waste-related sources: transportation from its source to the landfill, operation of the equipment used at the landfill, and the fugitive emissions from waste decomposition. Emissions from the transportation of solid waste are included in the transportation sector, and emissions from operation of the equipment are included in the off-road sector. Emissions from waste decomposition at all landfills located in the unincorporated areas of Riverside County are included in the solid waste sector. The operational information was collected from the Riverside County Waste Management Department.

Fugitive methane emissions from the decomposition of solid waste (typically buried) are calculated based on the annual waste generation multiplied by the applicable emission factors for waste production for CH_4. Many landfills now have a methane capture system in place; depending on the type of system, not all of the methane generated from the decomposition is included in the inventory. In Riverside County, three of the existing seven active landfills have such systems. The Community Protocol recommends using an average factor of 75 percent recovery from landfill gas, although some landfills have much higher gas recovery systems, and other landfills have lower gas recovery systems. Although CO_2 is also a by-product of organic waste decomposition, the USEPA considers these emissions to be natural and not anthropogenic. Therefore, they are not included in the emissions inventory. N_2O is not a by-product of decomposition and, therefore, no fugitive emissions of N_2O are anticipated or calculated from solid waste sources.

E. Transportation

On-Road Vehicles

For the community-wide inventory, emissions from on-road vehicles include emissions generated from trips attributable to activities taking place in the unincorporated parts of Riverside County. Carbon dioxide emissions from vehicles were calculated utilizing EMFAC2017 emission factors for the 2017 inventory and 2020, 2030, and 2050 forecasts. The Emission Factors (EMFAC) model[21] was developed by the California Air Resources Board (CARB) and is used to calculate CO_2 emission rates for on-road motor vehicles, from light-duty passenger vehicles to heavy-duty trucks that operate on highways, freeways, and local roads in California. Motor vehicle emissions of CH_4 and N_2O were calculated using USEPA emission factors for on-road vehicles based on the total annual mileage driven multiplied by their respective emission factors by year. Vehicle miles traveled (VMT) were modeled using the Riverside County Traffic Analysis Model (RIVTAM). VMT data were derived from transportation modeling of the trips entering Riverside County, trips leaving Riverside County, and trips within Riverside County. Pass-through traffic (that is, trips beginning and ending outside of Riverside County) was not included in this analysis. Since trips entering and leaving Riverside County have only one end in Riverside County, only half of these miles were included in the emissions analysis, in order to reflect the split jurisdiction of these trips.

Off-Road Sources

Off-road emissions include emissions from agriculture, construction, industrial, lawn and garden, light commercial, and recreational equipment. Annual emissions of CO_2, CH_4, and N_2O are available at the County

[21] California Air Resources Board (CARB). 2017. EMFAC Model.

level from the State's OFFROAD model.[22] County-level indicator data were obtained from SCAG's Local Profile for the County of Riverside.

Aviation Emissions

Riverside County owns and operates four airports: Blythe Airport, Jacqueline Cochran Regional Airport, Hemet-Ryan Airport, and French Valley Airport. The GHG emissions associated with aircraft trips within Riverside County were calculated based on annual fuel consumption (extrapolated from airport aviation fuel sales) and emission factors for jet fuel and aviation fuel for CO_2, CH_4, and N_2O.

F. Agriculture

Riverside County has a large amount of agricultural land with a variety of cultivation uses. Assessment of non-carbon-dioxide emissions are from the following source categories: enteric fermentation in domestic livestock, livestock manure management, crop cultivation, and field burning of agricultural residues. The use of agricultural equipment was accounted for in the off-road sources sector. Agricultural-related emissions for 2017 were based on data from SCAG and the Riverside County Agricultural Commissioner.

[22] CARB. 2007. OFFROAD Model.

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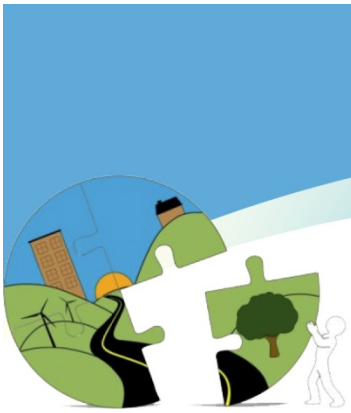


Chapter 3 GHG Emissions Inventory

The following sections describe Riverside County's 2017 community-wide GHG emissions inventory. The community-wide emissions inventory identifies and categorizes the major sources and quantities of GHG emissions produced by residents, businesses, and municipal operations in the unincorporated areas of Riverside County using the best available data.

3.1 2017 Community-Wide Emissions Inventory

The community-wide inventory represents all emissions from sources located within the unincorporated areas of Riverside County. Therefore, the government operations emissions are a subset of the community-wide inventory presented here. In Riverside County in 2017, a total of 4,905,518 MT CO_2e emissions were emitted in the community as a whole. The following sections describe the data inputs, emissions by source, and emissions by land use in 2017.

A. Data Inputs

Data for the community-wide inventory were gathered from various Riverside County departments, SCE, IID, Anza, SoCalGas, and additional reports. Table 3-1 (2017 Community-Wide Data Inputs), below, summarizes the data inputs and sources for each of the emission categories included in the inventory. Each data input was then multiplied by the associated emission factor to calculate the emissions associated with each source.

Table 3-1 2017 Community-Wide Data Inputs

Category	Data Input	Data Source
Electricity		
SCE (kWh)	2,080,338,050	SCE
IID (kWh)	829,657,212	IID
Anza (kWh)	59,236,020	Anza
Natural Gas (therms)	89,469,089	SoCalGas
Transportation		
Annual VMT	4,284,955,458	County of Riverside RIVTAM Model
Off-Road Equipment (Total County) (MT CO_2e)	12,613	CARB OFFROAD Model
Jet Fuel (gallons)	2,781,219	Riverside County Economic Development Agency
Aviation Fuel (gallons)	431,069	Riverside County Economic Development Agency
Solid Waste (tons)	389,687	Riverside County Waste Management
Water and Wastewater (Imported) (million gallons)	27,462	Water Districts

Category	Data Input	Data Source
Agriculture (acres)		
Hay	45,353	
Corn	740	
Oats	833	
Sorghum	130	
Wheat	18,394	Riverside County Agricultural Commissioner
Cotton	7,291	SCAG
Vegetable & Fruit Trees	78,688	
Animals (heads)		
Dairy Cow	21,900	
Poultry	1,893,394	
Sheep	8,300	

Anza = Anza Electric Cooperative, Inc.
CARB = California Air Resources Board
IID = Imperial Irrigation District
kWh = kilowatts
MT CO_2e = metric tons carbon dioxide equivalent
RIVTAM = Riverside County Traffic Analysis Model
SCAG = Southern California Association of Governments
SCE = Southern California Edison
SoCalGas = Southern California Gas
VMT = vehicle miles traveled

B. Emissions by Source

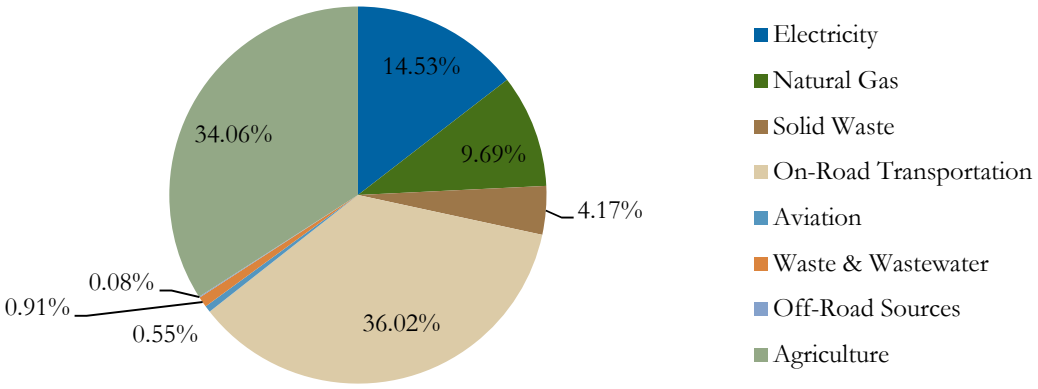
Table 3-2 (2017 Community-Wide GHG Emissions by Source) summarizes net 2017 County emissions of CO_2e as broken down by emissions category. Riverside County as a whole emitted 4,905,518 MT CO_2e in 2017. The largest portion of Riverside County's 2017 emissions were from transportation (36 percent), followed by agriculture (34 percent), and electricity and natural gas use in buildings (24 percent). Figure 3-1 (2017 Emissions Generated by Emissions Category) provides a comparison of GHG emissions by category.

Table 3-2 2017 Community-Wide GHG Emissions by Source

Emissions Category	Metric Tons of CO_2e
On-Road Transportation	1,766,784
Agriculture	1,670,954
Energy (Electricity and Natural Gas)	1,188,138
Solid Waste	204,365
Water and Wastewater	44,606
Aviation	26,786
Off-Road Sources	3,883
Total	4,905,518

CO_2e = carbon dioxide equivalent
GHG = greenhouse gas

Figure 3-1 2017 Emissions Generated by Emissions Category (Metric Tons CO_2e)



3.2 Business-As-Usual Community-Wide GHG Emissions Forecasts

The Business-As-Usual (BAU) forecasts describe emissions based on projected growth in population and employment and do not consider policies that will reduce emissions in the future (that is, the policies in place in 2017 that would remain constant through 2050). The County developed GHG reduction measures in the 2015 County of Riverside Climate Action Plan (2015 CAP) that constitute policies in place in 2017. These measures have been implemented and are reflected in the 2017 GHG emissions inventory, and will continue reducing emissions through 2020.

The BAU forecasts estimate future emissions using current (2017) consumption patterns and emission factors with the anticipated growth in the County. Anticipated growth is estimated using data from the County's 2015 General Plan and other relevant sources. The most relevant growth factors are used to project emissions by sector. For example, future Residential Energy emissions were developed using current energy use per household (from the 2017 inventory) and the anticipated number of households in 2035. Actual energy use is a function of several variables, not only the number of households; however, this approach is supported by current protocols and best practices within the State and provides a consistent approach to forecasting. Compound annual growth rates were developed using the growth projections from 2010 to 2020 and 2035. Growth rates beyond 2035 are assumed to be the same as between 2020 and 2035. In general, the County is expecting modest growth as population, housing, jobs, and vehicle miles traveled are all expected to increase.

A. Data Inputs

Data for the BAU community-wide GHG emissions forecasts were estimated based on the growth rates from Riverside County General Plan Update Land Use Element. Table 3-3 (BAU Forecasts Data Inputs), below, summarizes Riverside County's growth rates.

Table 3-3 BAU Forecasts Data Inputs

Sector	Demographic Indicator	2010	2020	2010–2020 CAGR[1] (%)	2035	2020–2035 CAGR[1] (%)
Residential Energy	Households	171,380	219,917	2.53	324,021	2.62
Commercial/ Industrial Energy	Jobs	97,210	151,034	4.50	265,688	3.84
N/A[2]	Population	467,105	608,857	2.69	908,100	2.70
Solid Waste, Water, Wastewater, and Off-Road Sources	Service Population (Population + Jobs)	564,315	759,891	3.02	1,173,788	2.94
Transportation	Vehicle Miles Traveled[3]	4,284,955,458	25,203,928,090	4.21	--	--

1 Compound annual growth rate.
2 Not Applicable. Population data are shown for informational purposes but are not used for forecasting any sector.
3 VMT was modeled for 2017 and 2060. The CAGR was calculated between 2017 and 2060 and was used for all forecast years.
BAU = Business- As- Usual
CAGR = compound annual growth rate
N/A = not applicable
VMT = vehicle miles traveled

B. BAU Forecast Emissions by Source

The County's BAU emissions in 2020 are estimated to be 5,158,305 MT CO_2e, or a 5.1 percent increase from baseline (2017) emissions. By 2030, emissions are estimated to increase 29.8 percent from the baseline level to 6,368,781 MT CO_2e. By 2050, emissions are estimated to increase 130.4 percent from the baseline level to 11,305,026 MT CO_2e. Table 3-4 (BAU Forecast Emissions by Source) shows BAU forecast emissions by source.

Table 3-4 BAU Forecast Emissions by Source

Sector	2017 (MT CO_2e)	2020 (MT CO_2e)	% Change 2017–2020	2030 (MT CO_2e)	% Change 2017–2030	2050 (MT CO_2e)	% Change 2017–2050
On-Road Transportation	1,766,784	1,999,268	13.1	3,018,767	70.0	6,882,509	289.5
Agriculture	1,670,954	1,565,873	-6.2	1,261,044	-24.5	817,858	-51.0
Electricity	712,928	774,289	8.6	1,017,153	42.6	1,756,843	146.4
Natural Gas	475,211	515,845	8.5	676,742	42.4	1,165,761	145.3
Solid Waste	204,365	223,448	9.3	298,585	46.1	533,154	160.0
Water & Wastewater	44,606	48,771	9.3	65,171	46.1	116,370	160.0
Aviation	26,786	26,786	0.0	26,786	0.0	26,786	0.0
Off-Road Sources	3,883	4,024	3.6	4531	16.6	5744	47.9
Total	4,905,518	5,158,305	5.1	6,368,781	29.8	11,305,026	130.4

BAU = Business-as-Usual
MT CO_2e = metric tons carbon dioxide equivalent

3.3 Adjusted Business-As-Usual Community-Wide GHG Emissions Forecasts

The Adjusted BAU scenario describes emissions based on projected growth *and* considers policies that will achieve GHG reductions in the future. State legislation has been approved and/or adopted that will reduce GHG emissions in the County. These policies do not require additional local action, but should be accounted for in the County's emissions forecasts to provide a more accurate picture of future emissions and the level of local action needed to reduce emissions to levels consistent with State recommendations. This forecast is called the Adjusted BAU forecast. The measures include Low Carbon Fuel Standard, Advanced Clean Cars, California Building Code Title 24, and Renewable Portfolio Standard. These measures are described in detail in Appendix A.

A. Adjusted BAU Forecast Emissions by Source

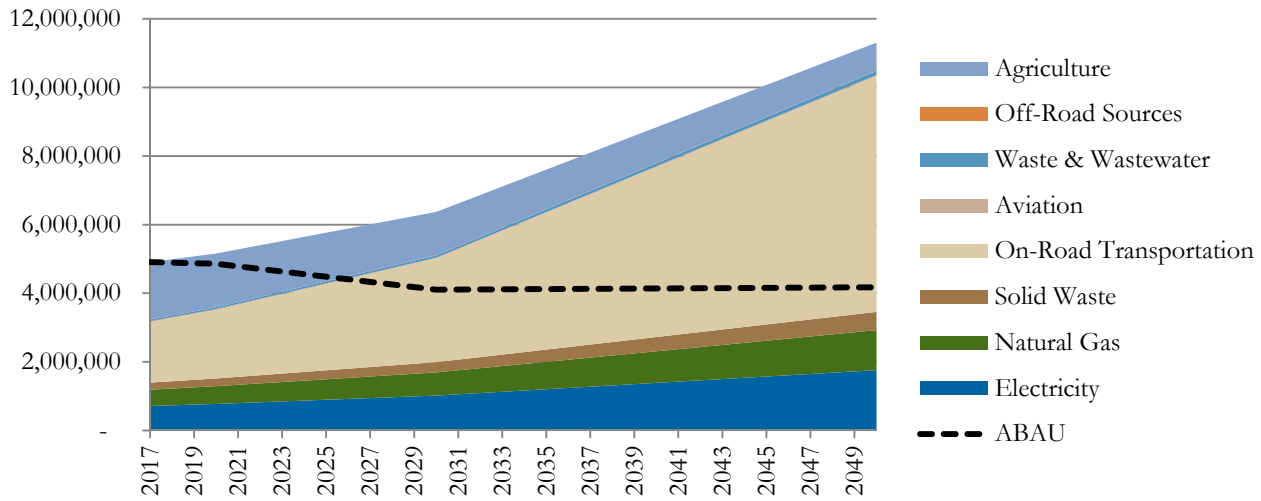
The County's Adjusted BAU emissions in 2020 are estimated to be 4,861,256 MT CO_2e, 4,102,109 MT CO_2e in 2030, and 4,175,146 MT CO_2e in 2050 (Table 9). This change represents a 0.9 percent reduction from 2017 by 2020, 16.3 percent reduction by 2030, and 14.8 percent reduction by 2050. Due to the State's stringent vehicle standards, emissions from the transportation sector are expected to decrease significantly over time. The proportion of emissions from electricity consumption is expected to decrease over time, whereas natural gas-related emissions are expected to increase. The emissions from the agriculture sector are also expected to reduce by almost half over time, mainly due to a decline in agricultural activities. The emissions from the solid waste sector are expected to increase because of the increase of population and employment. Table 3-5 (Adjusted BAU Forecast Emissions by Source) shows Adjusted BAU forecast emissions by source, and Figure 3-2 (Community BAU and Adjusted BAU Forecasts) shows the details of the community BAU and Adjusted BAU forecasts in MT CO_2e.

Table 3-5 Adjusted BAU Forecast Emissions by Source

Sector	2017 (MT CO_2e)	2020 (MT CO_2e)	% Change 2017–2020	2030 (MT CO_2e)	% Change 2017–2030	2050 (MT CO_2e)	% Change 2017–2050
On Road Transportation	1,766,784	1,835,938	3.9	1,361,200	-22.9	1,174,310	-33.5
Agriculture	1,670,954	1,565,873	-6.2	1,261,044	-24.5	817,858	-51.0
Electricity	712,928	653,541	-8.3	466,971	-34.4	480,289	-32.6
Natural Gas	475,211	510,268	7.3	652,578	37.3	1,104,421	132.0
Solid Waste	204,365	223,448	9.3	298,585	46.1	533,154	160.8
Water & Wastewater	44,606	41,377	-7.2	30,413	-31.8	32,584	-26.9
Aviation	26,786	26,786	0.0	26,786	0.0	26,786	0.0
Off-Road Sources	3,883	4,024	3.6	4,531	16.6	5,744	47.9
Total	4,905,518	4,861,256	-0.9	4,102,109	-16.3	4,175,146	-14.8

BAU = Business-as-Usual
MT CO_2e = metric tons carbon dioxide equivalent

Figure 3-2 Community Business-as-Usual (BAU) and Adjusted BAU (ABAU) Forecasts (MT CO_2e)



3.4 Reduction Targets

The State has set goals for reducing GHG emissions by the year 2020, 2030, and 2050 through AB 32, EO S-3-05, and EO B-30-15, respectively. The State has also provided guidance to local jurisdictions as "essential partners" in achieving the State's goals by identifying a 2020 recommended reduction goal. That goal, stated in the AB 32 Scoping Plan, was for local governments to achieve a 15 percent reduction below 2005 to 2008 annual emissions levels by year 2020, which aligns with the State's goal of not exceeding 1990 annual emissions levels by year 2020[23]. The State's long-term target is to emit no more than 20 percent of 1990 annual emissions levels by year 2050 (or, a reduction of 80 percent below 1990 annual emissions levels by year 2050). The State has also provided an interim target, which is 40 percent below 1990 annual emissions levels by year 2030. It is clear that the issue of climate change will not end in 2030 and continued reduction goals should be implemented to keep the State on a path toward the 2050 goal.

In order to keep the County CAP in line with the State's reduction goals the following targets are set for Riverside County. In the year 2020, the County would not need to make any additional CO_2e emissions reductions, as State and local policies will be sufficient to meet the targets. In the year 2030, the County would need to reduce emissions by 525,511 MT CO_2e annually below the ABAU scenario to meet the State-aligned target. In 2050, the County would need to reduce emissions by 2,982,947 MT CO_2e annually below the ABAU scenario to meet the State-aligned target. Table 3-6 (State-Aligned GHG Emissions Reduction Targets by Year) and Figure 3-3 (Community Emissions Inventories, Forecasts, and Targets) show reduction targets and additional reduction needed to meet the targets.

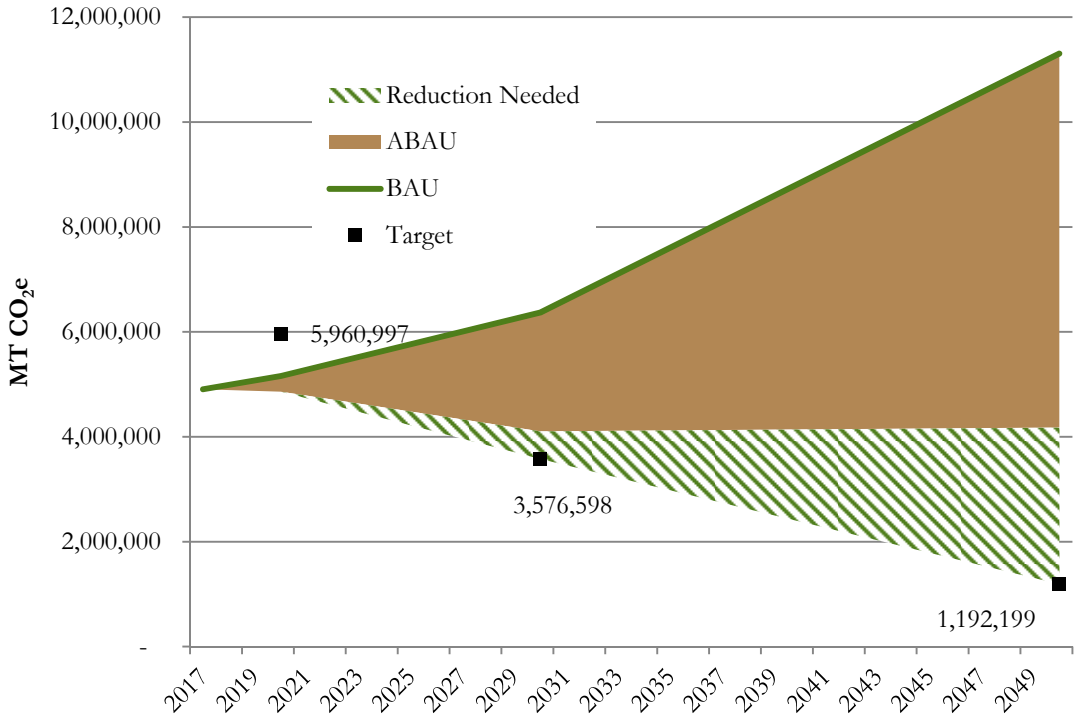
[23] In an analysis, the State concluded that a 15 percent reduction in emissions from 2005 to 2008 levels by 2020 would be equivalent to achieving 1990 emissions levels.

Table 3-6 State-Aligned GHG Emissions Reduction Targets by Year

Sector	2008	2017	2020	2030	2050
BAU Emissions (MT CO_2e)	7,012,938	4,905,518	5,185,305	6,368,781	11,305,026
ABAU Emissions (MT CO_2e)	-	-	4,861,256	4,102,109	4,175,146
State-Aligned Target (% change from 1990)	-	-	0	-40	-80
State-Aligned Target (% change from 2008)	-	-	-15	-49	-83
State-Aligned Target (MT CO_2e)	-	-	5,960,997	3,576,598	1,192,199
Reductions from ABAU needed to meet the Target (MT CO_2e)	-	-	Target Met	525,511	2,982,947

Note: [1] Baseline (2008) emissions are from the County of Riverside's 2015 Climate Action Plan GHG inventory.
[2] Reduction targets calculation details are provided in Appendix A.
ABAU = Adjusted Business-as-Usual
BAU = Business-as-Usual
GHG = greenhouse gas
MT CO_2e = metric tons of carbon dioxide equivalent

Figure 3-3 Community Emissions Inventories, Forecasts, and Targets



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Chapter 4
GHG Emissions Reduction Programs and Regulations

The GHG reduction programs and measures presented in this report build on the previous 2015 CAP and are revised and updated to reflect changes in the GHG emissions inventories and policies. The GHG reduction measures focus on different sectors including transportation, energy efficiency, clean energy, water efficiency, advanced measures, and solid waste. The measures include revisions based upon the County's input and are either new or enhancement and continuation of reduction measures proposed in the 2015 CAP. These measures would help the County achieve GHG reduction targets in 2030 and 2050.

The State of California has set specific targets for reducing GHG emissions from the burning of fossil fuels in both power plants and vehicles by adopting various regulations. In addition, State energy efficiency and renewable requirements provide another level of reductions. In order to provide credit to Riverside County for regulatory actions already taken or planned by the State of California, this CAP Update first evaluates the GHG reductions that will occur within Riverside County as a result of these actions. These are identified in the CAP as R1 reduction measures. The R1 measures do not require additional local actions but should be accounted for in the County's emissions forecasts to provide a more accurate picture of future emissions and the level of local actions needed to reduce emissions to the State-aligned target levels. The R1 measures described in this chapter have been included and accounted for in ABAU forecasts as discussed in Chapter 3. It is also important to note that some R1 measures from the 2015 CAP are no longer included in this document either because they have been fully implemented or are not applicable beyond 2020.

The R2 reduction measures will be incorporated at the County level to provide additional reductions in GHG emissions. R2 measures are those measures that either can be quantified to show the value of the reduction from the incorporation of those measures, or the supportive measures or methods of implementation for the quantifiable measures. The R2 measures correspond to the Implementation Measures (IM) included in Appendix K of the General Plan. The R3 measures proposed in the 2015 CAP are combined with R2 measures and are no longer shown as an individual category in this document. A complete list of assumptions and reductions for each of the R2 measures is included in Appendix C of this CAP Update.

The following reduction measures are organized herein by source category (transportation, energy efficiency, clean energy, advanced measures, water efficiency, and solid waste), and then by R1 and R2 measures. The method used for numbering the mitigation measures will be to list the R designation (R1 or R2) then an abbreviation of the source category, followed by the order number. Therefore, R1-EE1 is the first R1 measure within the energy efficiency category, R1-EE2 is the second measure within the energy efficiency category, and so on. The source category abbreviations are as follows: T – transportation, EE – energy efficiency, CE – clean energy, L – advanced measures, W – water efficiency, and S – solid waste.

4.1 Existing Riverside County General Plan Policies Related to GHGs

Policies to reduce GHG emissions often overlap with policies addressing energy conservation, reduced automobile use, water conservation, and many other issues. In addition to policies specifically targeting GHG emissions, Riverside County has many General Plan policies that help reduce GHG emissions while targeting other policies applicable to Riverside County. For example; the Air Quality Element of the General Plan was updated in July 2018 and specifically includes GHG reduction categories and policies. It also summarizes GHG emission reduction focus areas as a key to achieving General Pan and CAP milestones. The General Plan also includes policies that contribute indirectly to GHG emissions reductions, such as Land Use strategies for improving air quality by emphasizing alternative transportation options for communities to help improve air quality. Table 4-1 (General Plan Policies Related to Reducing GHG Emissions) below summarizes these General Plan policies that directly or indirectly contribute to GHG emissions reductions. The R-2 measures included in this CAP Update support and help implement most of these General Plan policies.

Table 4-1 General Plan Policies Related to Reducing GHG Emissions

Sector	Element	Section	Policies
Energy Efficiency in Buildings	Land Use	Project Design	LU-4.1
	Multipurpose Open Space	Energy Conservation	OS-16.1 through OS-16.10
	Air Quality	Stationary Emissions	AQ-4.1 through AQ-4.4, AQ-4.6, and AQ-4.7
		Energy Efficiency and Conservation Objectives	AQ-4.1 through AQ-4.4, AQ-5.1, AQ-5.2, AQ-5.4, and AQ-20.10 through AQ-20.12
Regional Agency Coordination/Education and Outreach	Land Use	Administration	LU-1.5, LU-1.6, and LU-8.6
	Air Quality	Multi-Jurisdictional Cooperation, Education and Outreach	AQ-1.1 through AQ-1.4, AQ-1.6, AQ-1.10, AQ-3.2, AQ-3.3, AQ-7.1, AQ-7.5, AQ-17.6, and AQ-20.1 through AQ-20.6
Smart Growth	Land Use	Efficient Use of Land	LU-2.1
		Economic Development	LU-7.12
		Air Quality	LU-11.1 through LU-11.5
	Air Quality	Business Development	AQ-7.1 and AQ-7.3
		Job-to-Housing Ratio	AQ-8.4 through AQ-8.9
		Land Use Related Objectives	AQ-20.7 through AQ-20.9
Water Conservation	Land Use	Project Design	LU-4.1
	Circulation	Transportation System Landscaping	C-5.2
	Multipurpose Open Space	Water Conservation	OS-1.4, and OS-2.1 through OS-2.5
	Air Quality	Water Conservation Objectives	AQ-20.13 through AQ-20.17

Sector	Element	Section	Policies
Reduce Automobile Use	Land Use	Efficient Use of Land	LU-2.1
		Project Design	LU-4.1 and LU-4.2
		Air Quality	LU-11.1 through LU-11.4 and AQ-20.7 through AQ-20.9
		Circulation	LU-13.1 through LU-13.7
	Circulation	Planned Circulation Systems	C-1.2 and C-1.7
		Pedestrian Facilities	C-4.1 and C-4.9
		Transportation System Landscaping	C-5.2
		Public Transportation System	C-9.2
		Fixed Route Transit Service	C-11.2 and C-11.4 through C-11.7
		Transit Oasis and Transit Centers	C-12.1 through C-12.3
		Passenger Rail	C-13.1 through C-13.3
		Bikeways	C-17.3 and C-17.4
		Environmental Considerations	C-20.12
		Transportation Systems Management	C-21.1
	Multipurpose Open Space	Energy Conservation	OS-16.3 and OS-16.8
	Air Quality	Mobile Pollution Sources	AQ-3.2 and AQ-3.4
		Trip Reduction and Transportation Related Objectives	AQ-10.1 through AQ-10.4, and AQ-20.1 through AQ-20.6
Renewable Energy/Alternative Fuel	Multipurpose Open Space	Renewable Energy	OS-10.1, OS-11.1 through OS-11.3, OS-12.1, OS-12.4, and OS-13.1
	Air Quality	Transportation System Management Improvements	AQ-13.1 through AQ-13.3
		Alternative Energy Objectives	AQ-20.18 and AQ-20.19
	Land Use	Solar Energy Resources	LU-17.1 and LU-17.2
Reduce Waste	Air Quality	Energy Efficiency and Conservation	AQ-5.1
		Waste Reduction Objectives	AQ-20.20

Source: Riverside County General Plan and Elements Revised on various dates. Website: https://planning.rctlma.org/ZoningInformation/General Plan.aspx.
GHGs = greenhouse gases

4.2 Transportation

A. R1 Transportation Measures

The following list of R1 transportation-related measures are those measures that the State of California has identified in the AB 32 Scoping Plan. These measures are accounted for in the County's ABAU emissions forecasts to provide a more accurate picture of future emissions and the level of local actions needed to reduce emissions to levels consistent with the State requirements..

R1-T1: Assembly Bill 1493: Pavley I

Assembly Bill (AB) 1493 (Pavley) required CARB to adopt GHG standards for motor vehicles through model year 2015 that would result in reductions in GHG emissions by up to 25 percent in 2030.

R1-T2: Assembly Bill 1493: Pavley II

The State of California committed to further strengthening the AB 1493 standards by introducing additional components to the State's Advanced Clean Cars Program that will further reduce GHG emissions State-wide, including more stringent fuel efficiency standards for model years 2017 through 2025 and support infrastructure for the commercialization of zero-emission vehicles. CARB anticipates additional GHG reductions of 3 percent by 2020, 27 percent by 2035, and 33 percent by 2050.[24]

R1-T3: Executive Order S-1-07 (Low Carbon Fuel Standard)

The Low Carbon Fuel Standard (LCFS) will require a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. The State is currently implementing this standard, which is being phased in and will achieve full implementation in 2020. The LCFS target would be maintained beyond 2020.

B. R2 Transportation Measures

The following list of R2 measures are measures which Riverside County can incorporate into the existing land uses and new development projects for the reduction of transportation-related emissions to achieve a State-aligned reduction target. These R2 measures also support the implementation of General Plan policies related to smart growth and reducing automobile use as shown in Table 4-1, including LU-11.1 through LU-11.5, C-1.2, C-1.7, C-4.1, C-4.9, C-9.2, C-17.3, C-17.14, AQ-10.1 through 10.4, AQ 20.1 through 20.6.

R2-T1: Alternative Transportation Options

Alternative transportation includes taking transit and non-motorized transportation options, among them walking and bicycling, and variants such as small-wheeled transport such as skates, skateboards, push scooters and hand carts, and wheelchair travel. These modes provide both recreation and transportation, and can reduce VMT by removing automobiles from the road. This is an enhancement of Measures R2-T2, R2-T3, R2-T6, R2-T9, and R3-T1 proposed in the 2015 CAP. Potential actions for this measure include:

- Work with SCAG and the community to remove barriers to alternative transportation.
- Create a "bike to work day" or "car-free zone day" and other County sponsored events to promote bicycling and other non-motorized transportation.
- Create additional active transportation routes from transit centers to surrounding residential areas.
- Implement reduced parking requirement in areas served by transit.

[24] CARB. 2010. Advanced Clean Cars Summary Sheet. Website: https://www.arb.ca.gov/msprog/ clean_cars/acc%20summary-final.pdf (accessed November 10, 2018).

R2-T2: Adopt and Implement a Bicycle Master Plan to Expand Bike Routes around the County

Bicycle-friendly roads are crucial to promoting bicycle use as a transportation method. People tend to bicycle if routes are available to separate them from motor vehicles and bicyclists' safety can be ensured. Currently, Riverside County has not adopted a bicycle master plan. Thus, adopting and implementing a bicycle master plan and constructing more bicycle routes would encourage more bicycle rides and would help to reduce VMT. This is a new measure for the County's consideration. Potential action for this measure includes:

- Adopt and implement a bicycle master plan.
- Expand bicycle routes and prioritize funding for Class I bicycle lanes to improve bike transit.

R2-T3: Ride-Sharing and Bike-to-Work Programs within Businesses

Approximately 81 percent of people living in unincorporated area of Riverside County drive alone to work every day (SCAG 2017). A higher ride-sharing rate or bike-to-work rate would mean fewer VMT and GHG emissions, so encouraging carpooling and bicycling by providing incentive programs and necessary facilities can reduce GHG emissions. This is an enhancement of Measures R2-T1, R2-T4, and R2-T6 proposed in the 2015 CAP. Potential actions for this measure include:

- Promote ride-sharing and facilitate air district incentives for ride-sharing.
- Provide reserved preferential parking spaces for ride-sharing, carpooling, and ultra-low- or zero-emission vehicles.
- Zoning code update that requires businesses of a certain size to provide facilities such as bicycle racks.

R2-T4: Electrify the Fleet

Hybrid electric vehicles, plug-in hybrid electric vehicles, and all-electric vehicles (EVs) produce lower emissions than conventional vehicles. Any type of electrified vehicle emits less GHG than conventional vehicles by at least 40 percent. However, more than 95 percent of people still drive conventional gasoline or diesel vehicles, so programs to encourage the use of EV or hybrid vehicle ownership are highly needed. With the Statewide EV ownership goal and the implementation of this measure, EV ownership in Riverside County could reach 13 percent by 2030. Per the Settlement Agreement[25], for all new residential development, the County requires installation of EV charging stations in the garages of the residential units. The Settlement Agreement further states that the capacity and circuits for installation of EV charging stations to be provided in the garages of residential units and all new large-scale commercial buildings that are over 162,000 square feet. This is an enhancement of Measures R2-T7 and R3-T2 proposed in the 2015 CAP. Potential actions for this measure include:

[25] Partial Settlement Agreement, 2017. Petitioners: Sierra Club, Center for Biological Diversity, San Bernardino Audubon Society and Respondents: County of Riverside and Riverside County Board of Supervisors.

- Require all new residential development to include EV chargers in the garages of residential units.
- Promote EV incentive programs at outreach meetings.
- Promote Neighborhood Electric Vehicle (NEV).
- Support application for grants to install e-chargers at public facilities.
- Work with community groups and businesses to install e-chargers.
- Comply with State Title 24 energy efficiency requirements for new commercial development to install e-chargers starting in 2020.

4.3 Energy Efficiency

A. R1 Energy Efficiency Measures

The following list of R1 energy efficiency related measures are those measures that California has identified in the regulations that will result in emission reductions within Riverside County and are included in the ABAU forecasts.

R1-EE1: California Building Code Title 24

California's building efficiency standards are updated regularly to incorporate new energy efficiency technologies. The code was most recently updated in 2016 and went into effect for new development in 2017. For projects implemented after January 1, 2017, the California Energy Commission estimates that the 2016 Title 24 energy efficiency standards will reduce consumption by an estimated 28 percent for residential buildings and 5 percent for commercial buildings, relative to the 2013 standards. These percentage savings relate to heating, cooling, lighting, and water heating only; therefore, these percentage savings were applied to the estimated percentage of energy use by Title 24.

B. R2 Energy Measures

The following list of R2 measures are measures related to energy efficiency Riverside County can incorporate into the existing residential and non-residential buildings or new development projects to achieve a State-aligned reduction target. These R2 energy measures also support the General Plan policies as shown in Table 4-1, particularly related to energy efficiency in buildings, regional agency coordination/education and outreach, including LU-4.1, OS-16.1 through OS-16.10, AQ-4.1 through AQ-4.4, AQ-5.2, AQ-5.4, and AQ-20.10 through AQ-20.12.

R2-EE1: Energy Efficiency Training, Education, and Recognition in the Residential Sector

Opportunities for residents to improve energy efficiency in their homes include changes to their behaviors and physical modifications or improvements to their homes. Education of the public is at the core of attaining energy efficiency goals. While most of the measures include an outreach component, creating a specific education measure would emphasize the critical role of education in achieving energy efficiency. An education measure would also provide County staff with a framework to educate community members about behavioral and technological changes that can increase energy efficiency. This is an enhancement of Measure R3-E2 proposed in the 2015 CAP. Potential actions for this measure include:

- Post energy efficiency information or links on websites and/or social media and provide materials at public events.
- Set up an email list for blasts of new information or training sessions.
- Encourage homeowners to use the SCE Energy Education Centers for energy-efficiency resources.
- Promote and manage energy-efficiency programs which are not already in the purview of Energy Service Providers.
- Require building inspectors to hold trainings semi-annually on energy efficiency and Title 24 requirements.

R2-EE2: Increase Community Participation in Existing Energy-Efficiency Programs

There are many energy efficiency opportunities that are low-cost for residents to initiate and would result in cost savings over time. These opportunities are generally from existing programs, such as SCE and SoCalGas, which offer rebates and incentives to purchase energy-efficient appliances and lights. Through this measure, the County would work to increase residents' participation in existing energy efficiency programs that are low-cost and would provide a financial benefit to the residents. As programs change over time, continued and up-to-date outreach would be necessary. This is an enhancement of Measure R3-E4 proposed in the 2015 CAP. Potential action for this measure includes:

- Partner with the Southern California Association of Governments (SCAG), Western Riverside Council of Governments (WRCOG), SCE, and SoCalGas for outreach events, such as annual energy-efficiency fair.

R2-EE3: Home Energy Evaluations

Home energy evaluations are necessary to identify cost-effective opportunities for energy savings and for residents to take practical actions to achieve energy efficiency. Home energy evaluations can be established or promoted by a variety of existing programs. This is a new measure for the County's consideration. Potential action for this measure includes:

- Promote SCE energy audits program for residents within the SCE service area and the Home Energy Saver Do It Yourself online energy audits for the IID service area.

R2-EE4: Residential Home Energy Renovations

Approximately 31 percent of the residential buildings in the unincorporated area of Riverside County were constructed before the adoption of Title 24 (SCAG 2017). Renovations to buildings constructed before the adoption of Title 24 would evidently improve energy efficiency. Many federal and State programs and incentives support home energy renovations, including County-supervised funding, permit process improvements, and County ordinances. This is an enhancement of Measures R1-E4, R1-E5, R2-E3, and R2-E4 proposed in the 2015 CAP. Potential actions for this measure include:

- Review Title 24 code compliance for existing residential buildings during code enforcement inspections of residential properties.
- Promote existing home energy-renovation programs.
- Promote participation in green building programs, such as Leadership in Energy and Environmental Design (LEED) and Energy Upgrade California.
- Promote financing programs for home upgrades, such as Home Energy Renovation Opportunity (HERO) program sponsored by the Western Riverside County Council of Governments (WRCOG) and other Property Assessed Clean Energy (PACE) programs in the IID service area.
- Establish online permitting to facilitate upgrades.

R2-EE5: Exceed Energy Efficiency Standards in New Residential Units

County planners have a unique opportunity to encourage or inform developers of new energy efficiency opportunities for new development. This measure would educate County staff to encourage and implement energy efficiency measures beyond those required in current Title 24 standards. This measure would also ensure that as Title 24 standards are updated, County staff are well informed and can implement updates quickly and effectively. This is an enhancement of Measures R2-E1 and R2-E2 proposed in the 2015 CAP. Potential actions for this measure include:

- Educate County staff and developers on future Title 24 updates and new energy efficiency opportunities for new residential development.
- Promote Tier 1 and Tier 2 green building ratings such as LEED, Build It Green, or Energy Star®-certified buildings.
- Establish online permitting to facilitate new residential building energy-efficiency programs.
- Comply with State Title 24 energy efficiency requirements on new residential buildings, such as zero net energy homes that require all new residential construction projects to achieve zero net-energy use by 2020.

R2-EE6: Energy Efficiency Training, Education and Recognition in the Commercial Sector

Education is at the core of attaining energy efficiency goals. A specific education measure would emphasize the critical role of education in achieving energy efficiency. This measure would provide County staff with a framework to interact with and educate the community about behavioral and technological changes that can

increase energy efficiency in commercial buildings. This is an enhancement of Measure R3-E2 proposed in the 2015 CAP. Potential actions for this measure include:

- Post energy-efficiency information or links on websites and/or social media and provide materials at public events
- Set up an email list for blasts of new information or training sessions.
- Encourage business owners to visit SCE Energy Education Centers for energy efficiency resources.
- Promote and manage energy efficiency programs which are not already in the purview of Energy Service Providers.
- Invite building inspectors to hold trainings semi-annually on energy efficiency and Title 24.

R2-EE7: Increase Business Participation in Existing Energy Efficiency Programs

There are many energy efficiency opportunities that are low-cost for businesses to initiate that would result in cost-savings over time. SCE and SoCalGas offer many rebates and incentives to purchasing energy-efficient appliances and lights. As many business owners may be unaware that the opportunities exist, this measure would allow for the County to increase the participation of businesses in existing energy-efficiency programs that are low-cost and would provide financial benefits. This is an enhancement of Measure R3-E4 proposed in the 2015 CAP. Potential action for this measure includes:

- Partner with SCAG, WRCOG, SCE, and SoCalGas for outreach events.

R2-EE8: Non-Residential Building Energy Audits

Commercial energy audits are necessary to identify cost-effective opportunities for energy savings and for business owners to take practical actions to increase energy efficiency. The audits can be established or promoted by various existing programs. This is a new measure for the County's consideration. The potential action for this measure is:

- Promote the SCE energy audit program for residents within the SCE service area and the Home Energy Saver Do It Yourself online energy audits for the IID service area.

R2-EE9: Non-Residential Building Retrofits

As many of commercial buildings in unincorporated area of Riverside County were constructed before the adoption of Title 24, their facilities and equipment are not considered energy efficient. Therefore, retrofits are necessary to achieve higher energy efficiency. Many federal and State programs and incentives support non-residential building energy retrofits, including County-supervised funding, permit process improvements, and County ordinances. This is an enhancement of Measures R1-E4, R1-E5, and R2-E7 proposed in the 2015 CAP. Potential actions for this measure include:

- Review Title 24 code compliance for existing non-residential buildings during code enforcement inspections.

- Promote existing non-residential building retrofits programs.
- Promote participation in green building programs, such as California Solar Initiative.
- Promote energy efficiency retrofit financing programs for non-residential buildings such as Property Assessed Clean Energy (PACE).
- Establish online permitting to facilitate retrofits.

R2-EE10: Energy Efficiency Enhancement of Existing and New Infrastructure

Enhancing energy efficiency of existing and new infrastructure presents an opportunity for energy and cost savings for the County. The County could achieve energy savings by deploying high-efficiency lighting in new traffic signals and retrofitting existing traffic signals with energy-efficient lighting. Conventional traffic signals employ incandescent lamps. They are not energy-efficient and the on-going energy charge contributes a high proportion of the recurrent cost. Comparing with the conventional traffic signals, high-efficiency traffic signals consume much less electricity (about one-third or less) and have longer design life (over 10 years). The Settlement Agreement[26] calls for consideration of a policy to require the use of high-efficiency bulbs at all new traffic signal lights and converting 100 percent existing traffic signal lights to high-efficiency bulbs by 2020. Per the Settlement Agreement, caution should be exercised while retrofitting the signals in the Mt. Palomar area to ensure the high-efficiency bulbs do not cause any interference with the night sky viewing at Palomar Observatory. The potential actions for this measure include:

- Retrofit existing traffic signals with high-efficiency Light Emitting diodes (LEDs).
- Use high-efficiency LEDs for all new traffic signals.

R2-EE11: Exceed Energy Efficiency Standards in New Commercial Units

County planners have a unique opportunity to inform and encourage developers to apply new energy efficiency opportunities in new development. This measure would educate County staff to encourage and implement energy efficiency beyond that required by current Title 24 standards. This measure would also ensure that as Title 24 standards are updated, County staff would be well informed and could implement updates quickly and effectively. This is an enhancement of Measures R2-E5 and R2-E6 proposed in the 2015 CAP. Potential actions for this measure include:

- Educate County staff and developers on future Title 24 updates and additional energy efficiency opportunities for new non-residential development.
- Promote Tier 1 and Tier 2 Green Building Ratings such as LEED, Build It Green, or Energy Star®-certified buildings.

[26] Partial Settlement Agreement, 2017. Petitioners: Sierra Club, Center for Biological Diversity, San Bernardino Audubon Society and Respondents: County of Riverside and Riverside County Board of Supervisors.

- Establish online permitting to facilitate new non-residential building energy efficiency programs.
- Comply with State requirements on new non-residential buildings, such as Net-Zero Energy Buildings for all new non-residential development meeting zero net-energy use by 2030.

4.4 Clean Energy

A. R1 Clean Energy Measure

The following list of R1 clean energy related measures are those measures that California has identified in the regulations that will result in emission reductions within Riverside County and are included in the ABAU forecasts.

R1-CE1: Renewable Portfolio Standard

Senate Bills (SBs) 1075 (2002) and 107 (2006) created the State's Renewable Portfolio Standard (RPS), and SB 100 (2018) further requires the energy providers to derive 33 percent, 60 percent, and 100 percent of electricity from qualified renewable sources by 2020, 2030, and 2045, respectively. The RPS is anticipated to lower emission factors (i.e., fewer GHG emissions per kWh used) State-wide. Therefore, reductions from RPS are taken for energy embedded in water, as well as commercial/industrial and residential electricity.

B. R2 Clean Energy Measure

The following list of R2 measures are measures related to clean energy Riverside County can incorporate into the existing residential and non-residential buildings or new development projects to achieve a State-aligned reduction target. These R2 Clean Energy Measures also support the implementation of General Plan policies related to Renewable/Alternative Energy as shown in Table 4-1, including LU-16.1, OS 11.1 through OS 11.3, OS-12.1, OS-12.4, OS-13.1, AQ-20.18, and AQ-20.19.

R2-CE1: Clean Energy

Clean energy includes energy efficiency and clean energy supply options such as highly efficient combined heat and power as well as renewable energy sources. Installing solar photovoltaics panels on residential and commercial building rooftops is an effective way to produce renewable energy on-site. Moreover, when combined with energy storage systems, solar panels could continuously meet residential and commercial energy demand. The Riverside County Settlement Agreement[27] requires that on-site renewable energy production (including but not limited to solar) shall apply to any tentative tract map, plot plan, or conditional use permit that proposes to add more than 75 new dwelling units of residential development or one or more new buildings totaling more than 100,000 gross square feet of commercial, office, industrial, or manufacturing development. Renewable energy production shall be onsite generation of at least 20 percent of energy demand for commercial, office, industrial or

[27] Partial Settlement Agreement, 2017. Petitioners: Sierra Club, Center for Biological Diversity, San Bernardino Audubon Society and Respondents: County of Riverside and Riverside County Board of Supervisors.

manufacturing development, meet or exceed 20 percent of energy demand for multi-family residential development, and meet or exceed 30 percent of energy demand for single-family residential development. These renewable energy requirements should be updated with every CAP Update by the County based on most recent technology advancements.

By identifying, designing, and implementing the clean energy measures and technology solutions, Riverside County would receive environmental and economic benefits, including reductions in GHG emissions. This is an enhancement of Measures R1-E6 and R3-E3 proposed in the 2015 CAP. Potential action for this measure includes:

- Outreach to the community to promote clean energy incentives.
- Require solar panel installation on new residential buildings (per conditions of the Settlement agreement described above).
- Require solar panel installation on new commercial buildings and commercial parking lots (per conditions of the Settlement Agreement described above).
- Encourage energy storage system installation with solar panels.

R2-CE2: Community Choice Aggregation Program

Assembly Bill 117, which was signed into law in 2002, allows California cities and counties to either individually or collectively supply electricity to customers within their borders through the establishment of a Community Choice Aggregation (CCA) program. The County could assess the feasibility of initiating a CCA program. CCA programs that are currently operating have renewable energy percentages between 33 and 100, and the national opt-out rates for these programs range from 3 to 8 percent with most programs at or below 5 percent.[28] Participation in a CCA program could provide a significant source of future emission reductions to the County. The first step is to conduct a feasibility analysis to assess the benefits, costs, risks, and obstacles of a CCA program. Then the County could make a decision to whether or not implement a local CCA program or opt for a regional CCA. The advantages of regional CCAs that include participation from multiple local jurisdictions would be the creation of efficiencies. The County could seek opportunities for collaboration with other local jurisdictions to develop and implement a CCA that would produce mutually beneficial results. Developing a CCA would require a detailed analysis of energy demand, efficiency opportunities, and available clean electricity sources for purchase. Per the Settlement Agreement,[29] the County must update the CAP every four years. This allows enough time to conduct a feasibility analysis on initiating a CCA program and provide details on the reduction potential based upon the decisions of the County.

Potential action for this measure includes:

- Evaluate the potential for implementing a CCA program to meet GHG reduction targets

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[28] There are 17 operational CCA programs in California as of September 2018. Source: Local Energy Aggregation Network. Website: http://leanenergyus.org/cca-by-state/california/ (accessed September 2018).

[29] Partial Settlement Agreement, 2017. Petitioners: Sierra Club, Center for Biological Diversity, San Bernardino Audubon Society and Respondents: County of Riverside and Riverside County Board of Supervisors.

- Conduct feasibility analysis to initiate a CCA program at the County level or in cooperation with other jurisdictions.

4.5 Advanced Measures

The following measures are focused on reducing urban heat island effect and therefore indirectly reduce energy use throughout unincorporated area of Riverside County. These measures can be incorporated into development projects without additional costs.

A. R2 Advanced Measures

The following R2 measures are related to landscape strategies that will help reduce GHG emissions. These measures strategically place trees and other landscape mechanisms that create shade to reduce the heat island effect within parking lots and adjacent to buildings, which in turn, reduces the temperature of buildings and cars during the summer. The General Plan includes some of these advanced measures as part of the Municipal Operational Objectives, included in the Air Quality Element.

R2-L1: Tree Planting for Shading and Energy Saving

Trees and vegetation lower surface and air temperatures by providing shade and through evapotranspiration, making vegetation a simple and effective way to reduce urban heat islands. Shaded surfaces may be 20 to 45 degrees Fahrenheit ([°F], equal to 11 to 25 degrees Celsius [°C]) cooler than the peak temperatures of unshaded materials. In addition, evapotranspiration, alone or in combination with shading, can help reduce peak summer temperatures by 2 to 9 °F (or 1 to 5 °C). Trees and vegetation that directly shade buildings can reduce energy use by decreasing demand for air conditioning. This is an enhancement of Measure R3-L1 proposed in the 2015 CAP. Potential actions for this measure include:

- Work with the community to support nonprofit tree-planting groups within the County consisting of volunteers to plant and care for trees correctly and safely.
- Develop and promote a County tree-planting program for new development at plan check.

R2-L2: Light Reflecting Surfaces for Energy Saving

Replacing surface areas with light-reflecting materials can decrease heat absorption and lower outside air temperature. Both roofs and pavements are ideal surfaces for taking advantage of this advanced technology.

A cool roof is built from materials with high thermal emittance and high solar reflectance, or albedo, to help reflect sunlight and the associated energy away from a building. These properties help roofs absorb less heat and stay up to 50 to 60 °F (or 28 to 33 °C) cooler than conventional materials during peak summer weather. Cool roofs may be installed on low-slope roofs (such as the flat or gently sloping roofs typically found on commercial, industrial, and office buildings) or the steep-sloped roofs used in many residences and retail buildings.

Cool pavement is built from materials that reflect more solar energy, enhance water evaporation, or have been otherwise modified to remain cooler than conventional pavements. Cool pavement can be created with existing

paving technologies as well as newer approaches such as the use of coatings, permeable paving, or grass paving. Cool pavements save energy by lowering the outside air temperature, allowing air conditioners to cool buildings with less energy, and reducing the need for electric street lighting at night.

This is an enhancement of Measure R3-L2 proposed in the 2015 CAP. Potential actions for this measure include:

- Comply with Title 24 requirements on installing enhanced cool roofs.
- Comply with Title 24 requirements on installing cool pavements.

4.6 Water Efficiency

While GHG emissions from consumer water use and wastewater treatment in the unincorporated area of Riverside County accounted for a very small percent of the total community emissions in 2017, water efficiency strategies assist in extending current water supplies (LSA 2018). GHG emissions are generated in the transport and consumption of water due to the energy needed to supply water to the end user. Note that the various water districts throughout the County enforce the water conservation programs. However, there are still many opportunities to reduce water consumption throughout the County during the land use approval process.

A. R1 Water Efficiency Measures

The following list of R1 water efficiency related measures are based on the State of California regulations that will result in emission reductions within Riverside County and are included in the ABAU forecasts.

R1-W1: Renewable Portfolio Standard Related to Water Supply and Conveyance

This measure would increase electricity production from eligible renewable power sources to 33 percent by 2020, 60 percent by 2030, and 100 percent by 2045. A reduction in GHG emissions results from replacing natural gas-fired electricity production with zero GHG-emitting renewable sources of power.

B. R2 Water Efficiency Measures

The following list of R2 measures are measures related to water efficiency that Riverside County can incorporate into the water management practices to achieve a State-aligned reduction target. These R2 measures also support the implementation of General Plan Policies related to Water Conservation as shown in Table 4-1, including LU-4.1, C-5.2, OS-1.4, OS-2.1 through 2.5, and AQ-20.13 through AQ-20.17.

R2-W1: Water Efficiency through Enhanced Implementation of Senate Bill X7-7

SB X7-7, or The Water Conservation Act of 2009, requires all water suppliers to increase water use efficiency. The legislation set an overall goal of reducing per capita urban water consumption by 20 percent from a baseline level by 2020. While water districts are responsible for implementation of SB X7-7, the County can provide a

meaningful supporting role in the implementation of water conservation. This goal can be met by taking a variety of actions, including supporting targeted public outreach by water districts and promoting water efficiency measures such as low-irrigation landscaping. This is an enhancement of Measure R2-W1 proposed in the 2015 CAP. Potential actions for this measure include:

- Provide general water efficiency information and links to water district conservation webpages on the County's website.
- Implement the low-irrigation landscaping requirements..

R2-W2: Exceed Water Efficiency Standards

In addition to SB X7-7, more actions are being studied or have been taken to exceed water efficiency standards. These efforts include education and outreach practices that could be combined with residential and commercial actions that promote reuse or recycled water, use of grey water, and the collection and use of harvested rainwater. This is an enhancement of Measures R2-W1 and R2-W2 proposed in the 2015 CAP. Potential actions for this measure include:

- Support water districts in direct outreach to homeowner associations, businesses, and other community groups to inform them on water efficiency standards
- Promote recycled or grey water for community uses such as residential landscaping.
- Promote rainwater harvesting rebates and demonstrations.

4.7 Solid Waste

GHG emissions from unincorporated area of Riverside County's solid waste generation are the third largest emission source of the total community emissions in 2017 (LSA 2018). There are many opportunities to reduce waste disposal and increase waste recycling and composting. The R2 measures presented here also support the General Plan policies related to waste reduction as shown in Table 4-1, including AQ-5.1 and AQ-20.20.

A. R2 Solid Waste Measure

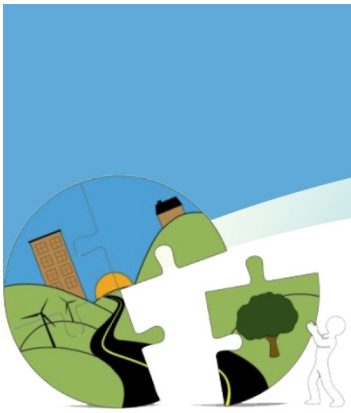
The following list of R2 measures are measures related to solid waste that Riverside County can incorporate into the waste management practices to achieve a State-aligned reduction target.

R2-S1: Reduce Waste to Landfills

According to 2014 Statewide Waste Characterization data (CalRecycle 2015), much of the waste disposed in landfills is readily recyclable. Increasing the recovery of recyclable materials will directly reduce GHG emissions. In particular, recycled materials can reduce the GHG emissions from multiple phases of product production, including extraction of raw materials, preprocessing, and manufacturing. This is

an enhancement of Measures R1-S1, R2-S1, R3-S2, and R3-S3 proposed in the 2015 CAP. Potential actions for this measure include:

- Outreach to the community to promote waste recycling and diversion.
- Add additional recycling containers in public places.
- Comply with Statewide waste reduction, recycling, and composting requirements.
- Promote community clean-up days by providing commercial containers for trash and recycling.



Chapter 5
Total Estimated Reductions

Riverside County is projected to emit a total of 5,158,305 MT CO_2e in 2020, 6,368,781 MT CO_2e in 2030, and 11,305,026 MT CO_2e in 2050 without the incorporation of reduction measures under the BAU forecast. As discussed in Chapter 3, under the ABAU forecast, the State-wide reduction measures would reduce the GHG emissions to 4,861,256 MT CO_2e in 2020, 4,102,109 MT CO_2e in 2030, and 4,175,146 MT CO_2e in 2050. Because the 2020 ABAU emissions are below the State-aligned target, no local reduction measures were proposed or quantified for 2020. With implementation of the local reduction measures (R2 measures) discussed in Chapter 4, Riverside County emissions would be reduced to 2,434,649 MT CO_2e in 2030 and 562,730 MT CO_2e in 2050.

5.1 Reductions from Local Measures

The local reduction measures (R2 measures) discussed in Chapter 4 would be implemented primarily through the Screening Tables for New Development and with General Plan policies. These measures go beyond the State measures to reduce GHG emissions in order to meet the 2030 and 2050 reduction targets. Table 5-1 (R2 Measures and Associated Emissions Reduced from 2030 and 2050 Inventories) summarizes the MT CO_2e and the corresponding percentage of emissions reduced for each of the R2 measures.

Table 5-1 R2 Measures and Associated Emissions Reduced from 2030 and 2050 Inventories

	2030 MT CO_2e Reductions	2030 % of BAU Emissions	2050 MT CO_2e Reductions	2050 % of BAU Emissions
Transportation				
R2-T1: Alternative Transportation Options	161,932	2.5	368,711	3.3
R2-T2: Adopt and Implement A Bicycle Master Plan to Expand Bike Routes Around the County	2,234	<0.1	5,086	<0.1
R2-T3: Ride-Sharing and Bike-to-Work Programs within Businesses	182,846	2.9	416,332	3.7
R2-T4: Electrify the Fleet	274,370	4.3	624,729	5.5
Transportation Total	621,382	9.8	1,414,858	12.5
Energy				
R2-EE1: Energy Efficiency Training, Education, and Recognition in the Residential Sector	-[1]	-	-	-
R2-EE2: Increase Community Participation in Existing Energy Efficiency Programs	16,845	0.3	28,091	0.2
R2-EE3: Home Energy Evaluations	-[1]	-	-	-
R2-EE4: Residential Home Energy Renovations	11,749	0.2	19,592	0.2
R2-EE5: Exceed Energy Efficiency in New Residential Units	39,408	0.6	318,632	2.8
R2-EE6: Energy Efficiency Training, Education, and Recognition in Commercial Sector	-[1]	-	-	-

	2030 MT CO_2e Reductions	2030 % of BAU Emissions	2050 MT CO_2e Reductions	2050 % of BAU Emissions
R2-EE7: Increase Business Participation in Existing Energy Efficiency Programs	31,878	0.5	67,730	0.6
R2-EE8: Non-Residential Building Energy Audits	-[1]	-	-	-
R2-EE9: Non-Residential Building Retrofits	173,554	2.7	368,747	3.3
R2-EE10: Energy Efficiency Enhancement of Existing and New Infrastructure	-[1]	-	-	-
R2-EE11: Exceed Energy Efficiency in New Commercial Units	33,418	0.5	580,161	5.1
Energy Total	306,851	4.8	1,382,953	12.2
Clean Energy				
R2-CE1: Clean Energy	34,204	0.5	34,204	0.3
R2-CE2: Community Choice Aggregation Program Reductions (If Implemented)	609,022	9.6	609,022	5.4
Clean Energy Total	643,226	10.1	643,226	5.7
Advanced Measures				
R2-L1: Tree Planting for Shading and Energy Saving	13	<0.1	22	<0.1
R2-L2: Light-Reflecting Surfaces for Energy Saving	1,845	<0.1	3,294	<0.1
Advanced Measures Total	13	<0.1	22	<0.1
Water Efficiency				
R2-W1: Water Efficiency through Enhanced Implementation of Senate Bill X7-7	5,666	0.1	10,114	0.1
R2-W2: Exceed Water Efficiency Standards	116	<0.1	206	<0.1
Water Efficiency Total	5,781	0.1	10,320	0.1
Solid Waste				
R2-W1: Reduce Waste to Landfills	88,362	1.4	157,742	1.4
Solid Waste Total	88,362	1.4	157,742	1.4
Total Reductions	1,667,460	26.2	3,612,416	32.0

[1] Supportive measure. No GHG reductions were calculated.
BAU = business-as-usual
MT CO_2e = metric ton carbon dioxide equivalent

5.2 Reduced Community-Wide Emissions Inventory

By 2030, the State-wide and local measures together would reduce the Riverside County's community GHG emissions from the 2030 BAU level to 2,434,649 MT CO_2e, which exceeds the 49 percent below 2008 levels reduction target of 3,576,598 MT CO_2e for 2030. In 2050, implementation of State-wide and local measures together would reduce emissions from the 2050 BAU level to 562,730 MT CO_2e, which exceeds the 83 percent below 2008 levels reduction target of 1,192,199 MT CO_2e for 2050. Table 5-2 (Community-Wide Emissions and Targets Comparison) summarizes the baseline 2008 community-wide emissions, the projected 2020, 2030, and 2050 emission inventories, as well as the reduced 2030 and 2050 inventories after implementation of the reduction measures for community operations.

Table 5-2 Community-Wide Emissions and Targets Comparison

	2008 MT CO_2e	2017 MT CO_2e	2020 MT CO_2e	2030 MT CO_2e	2050 MT CO_2e
BAU Emissions	7,012,938	4,905,518	5,158,305	6,368,781	11,305,026
Reduction Target	--	--	5,960,997	3,576,598	1,192,199
State and Federal Reductions	--	--	297,049	2,266,672	7,129,879
Local Measures Reductions	--	--	--	1,667,460	3,612,416
Total Adjusted Emissions	--	--	4,861,256	2,434,649	562,730
Additional Reductions Needed	--	--	Target Met	Target Met	Target Met

BAU = Business-as-Usual
MT CO_2e = metric tons of carbon dioxide equivalent

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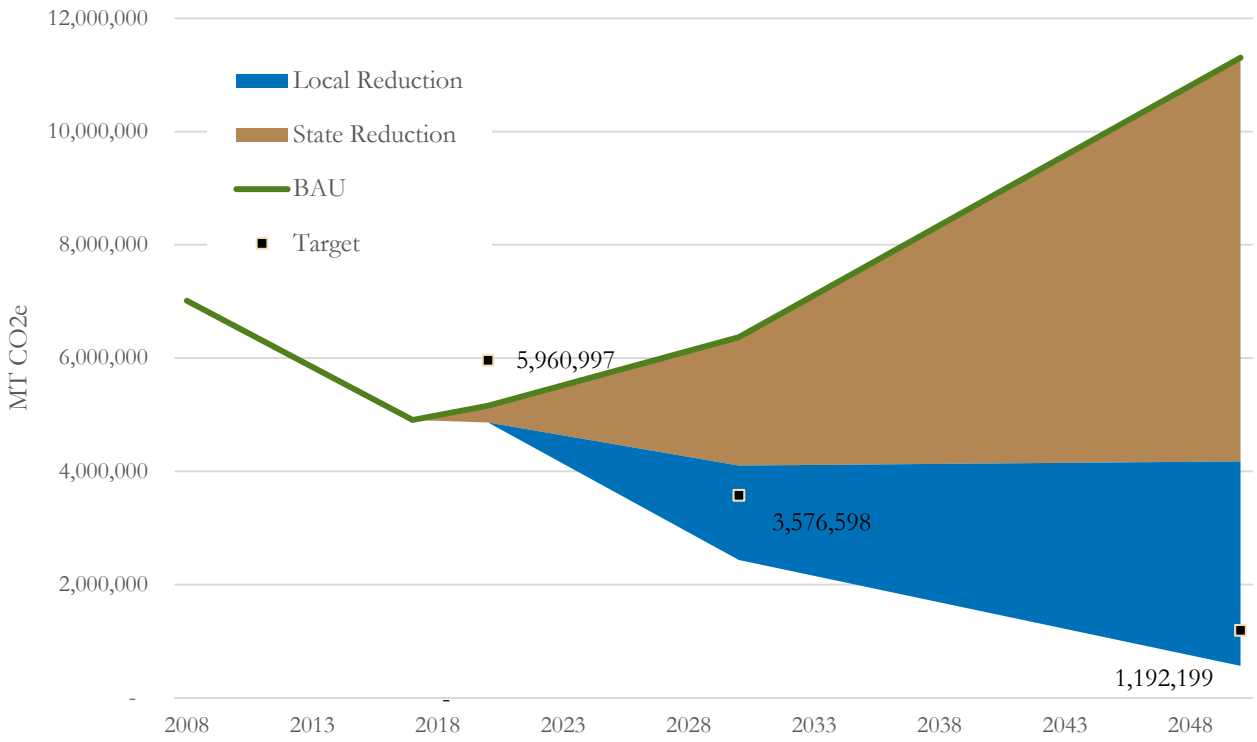
Chapter 6
Conclusions

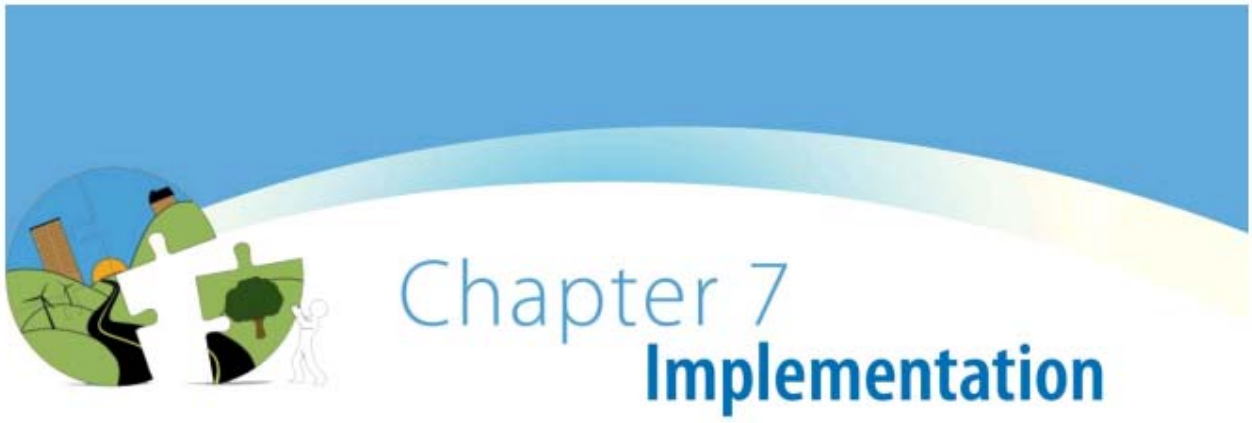
This CAP Update serves as a guide to help Riverside County implement the objectives of conserving resources and reducing GHG emissions. This document also serves as a technical resource for the proposed update of Riverside County's current General Plan and other land use related documents that may require evaluation and documentation of GHG emissions. Figure 6-1 (State and Local Reductions Comparison with Targets for Riverside County) shows a comparison between the emission inventories, including the reduced 2020, 2030, and 2050 inventories. The green line represents the GHG inventories for 2008 and 2017, and the BAU forecasts for 2020, 2030, and 2050. The brown area represents the State reductions, while the blue area shows the local reductions (R2 measures) described in Chapter 4.

Figure 6-1 State and Local Reductions Comparison with Targets for Riverside County



This CAP Update sets a target to reduce community-wide GHG emission emissions by 15 percent from 2008 levels by 2020, 49 percent by 2030, and 83 percent by 2050. The CARB Scoping Plan outlines the reduction strategies designed to meet the State-wide reduction goal of AB 32. Reduction measures provided herein would ensure that Riverside County meets the reduction target of reducing to 49 percent below 2008 levels (3,576,598 MT CO_2e) by 2030 and 83 percent below 2008 levels (1,192,199 MT CO_2e) by 2050. Such programs include strengthening Riverside County's existing programs as well as implementing the Screening Tables for New Development. In some cases, implementation will require the cooperation of other agencies, private businesses, and residents. The success of these measures will be tracked using indicators and targets such as those described in this CAP Update. Even with the anticipated growth, the modernization of vehicle fleets, combined with the continued implementation of the proposed measures, will reduce GHG emissions by approximately 3,934,131 MT CO_2e from 2030 levels and 10,742,295 MT CO_2e from 2050 levels. Therefore, the implementation of the State measures combined with Riverside County's R2 measures will reduce GHG emissions down to 2,434,649 MT CO_2e by year 2030, which is 1,141,949 MT CO_2e below the reduction target, and 562,730 MT CO_2e by 2050, which is 629,469 MT CO_2e below the reduction target.

Through 2050, Riverside County would continue implementation of the Screening Tables. During this time, the reduction measures implemented through the Screening Tables would continue to reduce GHG emissions from new development. Additionally, it is assumed that the State measures would keep being updated and reinforced to further reduce emissions. With these assumptions, Riverside County's emissions would decrease to a level below the reduction target by 2050. Continued implementation of this CAP Update is discussed in Chapter 7.



The 2015 CAP, adopted by the Riverside County included the GHG reduction target of 15 percent below 2008 levels by 2020. This entailed reducing annual emissions from 7,012,938 MT CO_2e down to 5,960,998 MT CO_2e by year 2020[30]. The County is well underway towards meeting the 2020 target and is expected to exceed the target.

This CAP Update includes reduction targets for year 2030 and year 2050. These reduction targets require the County to reduce emissions by at least 525,511 MT CO_2e below the ABAU scenario by 2030 and at least 2,982,948 MT CO_2e below the ABAU scenario by 2050. The reduction measures described in Chapter 5 are designed to meet the 2030 and 2050 reduction targets. This section describes the steps required to implement the strategies identified in the CAP Update to support the achievement of GHG reduction goals for the community at large. Success in meeting Riverside County's GHG emission reduction goals will depend on cooperation, innovation, and participation by Riverside County and residents, businesses, and government entities in Riverside County's land use jurisdictions. This section outlines key steps that the County of Riverside will follow for the implementation of this CAP Update.

7.1 STEP 1 – Administration and Staffing

The County will oversee and document implementation of the reduction measures and provide periodic monitoring of emissions with participation of the following departments, but will be expanded as needed to ensure coordinated leadership in plan implementation:

- Riverside County Executive Office – The executive office can provide economic, financial and administrative guidance and support to the Implementation Coordinator.
- Transportation Land Management Agency (TLMA) – Riverside County's Land Use umbrella agency will provide coordination between the various land use divisions, including, but not limited to Building & Safety and Transportation and will assist in the implementation of New Development Implementation Measures.

[30] Riverside County Climate Action Plan (CAP), 2015. Website: https://planning.rctlma.org/CAP.aspx.

- Riverside County Economic Development Agency-Facilities Management Division – This County division administers the energy-efficiency improvements to Riverside County-owned facilities being constructed as a result of the Energy Efficiency and Conservation Block Grant (EECBG) funding.
- Planning Division – Planning can provide expertise in the project entitlement process and provide long-term planning support.
- Interagency/Entity Coordination – Considering the multiple agencies involved in the implementation of different aspects of CAP Update. It will be essential for the County to ensure interagency coordination for effective implementation of the reduction measures and strategies.

7.2 STEP 2 – Financing and Budgeting

Implementation of the CAP Update will require creative, continuing, and committed financing. Local, regional, State, and federal public sources of funding will be needed along with the substantial involvement of the private sector. The Riverside County CAP Implementation Plan will take into account the costs and staff resources throughout implementation of the plan as well as the financial benefits and cost savings. The following different financing options will be explored by the County of Riverside:

- State and Federal Grants and Low-Interest Loans – As described below, there are a variety of grant and loan programs that exist in various sectoral areas.
- Support from Local Businesses, Non-Profits, and Agencies – Opportunities for public/private partnerships (like the SCE partnerships) exist to provide cooperation on many aspects of the CAP including energy efficiency retrofits, waste minimization, transit promotion and education.
- Self-Funding and Revolving Fund Programs – Innovative programs to fund residential solar investments.
- Agreements with Private Investors – Energy service companies and other private companies can finance up-front investments in energy efficiency and then be reimbursed through revenues from energy savings.
- Taxes and Bonds – Various local governments have used targeted finance instruments for solar, transportation, vehicle improvements and landfill methane controls.

Given that financing is vital to implementing many of the CAP measures, a review of current and potential funding sources was completed for the different sectors covered in this CAP Update and is presented below to help early phase implementation of the CAP. Whether at the federal, western regional or State level, it appears likely that there will be some form of a "cap and trade" system in place within several years. This system, depending on its particular character, is likely to influence energy prices (such as for electricity, natural gas, and vehicle fuels), and may make currently cost-ineffective measures more economically feasible in the medium term and allow the financing of a broader range of plan measures.

A. Energy Efficiency and Renewable Energy Financing

Federal Energy Efficiency Community Block Grants (EECBG). As part of the stimulus package (the "American Recovery and Reinvestment Act" or ARRA), signed into law by President Obama in spring 2009, block grants are available for energy efficiency planning and improvements in the building, transportation and other sectors[31]. The purpose of the EECBG Program is to assist eligible jurisdictions in creating and implementing strategies to: reduce fossil fuel emissions in a manner that is environmentally sustainable and that maximizes, to the greatest extent practicable, benefits for local and regional communities; reduce the total energy use of the eligible entities; and improve energy efficiency in the building sector, the transportation sector and other appropriate sectors. Eligible activities include: development of an energy efficiency and conservation strategy; technical consultant services; residential and commercial building energy audits; financial incentive programs; energy efficiency retrofits; energy efficiency and conservation programs for buildings and facilities; development and implementation of certain transportation programs; building codes and inspections; certain distributed energy projects; material conservation programs; reduction and capture of methane and greenhouse gases from landfills and dairies; efficiency traffic signals and street lighting; renewable energy technologies on government buildings; and other appropriate activity.

Federal Tax Credits for Energy Efficiency. On October 3, 2008, President Bush signed into law the "Emergency Economic Stabilization Act of 2008." This bill extended tax credits for energy efficient home improvements (windows, doors, roofs, insulation, HVAC and non-solar water heaters). These residential products during 2008 were not eligible for a tax credit, as previous tax credits had expired at the end of 2007. The bill also extended tax credits for solar energy systems and fuel cells to 2016. New tax credits were established for small wind energy systems and plug-in hybrid electric vehicles. Tax credits for builders of new energy-efficient homes and tax deductions for owners and designers of energy efficient commercial buildings were also extended. Under the Bipartisan Budget Act of 2018[32] which was signed in February 2018, a number of tax credits for residential energy efficiency that had expired at the end of 2016 were renewed. Tax credits for non-business energy property are now available retroactive to purchases made through December 31, 2017. Tax credits for all residential renewable energy products have been extended through December 31, 2021, and feature a gradual step down in the credit value.

SCE Energy Efficiency / Renewable Energy Incentives

The majority of the County's electricity consumption came from SCE, therefore, SCE energy efficiency and renewable energy incentives would be the main source for the County. The SCE energy efficiency and renewable energy incentives are listed below:

- Online or mail-in Home Energy Efficiency Survey. This 15-minute survey gives helpful energy-saving tips that will also help the environment. The questions and tips are tailored for residential energy usage.
- Rebate programs for residential use include lighting, appliances, heating and cooling, multifamily housing, pool, solar leadership and customer generation.

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[31] Federal Energy Efficiency Community Block Grants (EECBG). Website: https://www.energy.gov/eere/wipo/energy-efficiency-and-conservation-block-grant-program (accessed December 27, 2018).

[32] Federal Tax Credits. Website: https://www.energystar.gov/about/federal_tax_credits (accessed December 27, 2018).

- Energy Centers provide free information, training and support to make important Energy Management and energy efficiency choices.
- SCE Energy Manager offers online access to usage information and detailed cost analyses business energy use.
- Financial Offerings include on-Bill Financing, Zero-interest financing towards the purchase and installation of qualifying energy efficient equipment for commercial, industrial and agricultural customers.
- Regulation & Compliance Support "The Cool Planet Project" assists customers with recent installations or efficiency projects resulting in excess of one million kWh of energy in joining the Climate Registry.
- Solar Leadership helps create a cleaner energy future with innovative solutions that make it possible for you to join the solar movement.
- Self-Generation provides financial incentives for installing self-generation equipment to meet all or a portion of a facility's energy needs.
- Specialized Services for Facilities:
  - New Buildings – Receive technical assistance in the design and construction of new energy efficient buildings.
  - Savings by Design: New construction builders and buyers can receive design assistance, owner incentives, and design team incentives.
  - California Advanced Homes - Incentives, design assistance, and technical education and services to encourage homebuilders to build homes that exceed California's Title 24 code standards by at least 15 percent.
  - Full-service solutions are available to qualifying customers to receive assistance in identifying and evaluating energy efficiency opportunities within existing buildings.
  - Retro Commissioning - Receive assistance to improve the bottom line in existing building's operations through specialized services to detect inefficiencies in complex building systems, and to determine optimum operating conditions.
- Heating, Ventilation & Air Conditioning - Lower operating costs and increase equipment life through proper HVAC installation and regular maintenance. Future programs will focus on two key components:
  - A/C Quality Maintenance, and
  - A/Q Quality Installation.

AB 811 Financing Districts. AB 811 permits the creation of assessment districts to finance installation of distributed generation renewable energy sources or energy efficiency improvements that are permanently fixed to residential, commercial, industrial, or other real property. Riverside County's partnership with WRCOG in creation of the Energy Efficiency and Water Conservation Program allows home and business owners to utilize this type of financing program and avoid upfront costs associated with energy system installations. Financing is repaid through the property tax bill and repayment obligations remain with the property when it is sold to a new owner.

California Energy Commission (CEC) Energy Efficiency Financing. The CEC offers up to $3 million per application in energy efficiency financing and low interest loans to cities and counties for installing energy-saving projects[33]. Examples of projects include: lighting systems, pumps and motors, streetlights and LED traffic signals, automated energy management systems/controls, building insulation, energy generation including renewable and combined heat and power projects, heating and air conditioning modifications and wastewater treatment equipment.

California Energy Commission Bright Schools Program. This is a collaborative project of the CEC, California Conservation Corps, local utility companies and other qualifying energy service companies to assist schools in undertaking energy efficiency projects[34]. Project staff guides schools through identifying and determining a project's feasibility, securing financing for the project, and purchasing and installing the new energy efficient equipment.

B. Transportation Financing

Federal Energy Efficiency Community Block Grants (EECBG). As described above, eligible activities include development and implementation of certain transportation programs and efficient traffic signals and street lighting.

Regional Transportation Improvement Program (RTIP). The Regional Transportation Improvement Program (RTIP) is funded from 75 percent of the funds made available for transportation capital improvement projects under the State Transportation Improvement Program (STIP). This program targets urban projects that are needed to improve transportation within the region. SCAG and the Riverside County Transportation Commission (RCTC) recommend to the California Transportation Commission (CTC) the selection of these projects, which can include State highway improvements, local roads, public transit, intercity rail, grade separations, and more.

Interregional Improvement Program (IIP). The Interregional Improvement Program (IIP) is funded from 25 percent of the funds made available for transportation capital improvement projects under the State Transportation Improvement Program (STIP). This program targets projects that are needed to improve interregional movement of people and goods. Caltrans recommends to the CTC the selection of these projects, which can include State highway improvements, intercity passenger rail, mass transit guide ways, or grade separation projects.

C. Waste Reduction Financing

California Department of Resources Recycling and Recovery (CalRecycle) Funding. The CalRecycle offers funding opportunities authorized by legislation to assist public and private entities in the safe and effective management of the waste stream. Applicants can apply online for many of CalRecycle's grant programs by using

[33] California Energy Commission (CEC) Energy Efficiency Financing. Website: http://www.energy.ca.gov/efficiency/financing/ (accessed December 27, 2018).

[34] California Energy Commission Bright Schools Program. Website: http://www.energy.ca.gov/efficiency/brightschools/index.html (accessed December 27, 2018).

the Grants Management System (GMS).[35] Besides many funding opportunities for waste prevention, GHG Reduction Loan Program[36] particularly focuses on supporting the purposes of the AB 32, reducing methane emissions from landfills and further GHG reductions in upstream resource management and manufacturing processes; benefiting disadvantaged communities by upgrading existing facilities and, where warranted, establishing new facilities that reduce GHG emissions; improving air and water quality; and creating jobs.

D. Water Conservation and Treatment Financing

Clean Water State Revolving Funds (CWSRF). CWSRFs program is a federal-State partnership that provides communities a permanent, independent source of low-cost financing for a wide range of water quality infrastructure projects. CWSRFs fund water quality protection projects for wastewater treatment, nonpoint source pollution control, and watershed and estuary management[37]. Building on a federal investment of $42 billion, the State CWSRFs have provided more than $126 billion to communities through 2017. Some key highlights of the CWSRFs program are summarized below:

- Low Interest Rates, Flexible Terms – Nationally, interest rates for CWSRF loans average 2.3 percent, compared to market rates that average 5 percent. For a CWSRF program offering this rate, a CWSRF funded project would cost 22 percent less than projects funded at the market rate. CWSRFs can fund 100 percent of the project cost and provide flexible repayment terms up to 20 years.
- Funding for Nonpoint Source Pollution Control and Estuary Protection – CWSRFs provided more than $167 million in 2009 to control pollution from nonpoint sources and for estuary protection, more than $3 billion to date.
- Assistance to a Variety of Borrowers – The CWSRF program has assisted a range of borrowers including municipalities, communities of all sizes, farmers, homeowners, small businesses, and nonprofit organizations.
- Partnerships with Other Funding Sources – CWSRFs partner with banks, nonprofits, local governments, and other federal and State agencies to provide the best water quality financing source for their communities.

7.3 STEP 3 – Timeline and Prioritization

The County of Riverside will develop an implementation schedule based on the completion of the full cost effectiveness analysis. Prioritization will be based on the following factors:

- Cost effectiveness;
- GHG reduction efficiency;

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35 California Department of Resource Recycling and Recovery (CalRecycle) Funding Opportunities. Website: https://www.calrecycle.ca.gov/funding (accessed December 27, 2018).

36 CalRecycle. Greenhouse Gas Reduction Loan Program. Website: https://www.calrecycle.ca.gov/climate/grantsloans/ghgloans/ (accessed December 27, 2018).

37 USEPA. Clean Water State Revolving Funds. Website: https://www.epa.gov/cwsrf.

- Availability of funding;
- Level of county control;
- Ease of implementation; and
- Time to implement.

In general consideration of these factors, the following is an outline of key priorities for three phases (also referenced in Table 7-1) starting in 2020 through 2030.

- Phase 1 (2020–2023): Development of key ordinances, completion of key planning efforts, implementation of most cost-effective measures, and support of voluntary efforts.
- Phase 2 (2023–2026): Continued implementation of reduction measures and implementation of key planning outcomes from Phase 1.

Phase 3 (2026–2030): Continued implementation of reduction measures and implementation of key planning outcomes from Phase 1 and 2. Because the goals of this CAP Update are aggressive, success in meeting the CAP Update goals depend on some flexibility in the GHG reduction actions. The County of Riverside is committed to flexibility in implementing the reduction measures and meeting the goals of this CAP Update. Many of the reduction measures in this CAP Update may be implemented through a menu of options. The goals of each reduction measure can often be achieved through a variety of means, especially those related to building energy efficiency. For example, the County of Riverside will promote residential home energy renovations (Measure R2-EE4). The implementation of this measure can be achieved through a series of potential actions such as promoting Title 24 code compliance, promoting existing home energy renovation programs, promoting participation in green building programs such as LEED and Energy Upgrade California, promoting financing programs for home upgrades such as HERO and PACE, and establishing online permitting to facilitate upgrades. Table 7-1 (GHG Reduction Measures Timeline and Phasing Schedule) presents the potential timeline and phasing schedule for the GHG reduction measures.

Table 7-1 GHG Reduction Measures Timeline and Phasing Schedule

Reduction Measure	Phase
Transportation	
R2-T1: Alternative Transportation Options	1, 2, 3
R2-T2: Adopt and Implement a Bicycle Master Plan to expand Bike Routes around the County	1, 2
R2-T3: Ride Sharing and Bike to Work Programs within Businesses	1, 2
R2-T4: Electrify the Fleet	1, 2, 3
Energy Efficiency	
R2-EE1: Energy Efficiency Training, Education, and Recognition in the Residential Sector	1, 2, 3
R2-EE2: Increase Community Participation in Existing Energy Efficiency Programs	1, 2, 3
R2-EE3: Home Energy Evaluations	1, 2
R2-EE4: Residential Home Energy Renovations	1, 2, 3
R2-EE5: Exceed Energy Efficiency Standards in New Residential Units	1, 2, 3
R2-EE6: Energy Efficiency Training, Education and Recognition in the Commercial Sector	1, 2, 3
R2-EE7: Increase Business Participation in Existing Energy Efficiency Programs	1, 2, 3
R2-EE8:Non-Residential Building Energy Audits	1, 2
R2-EE9: Non Residential Building Retrofits	1, 2, 3
R2-EE10: Exceed Energy Efficiency Standards in New Commercial Units	1, 2, 3

Reduction Measure	Phase
Clean Energy	
R2-CE1: Clean Energy	1, 2, 3
R2-CE2: Community Choice Aggregation Program	1, 2, 3
Advanced Measures	
R2-L1: Tree Planting for Shading and Energy Saving	1, 2, 3
R2-L2: Light Reflecting Surfaces for Energy Saving	1, 2, 3
Water Efficiency	
R2-W1: Water Efficiency through Enhanced Implementation of Senate Bill X7-7	1, 2
R2-W2: Exceed Water Efficiency Standards	1, 2, 3
Solid Waste	
R2-S1: Reduce Waste to Landfills	1, 2, 3

7.4 STEP 4 – Public Participation

The active participation of citizens and businesses in Riverside County is integral to the success of GHG reduction efforts. Their involvement is essential in order to reach the reduction goals because this CAP Update depends on a combination of State and local government efforts, public and private sources of funding and the voluntary commitment, creativity, and participation of the community at large. The County of Riverside must strike a balance between development and environmental stewardship to keep the economy strong and, at the same time, protect the environment. The County of Riverside will educate stakeholders such as businesses, business groups, residents, developers, and property owners about the CAP Update and encourage participation in efforts to reduce GHG emissions in all possible sectors.

7.5 STEP 5 – Project Review

Projects that lower the carbon footprint of new development, and encourage programmatic mitigation strategies that may include reliance on adopted regional blueprint plans, CAPs and general plans that meet regional and local GHG emissions targets and that have also undergone CEQA review or streamlined under CEQA. The criteria needed to use adopted plans in evaluating impacts of GHG emissions from subsequent development projects is found in CEQA Guidelines Section 15183.5. Once adopted, this CAP Update fulfills these requirements. The County of Riverside is responsible for ensuring that new projects conform to these guidelines and meet the goals and requirements outlined in this CAP Update.

The County of Riverside will implement the reduction measures for new development during the CEQA review through the use of a Riverside County GHG Screening Tables document based upon the CAP Update. The Riverside County GHG Screening Tables document provides guidance for the analysis of development projects and divide projects into two broad categories based upon the CEQA review they are going through. The screening tables provide a menu of reduction options. If a project can obtain 100 points from the screening table, the mitigated project will implement pertinent reduction measures such that it meets the reduction goals of the CAP and a less than significant finding can be made for the project. The menu of options in the screening table is tied to the R2 Measures in the CAP Update and the Implementation Measures (IMs) in the General Plan such that 100 points would meet the emission reductions associated with the R2 Measures and IMs. This menu allows for maximum flexibility for projects to meet its reduction allocation.

The methodology discussed above is described in more detail in the Riverside County GHG Screening Tables document, presented in Appendix F of the CAP Update and is consistent with the analysis and quantification methodology used in the CAP Update.

The Screening Tables also serve to document the implementation of reduction measures. Using the screening tables as a reduction measure monitoring tool is described in more detail in Section 7.6 below.

7.6 STEP 6 – Monitoring and Inventorying

The County of Riverside will create a system for monitoring the implementation of this CAP Update and adjusting the plan as opportunities arise. As the plan is implemented and as technology changes, the CAP should be revised to take advantage of new and emerging technology. If promising new strategies emerge, the County of Riverside will evaluate how to incorporate these strategies into the CAP. Further, future State and federal actions may also result in changes which will influence the level of Riverside County emissions.

Screening tables completed during project review, as described in Section 7.5 above, will serve as documentation of the implementation of reduction measures. The County of Riverside shall retain the completed screening tables in order to maintain a record of the types and levels of implementation of each of the R2 measures. The point values in the completed screening tables also document the estimated levels of emission reductions anticipated during implementation. By maintaining these records, the County of Riverside can monitor the CAP reduction measure implementation and compare the anticipated emission reductions with the goals for the CAP over time.

The GHG inventory will be periodically updated in coordination with the three phases noted above: 2023 (to update with the Phase 1 progress); 2026 (to review Phase 2 progress, allow for course corrections to keep progress on target for 2030, and to develop post-2030 forecasts for use in planning for after 2030); and 2030 (to establish baseline for post-2030 GHG reduction planning).

To provide periodic updates to the CAP inventory of GHG emissions, Riverside County will use a Microsoft (MS) Excel format emissions inventory tool developed by the CAP consultant. This tool will include all the emission factors and emission sources specific to Riverside County. The tool will be designed such that Riverside County staff can input VMT, water use, solid waste, and energy consumption data and the tool will quantify emissions for the unincorporated areas.

The County of Riverside will also implement a monitoring and reporting program to evaluate the effectiveness of reduction measures with regards to progress towards meeting the goals of the CAP Update. This program will ensure that the effectiveness of all implementation measures are reviewed in advance of 2030 and adjustments to assigned point values accounting for actual effectiveness are made in the post-2030 CAP. If measures included in this CAP Update are found to be ineffective, those measures will be removed or revised in the post-2030 CAP.

The CAP Implementation Coordinator shall be responsible for maintaining records of reduction measure implementation and insuring that the periodic updates to the emissions inventory are completed using the MS Excel based emission inventory tool.

7.7 STEP 7 – Beyond 2030

As described above under the discussion of Reduction Goals, 2030 is only a milestone in GHG reduction planning. EO S-03-05 calls for a reduction of GHG emissions to a level 80 percent below 1990 levels by 2050, and this level is consistent with the estimated reductions needed to stabilize atmospheric levels of CO_2 at 450 parts per million (ppm) (CARB 2017a). The County of Riverside has already set targets for 2050 GHG reductions in this CAP Update at approximately 83 percent below baseline (2008) by 2050. However, it is important to note that the post 2030 reduction targets might need to be adjusted based on inventory updates and resultant GHG emission reductions achieved through implementation of measures identified in the three phases above from year 2020-2030. At the approximate midway point when Riverside County will have implemented the first two phases of this CAP Update and will have a better understanding of the effectiveness and efficiency of different reduction strategies and approaches, the current 2050 GHG reduction target and measures may need adjustments. Further the federal, State and local (County level) programs and policies for the GHG reductions for the near term (2020-2030) are likely to be well underway; and continuing technological change in the fields of energy efficiency, alternative energy generation, vehicles, fuels, methane capture and other areas will have occurred. Riverside County will then be able to take the local, regional, State and federal context into account and may consider updating the GHG reduction targets post 2030. The potential new CAP will include a specific target for GHG reductions for 2050. The targets will be consistent with broader State and federal reduction targets and will take into consideration the effectiveness and applicability of the reduction measures identified in this CAP Update.

The potential new CAP that can be adopted on or before January 1, 2030 will keep on track through 2050 to meet the 2050 GHG reduction goals by implementing the measures discussed in Chapter 4 (Reduction Measures) or potential new measures identified at the time of the future CAP Update. The measures described in Chapter 4, would produce reductions to bring the region's GHG emissions to an estimated 562,730 MT CO_2e by 2050. While the potential mix and implementation level of future GHG reduction measures is preliminary, it serves to demonstrate that the current measures in the CARB Scoping Plan and the County's CAP Update can not only move the region to its short term, 2020 and 2030 goal, but can also provide an expandable framework for much greater long-term GHG emissions reductions toward the ultimate 2050 goal.

Riverside County will develop the post-2030 CAP so that it can be ready for full implementation, including potential new policies, revisions to the General Plan (as necessary), programs, ordinances, and financing by 2030. The post-2030 CAP will update the target for GHG reductions for 2050. The target will be consistent with broader State and federal reduction targets including EO S-3-05 and with the scientific understanding of the needed reductions by 2050. The County of Riverside will adopt the new post-2030 CAP by January 1, 2030.

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APPENDIX A

GHG INVENTORY, FORECASTING, AND TARGET-SETTING REPORT

FINAL

COUNTY OF RIVERSIDE GHG INVENTORY, FORECASTING, AND TARGET-SETTING REPORT FOR THE CLIMATE ACTION PLAN UPDATE

RIVERSIDE COUNTY, CALIFORNIA

LSA

November 2018

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FINAL

COUNTY OF RIVERSIDE GHG INVENTORY, FORECASTING, AND TARGET-SETTING REPORT FOR THE CLIMATE ACTION PLAN UPDATE

RIVERSIDE COUNTY, CALIFORNIA

Prepared for:

Prepared by:

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Project No. COR1801

November 2018

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LIST OF ABBREVIATIONS AND ACRONYMS

AB	Assembly Bill
AEP	Association of Environmental Professionals
Anza	Anza Electric Cooperative
BAU	Business-as-Usual
CAP	Climate Action Plan
CARB	California Air Resources Board
CEC	California Energy Commission
CH_4	methane
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
Community Protocol	United States Community Protocol for Accounting and Reporting Greenhouse Gas Emissions
County	County of Riverside
EMFAC2017	California Emission Factor Model, Version 2017
EO	Executive Order
EPA	United States Environmental Protection Agency
GHG	greenhouse gas
GWP	Global Warming Potential
I	Interstate
IFT	Inventory, Long-Term Forecasts, and Target-Setting
IID	Imperial Irrigation District
IPCC	Intergovernmental Panel on Climate Change
kWh	kilowatt-hour(s)
LCFS	Low Carbon Fuel Standard
MG	million gallons
MT	metric ton(s)
N/DN	nitrification/denitrification
N_2O	nitrous oxide
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan

SCAG	Southern California Association of Governments
SCE	Southern California Edison
VMT	vehicle miles traveled
WECC	Western Electricity Coordinating Council

KEY FINDINGS

The GHG Inventory, Forecasting, and Target-Setting (IFT) Report was developed to summarize the review of the greenhouse gas (GHG) emissions inventory and forecasts update and, based on that review, to recommend GHG reduction targets for the County of Riverside (County) to incorporate into a Climate Action Plan (CAP) Update. Key findings are summarized below.

- Riverside County's 2017 GHG emissions totaled 4,905,518 metric tons (MT) of carbon dioxide equivalent (CO_2e).
- On-road transportation was the largest contributor of emissions, representing 36 percent (1,766,784 MT CO_2e) of total emissions.
- Energy-related emissions, including residential and nonresidential electricity use and natural gas combustion, accounted for 14.5 percent (712,928 MT CO_2e) and 9.6 percent (475,211 MT CO_2e) of the total community emissions, respectively.
- The agriculture sector was the second largest contributor of carbon dioxide (CO_2) emissions, representing 34 percent (1,670,954 MT CO_2e) of total emissions.
- Under the Business-as-Usual (BAU) forecast, emissions will be 5,158,305 MT CO_2e in 2020; 6,368,781 MT CO_2e in 2030; and 11,305,026 MT CO_2e in 2050. These emissions levels are 5.1 percent higher in 2020 than 2017, 29.8 percent higher in 2030 than 2017, and more than double 2017 emissions by 2050.
- Under the Adjusted BAU forecast, emissions will be 4,861,256 MT CO_2e in 2020; 4,102,109 MT CO_2e in 2030; and 4,175,146 MT CO_2e in 2050. Compared to 2017, these emissions levels are 0.9 percent lower in 2020, 16.0 percent lower in 2030, and 14.8 percent lower in 2050. These reductions represent State efforts in reducing GHG emissions within the County.
- The County should choose a reduction target that is ambitious but feasible. The State recommends a 15 percent reduction below 2005–2008 baseline levels[1] by 2020, a 49 percent reduction below 2008 levels by 2030, and an 80 percent reduction below 2008 levels by 2050[2]. To continue reductions consistent with the State's long-term emissions reduction goals, the County would need to reduce emissions in 2030 by 525,511 MT CO_2e from an Adjusted BAU forecast and by 2,982,947 MT CO_2e from an Adjusted BAU forecast by 2050.

1 For Riverside County, the baseline year was identified as 2008 per the 2015 Climate Action Plan.

2 State goals are to achieve 1990 levels of emissions by 2020 (15 percent below 2008 baseline levels), 40 percent below 1990 levels of emissions by 2030 (49 percent below 2008 baseline levels) and 80 percent below 1990 levels of emissions by 2050 (83 percent below 2008 baseline levels).

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INTRODUCTION

This IFT Report presents Riverside County's community-wide GHG emissions inventory. The purpose of this inventory is to provide data in order to identify GHG reduction measures for the CAP update. The GHG inventory section describes historic energy use and GHG emissions, and the forecasts describe projected future emissions for the County. The Reduction Targets section describes GHG reduction recommendations that are consistent with State goals and may assist the County in establishing local GHG reduction targets. The inventories and recommended reduction targets will help the County in the next step of the CAP update, which is to identify GHG reduction measures that are relevant, meaningful, and feasible.

Specifically, this IFT Report includes the following (words and phrases in **bold** are described in Table 1):

- Historic GHG emissions in the **community inventory** for 2017;
- Future GHG emissions for 2020, 2030, and 2050 under **BAU** and **Adjusted BAU** forecast scenarios; and
- Recommended GHG **reduction targets** for 2020, 2030, and 2050.

Table 1. Key Terms in the IFT Report

Term	Definition
Adjusted Business-as-Usual	A GHG forecast scenario that accounts for known policies and regulations that will affect future emissions. Generally, these are State and federal initiatives that will reduce emissions from the Business-as-Usual scenario.
Baseline Year	The inventory year used for setting targets and against which future inventories are compared.
Business-as-Usual	A GHG forecast scenario that assumes no change in policy affecting emissions since the most recent inventory. Changes in emissions are driven primarily by changes in demographics.
Community Inventory	GHG emissions that result from the activities of residents and businesses in Riverside County. An inventory reports emissions that occur over a single calendar year.
Emission Factors	The GHG intensity of an activity.
Reduction Targets	GHG emissions levels not to be exceeded by a specific date. Local reduction targets are often informed by State recommendations, and different targets may be established for different years.
Sector	A subset of the emissions inventory classified by a logical grouping, such as an economic or municipal-specific category.

Source: *Forecasting Community-wide GHG Emissions and Setting Reduction Targets* (AEP, May 2012).
Note: A glossary of terms is also included as Appendix A.
AEP = Association of Environmental Professionals
GHG = greenhouse gas
IFT = inventory, forecasting, and target-setting

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GHG EMISSIONS INVENTORY

GHG emissions inventories are the foundation of planning for future emission reductions. Establishing an existing inventory of emissions helps to identify and categorize the major sources of emissions currently being produced. The baseline year was identified as 2008 in the County's 2015 CAP. A baseline year is established as a starting point against which other inventories may be compared and targets may be set, and is generally the earliest year with a full emissions inventory. In this report, 2017 is presented for the community inventory to show the major sources of emissions in Riverside County and the County's progress toward meeting the reduction targets from the previous CAP. This section describes the emissions reporting for economic sectors and presents the 2017 community inventory.

EMISSIONS REPORTING

The primary GHGs from the community are CO_2, methane (CH_4), and nitrous oxide (N_2O). Because each of these gases has a different capacity for trapping heat in the atmosphere (i.e., Global Warming Potential [GWP]), a method of reporting is needed to be able to compare gases in the same terms. As a result, emissions are reported in carbon dioxide equivalents, or CO_2e, with each GHG normalized and calculated relative to CO_2 using its GWP. Table 2 describes the GHGs analyzed in this report, as well as their symbol, GWP, and primary community sources of emissions. While N_2O has the highest GWP and may be considered the most dangerous on a per-molecule basis, CO_2 is by far the most prevalent, accounting for 83 percent of statewide emissions in 2016 (CARB 2018).

Table 2. Greenhouse Gases Analyzed in the Inventory

Greenhouse Gas	Symbol	Global Warming Potential	Primary Community Sources
Carbon Dioxide	CO_2	1	Fossil fuel combustion
Methane	CH_4	28	Fossil fuel combustion, landfills, wastewater treatment
Nitrous Oxide	N_2O	265	Fossil fuel combustion, wastewater treatment

Source: Fifth Assessment Report (Intergovernmental Panel on Climate Change 2014).

Emissions Sectors

The inventory identifies the major sources of GHG emissions caused by activities in sectors that are specific to community activities. A sector is a subset of the economy or society whose components share similar characteristics. An emissions sector can also contain subsectors that provide more specificity about the source of emissions (e.g., natural gas and electricity are subsectors of the energy sector).

The community inventory is categorized by sectors based on a sector's ability to be affected through regional and local programs, incentives, zoning, and other policies. The County's community inventory was divided into the following sectors:

- **Energy**, which is further broken down into two subsectors:
    - **Electricity** includes emissions from electricity consumption in nonresidential buildings and facilities (including outdoor lighting) as well as residential buildings in Riverside County.
    - **Natural Gas** includes emissions from natural gas consumption in nonresidential buildings and facilities, as well as residential buildings in Riverside County.
- **On-Road Transportation** includes emissions from vehicle fuel use in trips wholly within Riverside County ("in-boundary") and trips that either originate or end in Riverside County ("cross-boundary"). Emissions from in-boundary trips are fully accounted for in the inventory, whereas only half of the emissions from cross-boundary trips are accounted for. Trips that pass through Riverside County, (such as those on Interstate [I] 10 or I-15) are not accounted for in the inventory because the County has little or no control over these emissions. As a result, this methodology reflects only trips or parts of trips within Riverside County borders that the County has the ability to affect.
- **Solid Waste** includes emissions from waste that is generated in the community and sent to landfills.
- **Aviation** includes emissions from all aviation activities at Blythe Airport, Jacqueline Cochran Regional Airport, Hemet-Ryan Airport, and French Valley Airport.
- **Agriculture** includes emissions from enteric fermentation in domestic livestock, livestock manure management, crop cultivation, and field burning of agricultural residues.
- **Water and Wastewater** includes emissions from the electricity used to source, treat, and deliver imported water in the community that is not accounted for in the community utility data. Wastewater includes emissions from treating wastewater generated in the community.
- **Off-Road Sources** include emissions from operating equipment for construction, commercial, light industrial, and agricultural activities; lawn and garden equipment; and recreational vehicles, such as all-terrain vehicles.

Calculation Methodology

GHG emissions were calculated using available activity data (e.g., kilowatt-hours of electricity) and then follows protocols for converting activity data to emissions output using relevant emission factors. Emission factors relate the activity to GHG emissions and may vary by year (e.g., for electricity). Unlike activity data, they often are not affected by local actions or behavior. The United States Community Protocol for Accounting and Reporting Greenhouse Gas Emissions (Community Protocol; ICLEI 2012) was the primary protocol used for developing the community inventory. Activity data are reported in the community emissions subsection below, and emission factors are detailed in Appendix B.

COMMUNITY EMISSIONS

The community inventory includes the GHG emissions that result from activities within Riverside County boundaries. This section presents the findings of the community inventory for the baseline year 2017, as well as more specific detail and findings on the energy sectors.

2017 Emissions Summary

As shown in Figure 1 and Table 3, the on-road transportation sector was the largest contributor to emissions in 2017 (36.02 percent), producing 1,766,784 MT CO_2e. The agriculture sector is the second-largest source of emissions at 34 percent (1, 670,954 MT CO_2e). Electricity consumption contributes 14.5 percent (712,928 MT CO_2e), and natural gas combustion accounts for 9.6 percent (475,211 MT CO_2e). Solid waste comprised 4.17 percent of the total (204,365 MT CO_2e) in 2017. Water, wastewater, and off-road sources made up the remaining emissions. Water and wastewater emissions accounted for 0.9 percent of the total emissions, while off-road sources comprised a very small percentage of overall emissions.

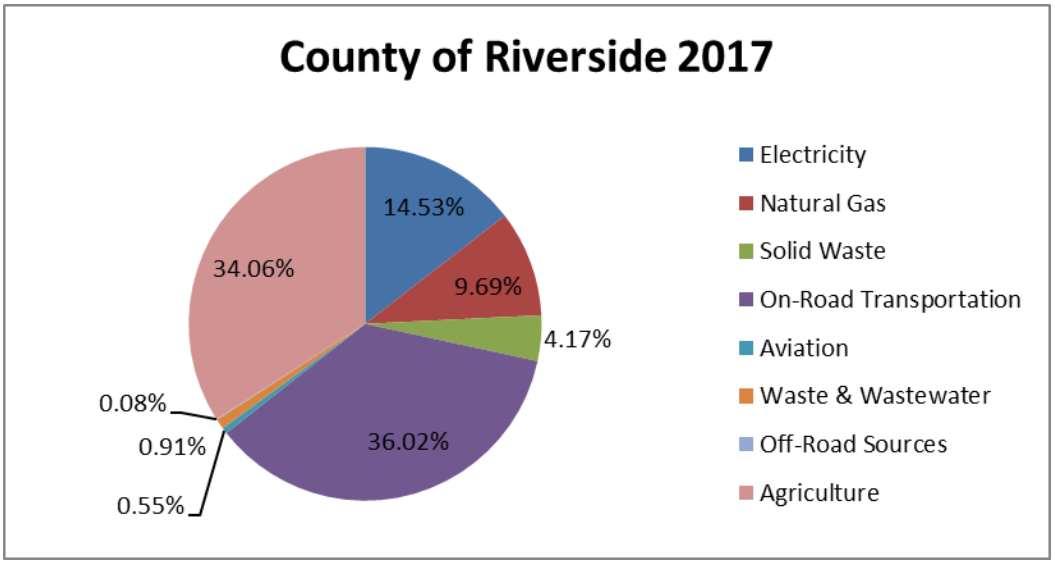

Figure 1. Communitywide Greenhouse Gas Emissions by Sector for 2017

Table 3. Communitywide Greenhouse Gas Emissions by Sector for 2017

Sector	2017 (MT CO_2e)	Percent of Total
On-Road Transportation	1,766,784	36.02
Agriculture	1,670,954	34.06
Electricity	712,928	14.53
Natural Gas	475,211	9.69
Solid Waste	204,365	4.17
Water and Wastewater	44,606	0.91
Aviation	26,786	0.55
Off-Road Sources	3,883	<1.00
Total	**4,905,518**	**100.00**

Source: Compiled by LSA (2018).
MT CO_2e = metric tons of carbon dioxide equivalent

Activity data can provide insight into behavioral choices in the community, as these data are not affected by emission factors. Table 4 summarizes activity data for each sector and subsector. Wastewater and off-road emissions were calculated based on countywide data and then proportioned to unincorporated Riverside County. These data are also shown in Table 4.

Demographic data also provide perspective to the potential changes in emissions over time. Table 5 shows the number of households, jobs, population, and service population (jobs + population) for 2016, the most recent year for which data are available.

Energy

Energy is an area over which local agencies often have the greatest opportunities for effecting change. Energy use consists of electricity and natural gas. Emissions from commercial/industrial and residential energy use account for approximately 24 percent of the total community emissions in 2017. Table 6 shows the breakdown in activity (in kilowatt-hours [kWh] or therms) and GHG emissions by sector and energy source. Figure 2 shows electricity and natural gas emissions for the commercial/industrial and residential sectors.

Table 4. Activity Data Used in 2017 Community Inventory

Sector	2017
On-Road Transportation	
Total Vehicle Miles Traveled	4,284,955,457.9
Aviation	
Jet Fuel (gallons)	2,781,219
Aviation Fuel (gallons)	431,069
Commercial/Industrial Energy	
Electricity (kWh)	1,463,821,482
Natural Gas (therms)	40,618,482
Residential Energy	
Electricity (kWh)	1,505,409,800
Natural Gas (therms)	48,850,607
Solid Waste	
Landfilled (tons)	389,687
Water and Wastewater	
Imported Water (million gallons)	27,642
Off-Road Sources[1] (% of Riverside County emissions attributed to unincorporated Riverside County)	
Lawn and Garden (% of households)	15.7
Construction (% of building permits)	29.4
Industrial (% of manufacturing jobs)	3.5
Light Commercial (% of other jobs)	11.7
Recreation (population weighted by income)	13.6
Agriculture (% of agriculture jobs)	77.2
Agriculture	
Hay (acres)	45,353
Corn (acres)	740
Oats (acres)	833
Sorghum (acres)	130
Wheat (acres)	18,394
Cotton (acres)	7,291
Vegetable and Fruit Trees (acres)	78,688
Dairy Cows (heads)	21,900
Poultry (heads)	1,893,394
Sheep (heads)	8,300

[1] Off-road emissions are available at the county (including unincorporated areas and incorporated cities) level through CARB's OFFROAD model. Emissions attributable to unincorporated Riverside County were derived using indicator data related to the off-road source. For example, the percentage of households in unincorporated Riverside County compared to the entire county (including unincorporated areas and incorporated areas) was used to attribute the same percentage of lawn and garden equipment emissions to the county. See Appendix B for more methodology details.

CARB = California Air Resources Board
kWh = kilowatt-hours

Table 5. Demographic Data for 2016

	2016
Households	112,292
Jobs[1]	81,754
Population	364,413
Service Population (Population + Jobs)	446,167

Source: *Profile of the Unincorporated Area of Riverside County* (SCAG 2017).
[1] The number of jobs is for 2015.
SCAG = Southern California Association of Governments

Table 6. Activity Data and Greenhouse Gas Emissions of Energy in 2017

Sector	2017	
	Activity (kWh or therms)	Emissions (MT CO_2e)
Commercial/Industrial Energy		
Electricity	1,463,821,482	351,463.5
Natural Gas	40,618,482	215,743.0
Residential Energy		
Electricity	1,505,409,800	361,464.0
Natural Gas	48,850,607	259,467.5
Total (MT CO_2e)		**1,188,138.0**

Source: Compiled by LSA (2018).
kWh = kilowatt-hours MT CO_2e = metric tons of carbon dioxide equivalent

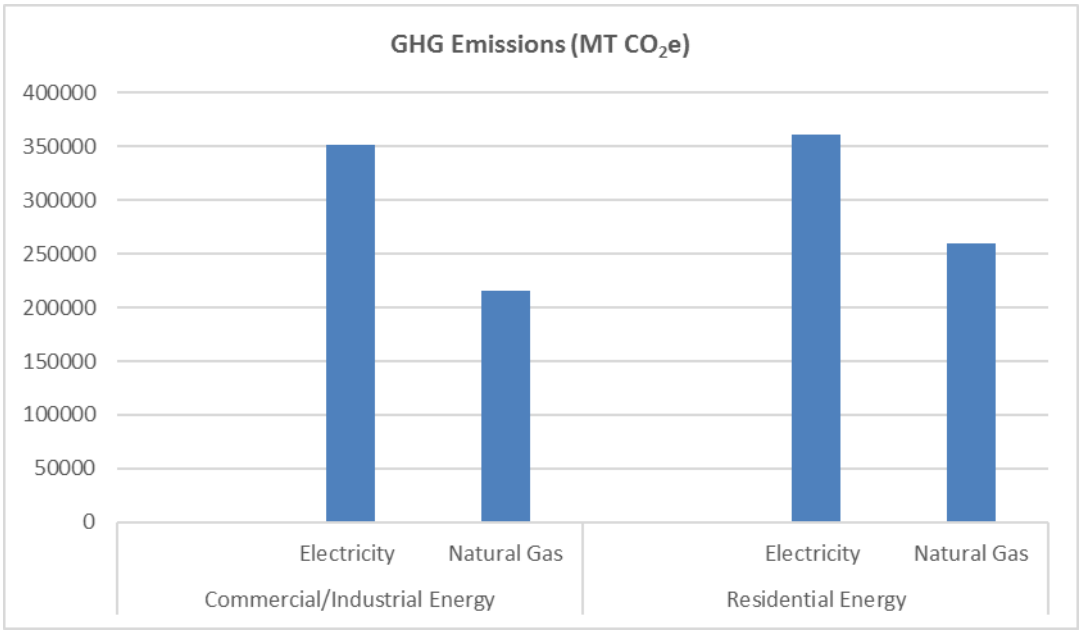

Figure 2. Greenhouse Gas Emissions for Community Electricity and Natural Gas by Sector in 2017

INVENTORY FORECASTS

The County developed two forecast scenarios for GHG emissions: a BAU scenario and an Adjusted BAU scenario. The BAU scenario describes emissions based on projected growth in population and employment and does not consider policies that will reduce emissions in the future (that is, the policies in place in 2017 would remain constant through 2050). The County developed GHG reduction measures in the 2015 CAP that constitute policies in place in 2017. These measures have been implemented and are reflected in the 2017 GHG emissions inventory, and they will continue to reduce emissions through 2020. Therefore, the BAU and Adjusted BAU forecasts included reductions from the 2015 CAP GHG reduction measures. The Adjusted BAU scenario describes emissions based on projected growth and considers policies that will achieve GHG reductions in the future. These policies, described in detail below, include State-adopted or approved legislation that will affect future emissions.

By evaluating the two forecasts, the County can determine the effect that existing policies may have on future emissions and assess what local measures can provide additional reductions. Three future years were forecasted for each scenario: 2020, 2030, and 2050. All forecast years are consistent with the goals identified in Assembly Bill (AB) 32 and the corresponding Scoping Plan (CARB 2017), which identifies Statewide GHG reduction targets for 2020, 2030, and 2050.

BUSINESS-AS-USUAL FORECAST

The BAU forecast estimated future emissions using current (2017) consumption patterns and emission factors with the anticipated growth in Riverside County. Anticipated growth is estimated using data from the County's 2015 General Plan and other relevant sources (Table 7). The most relevant growth factors are used to project emissions by sector. For example, future residential energy emissions were developed using current energy use per household (from the 2017 inventory) and the anticipated number of households in 2035. Actual energy use is a function of several variables, not only the number of households; however, this approach is supported by current protocols and best practices within the State and provides a consistent approach to forecasting. Compound annual growth rates were developed using the growth projections from 2010 to 2020 and from 2020 to 2035, as shown Table 7. Growth rates beyond 2035 are assumed to be the same as between 2020 and 2035. In general, the County is expect modest growth as population, housing, jobs, and vehicle miles traveled are all expected to moderately increase.

Community Business-as-Usual Forecast

The County's BAU Forecast emissions in 2020 are estimated to be 5,158,305 MT CO_2e, a 5 percent increase from baseline (2017) emissions. By 2030, emissions are estimated to increase 29.8 percent from the baseline level to 6,368,781 MT CO_2e. By 2050, emissions are estimated to increase 130 percent from the baseline level to 11,305,026 MT CO_2e (Table 8).

Table 7. Growth Factors for 2010, 2020, and 2035

Sector	Demographic Indicator	2010	2020	2010–2020 CAGR (percent)	2035	2020–2035 CAGR (percent)
Residential Energy	Households	171,380	220,794	2.57	324,021	2.59
Commercial/Industrial Energy	Jobs	97,210	151,034	4.50	265,688	3.84
N/A[1]	Population	467,105	608,857	2.69	908,100	2.70
Solid Waste, Water, Wastewater, and Off-road Sources	Service Population (Population + Jobs)	564,315	759,891	3.02	1,173,788	2.94

Source: County of Riverside General Plan (2015)
[1] Not Applicable. Population data are shown for informational purposes but are not used for forecasting any sector.
CAGR = compound annual growth rate

Table 8. Community Business-as-Usual Forecast Emissions

Sector	2017 (MT CO_2e)	2020 (MT CO_2e)	Percent Change 2017–2020	2030 (MT CO_2e)	Percent Change 2017–2030	2050 (MT CO_2e)	Percent Change 2017–2050
On-Road Transportation	1,766,784	1,999,268	13.1	3,018,767	70.0	6,882,509	289.5
Agriculture	1,670,954	1,565,873	-6.2	1,261,044	-24.5	817,858	-51.0
Electricity	712,928	774,289	8.6	1,017,153	42.6	1,756,843	146.4
Natural Gas	475,211	515,845	8.5	676,742	42.4	1,165,761	145.3
Solid Waste	204,365	223,448	9.3	298,585	46.1	533,154	160.0
Water and Wastewater	44,606	48,771	9.3	65,171	46.1	116,370	160.0
Aviation	26,786	26,786	0.0	26,786	0.0	26,786	0.0
Off-Road Sources	3,883	4,024	3.6	4,531	16.6	5,744	47.9
Total	**4,905,518**	**5,158,305**	**5.1**	**6,368,781**	**29.8**	**11,305,026**	**130.4**

Source: Compiled by LSA (2018).
MT CO_2e = metric tons of carbon dioxide equivalent

Adjusted Business-as-Usual Forecast

State legislation has been approved and/or adopted that will reduce GHG emissions in Riverside County. These policies do not require additional local action but should be accounted for in the County's emissions forecasts to provide a more accurate picture of future emissions and the level of local action needed to reduce emissions to levels consistent with State recommendations. This forecast is called the Adjusted BAU forecast. The measures are described briefly below.

Low Carbon Fuel Standard

The Low Carbon Fuel Standard (LCFS) was developed as a result of Executive Order (EO) S-1-07, which mandates that the carbon intensity of transportation fuels in California be lowered 10 percent by 2020. The State is currently implementing this standard, which is being phased in and will achieve full implementation in 2020. The LCFS target would be maintained beyond 2020.

Assembly Bill 1493 and Advanced Clean Cars

AB 1493 directed the California Air Resources Board (CARB) to adopt GHG standards for motor vehicles through model year 2015 that would result in reductions in GHG emissions by up to 25 percent in 2030. In addition, the State's Advanced Clean Cars Program includes additional components that will further reduce GHG emissions statewide, including more stringent fuel efficiency standards for model years 2017 through 2025 and support infrastructure for the commercialization of zero-emission vehicles. CARB anticipates additional GHG reductions of 3 percent by 2020, 27 percent by 2035, and 33 percent by 2050.[3] These are also known as "Pavley I" and "Pavley II" regulations.

California Building Code Title 24

California's building efficiency standards are updated regularly to incorporate new energy efficiency technologies. The code was most recently updated in 2016 and went into effect for new development in 2017. For projects implemented after January 1, 2017, the California Energy Commission estimates that the 2016 Title 24 energy efficiency standards will reduce consumption by an estimated 28 percent for residential buildings and 5 percent for commercial buildings, relative to the 2013 standards. These percentage savings relate to heating, cooling, lighting, and water heating only; therefore, these percentage savings were applied to the estimated percentage of energy use by Title 24.

Renewable Portfolio Standard

The Renewable Portfolio Standard (RPS) requires energy providers to derive 33 percent, 60 percent, and 100 percent of their electricity from qualified renewable sources by 2020, 2030, and 2045, respectively. This is anticipated to lower emission factors (i.e., fewer GHG emissions per kWh used) statewide. Therefore, reductions from RPS are taken for energy embedded in water, as well as commercial/industrial and residential electricity.

Community Adjusted Business-as-Usual Forecast

The County's Adjusted BAU forecast emissions are estimated to be 4,861,256 MT CO_2e in 2020; 4,102,109 MT CO_2e in 2030; and 4,175,146 MT CO_2e in 2050 (Table 9). This change represents a 0.9 percent reduction from 2017 by 2020, a 16.3 percent reduction by 2030, and a 14.8 percent reduction by 2050. Due to the State's stringent vehicle standards, emissions from the transportation sector are expected to decrease significantly over time. The proportion of emissions from electricity consumption are expected to decrease over time, whereas natural gas-related emissions are expected to increase over time. The emissions from the agriculture sector are also expected to reduce by almost half over time, mainly due to a decline in agricultural activities. Figure 3 shows community Business-As-Usual (BAU) and Adjusted BAU forecasts.

[3] CARB Advanced Clean Cars Summary Sheet. Accessed on November 10, 2018 https://www.arb.ca.gov/msprog/clean_cars/acc%20summary-final.pdf?_ga=2.39593376.248736436.1543349769-1056020676.1542733892.

Table 9. Community Adjusted Business-as-Usual Emissions

Sector	2017 (MT CO_2e)	2020 (MT CO_2e)	Percent Change 2017–2020	2030 (MT CO_2e)	Percent Change 2017–2030	2050 (MT CO_2e)	Percent Change 2017–2050
On-Road Transportation	1,766,784	1,835,938	3.9	1,361,200	-22.9	1,174,310	-33.5
Agriculture	1,670,954	1,565,873	-6.2	1,261,044	-24.5	817,858	-51.0
Electricity	712,928	653,541	-8.3	466,971	-34.4	480,289	-32.6
Natural Gas	475,211	510,268	7.3	652,578	37.3	1,104,421	132.0
Solid Waste	204,365	223,448	9.3	298,585	46.1	533,154	160.8
Water and Wastewater	44,606	41,377	-7.2	30,413	-31.8	32,584	-26.9
Aviation	26,786	26,786	0.0	26,786	0.0	26,786	0.0
Off-Road Sources	3,883	4,024	3.6	4,531	16.6	5,744	47.9
Total	**4,905,518**	**4,861,256**	**-0.9**	**4,102,109**	**-16.3**	**4,175,146**	**-14.8**

Source: Compiled by LSA (2018).
MT CO_2e = metric tons of carbon dioxide equivalent

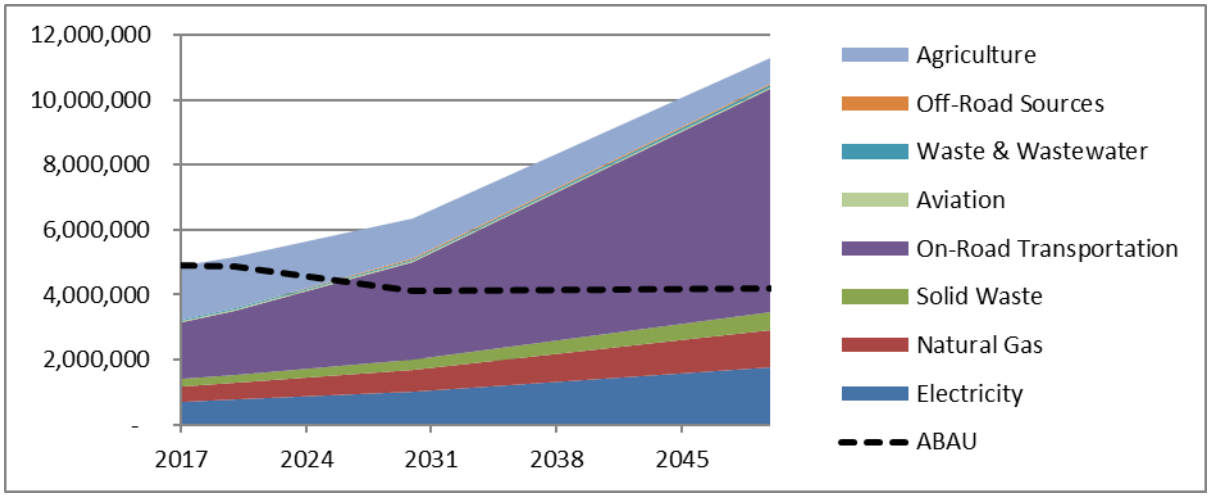

Figure 3. Community Business-as-Usual and Adjusted Business-as-Usual (ABAU) Forecasts

REDUCTION TARGETS

The State has set goals for reducing GHG emissions by 2020, 2030, and 2050 through AB 32, EO S-3-05, and EO B-30-15, respectively. The State has also provided guidance to local jurisdictions as "essential partners" in achieving the State's goals by identifying a 2020 recommended reduction goal. That goal, stated in the AB 32 Scoping Plan, was for local governments to achieve a 15 percent reduction below 2005–2008 levels by 2020, which aligns with the State's goal of not exceeding 1990 emissions levels by 2020.[4] The State's long-term target is to emit no more than 20 percent of 1990 levels by 2050 (or, a reduction of 80 percent below 1990 levels by 2050). The State has also provided an interim target, which is 40 percent below 1990 levels by 2030. It is clear that the issue of climate change will not end in 2030 and continued reduction goals should be implemented to keep the State on a path toward the 2050 goal.

Ultimately, the County will determine the level of reductions that it can feasibly achieve. The recommended targets provided below are guidelines based on consistency with the State's goals.

RECOMMENDED COMMUNITY TARGETS

The following targets are recommended to keep the County CAP in line with the State's reduction goals. In 2020, the County would not need to make any additional CO_2e emissions reductions, as State and local policies will be sufficient to meet the targets. In 2030, the County would need to reduce emissions by 525,511 MT CO_2e below the Adjusted BAU scenario to meet the State-aligned target. In 2050, the County would need to reduce emissions by 2,982,947 MT CO_2e below the Adjusted BAU scenario to meet the State-aligned target (see Table 10 and Figure 4).

Table 10. State-Aligned Emission GHG Reduction Targets by Year

Sector	2008[1]	2017	2020	2030	2050
BAU Emissions (MT CO_2e)	7,012,938	4,905,518	5,158,305	6,368,781	11,305,026
Adjusted BAU Emissions (MT CO_2e)	-	-	4,861,256	4,102,109	4,175,146
State-Aligned Target (% change from 1990)	-	-	0	-40	-80
State-Aligned Target (% change from 2008)[2]	-	-	-15	-49	-83
Reductions from Adjusted BAU Needed to Meet the Target (MT CO_2e)	-	-	-	525,511	2,982,947

Source: Compiled by LSA (2018).
[1] Baseline (2008) emissions are from the County's 2015 Climate Action Plan GHG inventory.
[2] Reduction target calculation details are provided in Appendix B.
BAU = Business-as-Usual
County = County of Riverside
GHG = greenhouse gas
MT CO_2e = metric tons of carbon dioxide equivalent
NA= Not Applicable

[4] In an analysis, the State concluded that a 15 percent reduction in emissions from 2005–2008 levels by 2020 would be equivalent to achieving 1990 emissions levels.

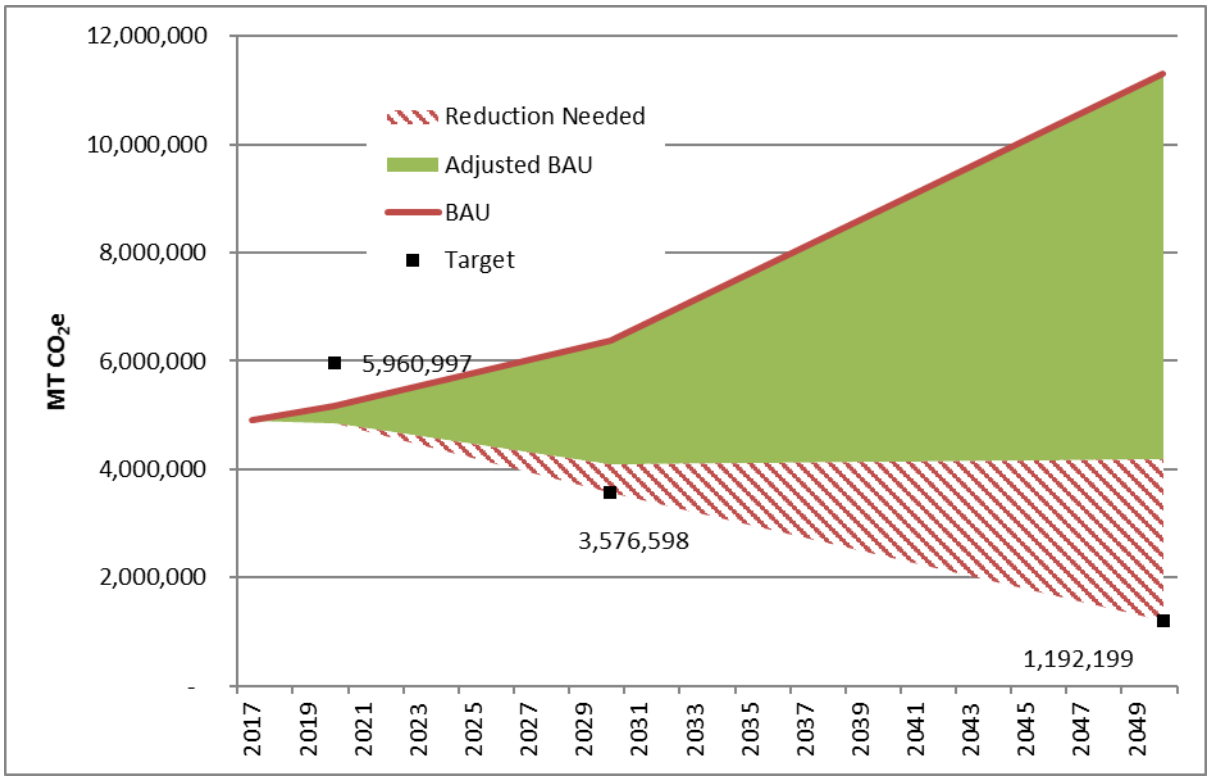

Figure 4. Community Emissions Inventories, Forecasts, and Targets

CONCLUSIONS AND NEXT STEPS

This IFT Report presents the County's community inventory, provides forecasts, and describes recommended reduction targets. It is the foundation of the CAP Update and provides the County a first look at what will be needed to meet emissions reduction targets that are aligned with State goals and would mitigate the County's impacts on climate change. This report is also intended to guide the County in determining feasible GHG reduction opportunities by detailing the sources of emissions by sector.

The next steps in the CAP process are to review the information provided in this IFT Report and to determine preliminary GHG reduction targets for community operations. The County should also begin to identify local GHG reduction measures that could be implemented to reach its emissions targets.

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APPENDIX A

GLOSSARY OF TERMS

Adjusted Business-as-Usual: A greenhouse gas forecast scenario that accounts for known policies and regulations that will affect future emissions. Generally, these are State and federal initiatives that will reduce emissions from the Business-as-Usual scenario.

Baseline Year: The inventory year used for setting targets and against which future inventories are compared.

Business-as-Usual (BAU): A greenhouse gas forecast scenario used for the estimation of greenhouse gas emissions at a future date based on current technologies and regulatory requirements and in the absence of other reduction strategies.

Carbon Dioxide Equivalent (CO_2e): A common unit for normalizing greenhouse gases with different levels of heat trapping potential. For carbon dioxide itself, emissions in tons of CO_2 and tons of CO_2e are the same, whereas 1 ton of nitrous oxide equates to 265 tons of CO_2e and 1 ton of methane equates to 28 tons of CO_2e. The values are based on the gases' global warming potentials.

Community Inventory: Greenhouse gas emissions that result from the activities of residents and businesses in the county. An inventory reports emissions that occur over a single calendar year.

Emissions Factor: A coefficient used to convert activity data into greenhouse gas emissions. The factor is a measure of the greenhouse gas intensity of an activity, such as the amount of CO_2 in 1 kilowatt-hour of electricity.

Global Warming Potential (GWP): The relative effectiveness of a molecule of a greenhouse gas at trapping heat compared with one molecule of CO_2.

Metric Ton (MT): Common international measurement for the quantity of greenhouse gas emissions. A metric ton is equal to 2,205 pounds or 1.1 short tons.

Reduction Targets: Greenhouse gas emissions levels not to be exceeded by a specific date. Reduction targets are often informed by State recommendations, and different targets may be established for different years.

Sector: A subset of the emissions inventory classified by a logical grouping, such as an economic or municipal-specific category.

State-Aligned Targets: The State's goals for reducing greenhouse gas emissions by 2020, 2030, and 2050 through Assembly Bill 32, Executive Order S-3-05, and Executive Order B-30-15, respectively.

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APPENDIX B

METHODOLOGY

This appendix provides a detailed description of the data sources, emission factors, policies, and assumptions used to develop the greenhouse gas (GHG) emissions inventories, forecasts under a Business-as-Usual (BAU) scenario, forecasts under an Adjusted BAU scenario, and the State-aligned GHG reduction targets.

PROTOCOLS

The GHG inventories were developed using tools and guidance documents developed or supported by government agencies, such as the Environmental Protection Agency. Calculation protocols have been developed to ensure consistency among community inventories. Specifically, the U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions (Community Protocol; ICLEI 2012) and the California Supplement (AEP 2013) were used for the community inventory. These protocols often have multiple calculation methods for a single emission source depending on the data available. There are two broad approaches for calculating emissions: "bottom-up" and "top-down." A bottom-up approach relies on end-use data, such as county-level electricity usage. A top-down approach relies on aggregated data that is allocated to the county based on population, employment, or another relevant indicator. Bottom-up calculations were performed whenever possible to provide the most detailed and likely accurate picture of emissions within a jurisdiction; however, when detailed data were not available, other appropriate methods were used and are described in this appendix.

GLOBAL WARMING POTENTIAL FACTORS

The inventory includes the three GHGs most relevant to community emissions—carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O)—since they are most relevant to human activities (IPCC 2014). Each GHG differs in its ability to absorb heat in the atmosphere based on its molecular properties and expected lifetime in the atmosphere, and it is useful to describe emissions in one unit of measurement. That unit of measurement is carbon dioxide equivalent, or CO_2e, and Global Warming Potential (GWP) factors are used to standardize emissions from various GHGs. GWP factors, developed by the Intergovernmental Panel on Climate Change (IPCC), represent the heat-trapping ability of each GHG relative to that of CO_2. For example, the GWP factor of CH_4 is 28 because 1 metric ton (MT) of CH_4 has 28 times the heat-trapping capacity as 1 MT CO_2 (over a 100-year period). IPCC periodically updates the GWP factors of GHGs based on new science and updated background mixing ratios of CO_2. CO_2 always has a GWP factor of 1 and the other GHGs are calculated relative to CO_2. The GWP factors are shown in Table B-1. GWP factors are unitless. Emissions in the inventory are reported in units of CO_2e.

Table B-1. Global Warming Potentials

	CO_2	CH_4	N_2O
GWP	1	25	298

Source: *Fifth Assessment Report* (Intergovernmental Panel on Climate Change2014).

ACTIVITY DATA

Activity data is the end-use consumption amount of a sector, such as kilowatt-hours of electricity, therms of natural gas, and vehicle miles traveled for on-road transportation. In estimating the County's historical GHG emissions, activity data for unincorporated Riverside County were obtained when possible (a "bottom-up" approach). When not available, other data sources were used, generally at the county level (a "top-down" approach). Activity data were provided by the sources identified in Table B-2.

Table B-2. Activity Data Sources

Data	Data Source	Notes
Electricity	Southern California Edison, Anza Electric Cooperative, and Imperial Irrigation District	Unincorporated County area data
Natural Gas	Southern California Gas Company	Unincorporated County area data
Water	Fern Valley Water District, High Valleys Water District, Rancho California Water District, Temescal Valley Water District, Cabazon Water District, Chiriaco Summit Water District, Coachella Valley Water District, Home Gardens County Water District, Idyllwild Water District, Mission Springs Water District, Pine Cove Water District, Pinyon Pines County Water District, Yucaipa Valley Water District, Beaumont-Cherry Valley Water District, Palo Verde Irrigation District, Eastern Municipal Water District, Elsinore Valley Municipal Water District, Lake Hemet Municipal Water District, Western Municipal Water District, and Desert Water Agency	Unincorporated County area data
Vehicle Miles Traveled	County of Riverside RIVTAM Model	Origin-destination approach, described below
Aviation	Riverside County Economic Development Agency	Unincorporated County area data
Demographic Data	County of Riverside General Plan and SCAG	Unincorporated County area data
Off-Road Emissions	OFFROAD Model	County-level data
Solid Waste	Riverside County Department of Waste Resources	Unincorporated County area data
Agriculture	SCAG and Riverside County Agricultural Commissioner	Unincorporated County area data

County = County of Riverside
RIVTAM = Riverside Traffic Analysis Model)
SCAG = Southern California Association of Governments

Origin-Destination Vehicle Miles Traveled

For the community inventory, activity data—in this case, vehicle miles traveled (VMT)—were based on an origin-destination approach used by the State in developing an emissions target for metropolitan planning organizations under Senate Bill 375. This approach has also been the typical approach used in estimating emission within a county. This approach accounts for:

- All of the emissions where a trip begins and ends within the county;
- Half of the emissions where one endpoint is in the county (i.e., either the origin or destination of the trip); and
- None of the emissions that are "pass-through" (i.e., a trip passes through the county but does not begin or end within its boundary).

This approach is used to account for trips or portions of trips that the County of Riverside may have some control over. The County does not have any control over pass-through trips because both the origin and destination that generated the trip are outside of the County's jurisdiction.

Community Activity Data

Community activity data are shown in Table B-3, with the exception of off-road emissions, which are shown as the County's proportion of countywide emissions. Total countywide off-road emissions by GHG are shown in Table B-4.

EMISSION FACTORS

Emissions factors are used to convert activity data to GHG emissions. An emission factor is defined as the average emission rate of a given GHG for a given source, relative to units of activity. By definition, an emission factor is related to activity data. The emission factors used in the inventories are described by sector below.

Electricity

California utilities report the average CO_2 content per output of electricity on an intermittent basis. The CO_2 intensity of electricity varies by utility and year due to changes in supply, renewable generation, and other factors. The community within the unincorporated County area uses electricity provided by Southern California Edison (SCE), Anza Electric Cooperative (Anza), and the Imperial Irrigation District (IID), except for embedded energy in water, which travels throughout the State and therefore utilizes electricity from multiple utilities (as described in the Water and Wastewater discussion below).

Table B-3. Community Inventory Activity Data

Sector	2017
On-Road Transportation	
Total Vehicle Miles Traveled	4,284,955,458
Aviation	
Jet Fuel (gallons)	2,781,219
Aviation Fuel (gallons)	431,069
Electricity (kWh)	
Commercial	1,463,821,482
Residential	1,505,409,800
Natural Gas (therms)	
Commercial	40,618,482
Residential	48,850,607
Solid Waste	
Landfill (tons)	389,687
Water and Wastewater	
Imported Water (million gallons)	27,642
Off-Road Sources[1] (% of Riverside County emissions attributed to unincorporated Riverside County)	
Lawn and Garden (% of households)	15.7
Construction (% of building permits)	29.4
Industrial (% of manufacturing jobs)	3.5
Light Commercial (% of other jobs)	11.7
Recreation (population weighted by income)	13.6
Agriculture (% of agriculture jobs)	77.2
Agriculture	
Hay (acres)	45,353
Corn (acres)	740
Oats (acres)	833
Sorghum (acres)	130
Wheat (acres)	18,394
Cotton (acres)	7,291
Vegetable and Fruit Trees (acres)	78,688
Dairy Cow (heads)	21,900
Poultry (heads)	1,893,394
Sheep (heads)	8,300

[1] Off-road emissions are available at the county (including unincorporated areas and incorporated cities) level through CARB's OFFROAD model. Emissions attributable to unincorporated Riverside County were derived using indicator data related to the off-road source. For example, the percentage of households in unincorporated Riverside County compared to the entire County (including unincorporated areas and incorporated areas) was used to attribute the same percentage of lawn and garden equipment emissions to the County. See below for more methodology details.

CARB = California Air Resources Board
kWh = kilowatt-hours

Table B-4. Emissions from Off-Road Categories for Riverside County

Off-Road Class	GHG Type	2017 (MT CO_2e/yr)
Agricultural Equipment	CO_2	1,580
	CH_4	0.019
	N_2O	0.143
Construction and Mining Equipment	CO_2	7,438
	CH_4	0.040
	N_2O	0.634
Industrial Equipment	CO_2	728
	CH_4	0.037
	N_2O	0.245
Lawn and Garden Equipment	CO_2	790
	CH_4	0.506
	N_2O	1.154
Light Commercial Equipment	CO_2	502
	CH_4	0.080
	N_2O	0.131
Recreational Equipment	CO_2	436
	CH_4	0.659
	N_2O	1.865

Source: OFFROAD Model (CARB 2007)
CARB = California Air Resources Board
CH_4 = methane
CO_2 = carbon dioxide
GHG = greenhouse gas
MT CO_2e/yr. = metric tons of carbon dioxide equivalent per year
N_2O = nitrous oxide

Since the County obtains its electricity from multiple providers (as shown in Table B-5), multiple emission factors were used. Western Electricity Coordinating Council (WECC) California subregion emissions rates from the Environmental Protection Agency's (EPA) eGRID2016 Summary Tables (EPA 2016) were used for both Anza and IID data. SCE reported CO_2 factors for 2016 through its Corporate Responsibility and Sustainability Report (SCE 2016).

Table B-5. Electricity Emission Factors

Source	CO_2 (lbs/MWh)	CH_4 (lbs/MWh)	N_2O (lbs/MWh)	CO_2e (lbs/MWh)
EPA	527.9	0.033	0.004	-
SCE[1]	-	-	-	529.11

Sources: Emissions & Generation Resource Integrated Database (eGRID) Summary Tables (EPA 2016); *2016 Corporate Responsibility and Sustainability Report* (SCE 2016).
[1] SCE only reported CO_2e.

CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
EPA = United States Environmental Protection Agency
lbs/MWh = pounds per megawatt-hour
N_2O = nitrous oxide
SCE = Southern California Edison

Natural Gas Combustion

Emission factors for natural gas do not vary greatly over time or by supplier. Therefore, natural gas emission factors from the United States Community Protocol for Accounting and Reporting GHG Emissions, which are U.S. averages, were used (Table B-6).

Table B-6. Natural Gas Emission Factors

	CO_2	CH_4	N_2O
kg/MMBtu	53.02	0.005	0.0001

Source: U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Version 1.0 (ICLEI 2012).
CH_4 = methane
CO_2 = carbon dioxide
ICLEI = Local Governments for Sustainability
kg/MMBtu = kilograms per million British thermal units
N_2O = nitrous oxide

Transportation and Mobile Sources

EMFAC Model

CO_2 emission factors for transportation and mobile sources are calculated using the State-developed Emissions Factor (EMFAC) model, version 2017, which can be accessed at http://www.arb.ca.gov/emfac/. Emissions are available at the county level, and emission factors were developed and applied to VMT for 2017. Data are aggregated as annual emissions for all vehicle model years and speeds, but are separated by vehicle class. Emission factors were developed using total CO_2 exhaust, which includes emissions from vehicles in motion, idling, and ignition. While emissions from idling and ignitions are not directly related to mileage, they were included so that reductions from measures that may decrease idling could be accounted for in future inventories.

On-Road Transportation

Emissions were converted to emission factors as grams of CO_2 per mile for gasoline, diesel, and natural gas vehicles using EMFAC and a three-step process:

1. Calculate VMT percentage for each vehicle class using EMFAC VMT.

2. Calculate CO_2 emission factor for each vehicle class using EMFAC CO_2 emissions[1] and VMT for Riverside County;

CH_4 and N_2O emission factors for gasoline, diesel, and natural gas vehicles were derived from Emission Factors for Greenhouse Gas Inventories developed by the EPA (Table B-7).

[1] The emissions factors take into account existing policies (e.g., Pavley and Low Carbon Fuel Standard).

Table B-7. On-Road Vehicle Emission Factors

Vehicle Class	Fuel Type	VMT Percentage	CO_2 Emission Factor (grams/mile)	CH_4 Emission Factor (grams/mile)	N_2O Emission Factor (grams/mile)
Passenger Cars	Gasoline	54.64	335.185	0.017	0.004
	Diesel	0.3998	242.843	0.0005	0.001
Light-Duty Trucks (ETW <= 3,750 pounds)	Gasoline	5.4589	397.184	0.016	0.007
	Diesel	0.0028	450.764	0.001	0.002
Light-Duty Trucks (ETW > 3,750 pounds)	Gasoline	17.96	437.784	0.016	0.007
	Diesel	0.0573	335.147	0.001	0.002
Light-Heavy-Duty Trucks (GVWR < 10,000 pounds)	Gasoline	1.530	914.724	0.033	0.013
	Diesel	1.451	562.207	0.005	0.005
Light-Heavy-Duty Trucks (GVWR > 10,000 pounds)	Gasoline	0.2306	1,047.891	0.033	0.013
	Diesel	0.5467	613.029	0.005	0.005
Motorcycles	Gasoline	0.5452	246.515	0.017	0.004
Medium-Duty Trucks	Gasoline	16.11	528.437	0.033	0.013
	Diesel	0.2423	441.921	0.005	0.005
Motor Homes	Gasoline	0.1273	1,897.190	0.016	0.007
	Diesel	0.0490	1,053.958	0.001	0.002
Motor Coaches	Diesel	0.0148	1,797.703	0.001	0.002
Other Buses	Gasoline	0.0615	1,926.349	0.016	0.007
Power Take-Off	Diesel	0.0706	2,337.179	0.001	0.002
School Buses	Gasoline	0.0351	1,073.062	0.016	0.007
	Diesel	0.0658	1,537.071	0.001	0.002
Urban Buses	Gasoline	0.0445	1,632.671	0.016	0.007
	Diesel	0.0001	1,314.437	0.001	0.002
	Natural Gas	0.0811	1,921.904	1.966	0.175
All Other Buses	Diesel	0.0268	1,136.311	0.001	0.002

Source: EMFAC2017 Web Database. EPA Emission Factors for Greenhouse Gas Inventories (CARB 2018).
CARB = California Air Resources Board
CH_4 = methane
CO_2 = carbon dioxide
ETW = equivalent test weight
GVWR = gross vehicle weight rating
N_2O = nitrous oxide
VMT = vehicle miles traveled

Off-Road Emissions Sources

Off-road emissions include emissions from agriculture, construction, industrial, lawn and garden, light commercial, and recreational equipment. Annual emissions of CO_2, CH_4, and N_2O are available at the county (including unincorporated areas and incorporated cities) level from the State's OFFROAD model. To estimate values for unincorporated Riverside County, relevant indicator data are used to estimate the proportion of county-level emissions attributable to unincorporated Riverside County.[1] Table B-8 lists the indicator data used to estimate unincorporated Riverside

[1] For example, the indicator for off-road emissions from construction equipment is building permits. Communities in unincorporated Riverside County issued 1,512 building permits in 2017, and 5,136 building permits were issued countywide. As such, building permits issued in unincorporated Riverside County account for 29.4 percent of the County's total building permits. It is assumed that the unincorporated area of the County's proportion of building permits is equal to the unincorporated area of the County's proportion of the entire County's off-road emissions. Based on this assumption, 29.4 percent of Riverside County's 2017 off-road CO_2 emissions are attributable to unincorporated Riverside County. Similar methodology applies to the remaining year and off-road emissions sources.

Table B-8. Off-Road Emissions Indicators

Category	Indicator
Agriculture Equipment	Agriculture Jobs
Construction Equipment	Building Permits Issued
Industrial Equipment	Manufacturing Jobs
Lawn and Garden Equipment	Households
Light Commercial Equipment	Nonmanufacturing or Agriculture Jobs
Recreational Equipment	Population, Weighted by Median Income

Sources: Profile of the Unincorporated Area of Riverside County and Profile of Riverside County (SCAG 2017).
SCAG = Southern California Association of Governments

County's portion of emissions for each category, and Table B-9 shows the data specific to unincorporated Riverside County. Indicator data were obtained from the Southern California Association of Governments' (SCAG) *Profile of the Unincorporated Area of Riverside County and Profile of Riverside County.*

Table B-9. Off-Road Emissions Indicator Data

	Agriculture Jobs	Building Permits	Manufacturing Jobs	Households	Other Jobs[1]	Population	Income ($)
Riverside County (Unincorporated Area)	8,257	1,512	3,613	112,292	69,884	364,413	50,394
Riverside County	10,700	5,136	103,633	713,205	595,607	2,347,828	57,367
% Unincorporated area of Entire County	77.2	29.4	3.5	15.7	11.7	13.6	

Source: *Profile of the Unincorporated Area of Riverside County and Profile of Riverside County* (SCAG 2017).
Note: Some percentages may appear off due to rounding.
[1] Other indicates nonmanufacturing and non-agricultural.
SCAG = Southern California Association of Governments

Water and Wastewater

Emissions from water are indirect. Water requires energy to move from its source to final treatment, and the energy used for most of these processes is not captured in local utility data (i.e., the portion that is used in a home or business and therefore contained in the owner's utility bill). This portion is termed the "embedded energy" in water. For southern California in particular, the energy embedded in water is high and should be accounted for in a community inventory. The California Energy Commission (CEC) developed a report that estimates the energy required to supply, convey, distribute, and treat water in northern and southern California (CEC 2006b). Outdoor water infiltrates the ground and therefore does not have the wastewater energy treatment component. Therefore, the emission factors are different for indoor and outdoor water. The amount of water used for indoor or outdoor use was not available at the county level. It is assumed that 50 percent of water is for outdoor use. The embedded energy in 1 million gallons (MG) of indoor and outdoor water in Riverside County is shown in Table B-10.

Table B-10. Energy Embedded in Water

	Indoor Use[1] (kWh/MG)	Outdoor Use[1] (kWh/MG)
Supply and Conveyance	9,727	9,727
Treatment	111	111
Distribution	1,272	1,272
Wastewater Treatment	1,911	–
Total	**13,022**	**11,111**

Source: *Refining Estimates for Water-Related Energy Use in California* (CEC, September 2006).
CEC = California Energy Commission kWh/MG = kilowatt-hours per million gallons

Water districts obtain water from various sources. For local water sources, the data collected from SCE, Anza, and IID include associated electricity usage; hence, GHG emissions are included under the electricity sector discussion above. Showing GHG emissions associated with local water sources in the electricity sector avoided double-counting because the electricity used to pump local water supplies was embedded in the SCE, Anza, and IID reported electrical consumption data for unincorporated Riverside County. For this reason, the percentage of imported water data for each water district was collected along with the water consumption data. Table B-11 shows water consumption and percentage of imported water data for all water districts serving unincorporated Riverside County.

Table B-11. Water Consumption and Imported Water Data

Water District	Annual Water Consumption (million gallons)	Imported Water Percentage
Fern Valley Water District	38.12	0
High Valleys Water District	24.45	100
Rancho California Water District	8,233.13	40
Temescal Valley Water District	938.78	74
Cabazon Water District	148.34	0
Chiriaco Summit Water District	9.31	100
Coachella Valley Water District	N/A[1]	0
Home Gardens County Water District	120.89	57
Idyllwild Water District	86.68	0
Mission Springs Water District	N/A[1]	0
Pine Cove Water District	29.14	0
Pinyon Pines County Water District	5.76	0
Yucaipa Valley Water District	88.31	48
Beaumont-Cherry Valley Water District	3,190.73	59
Palo Verde Irrigation District	N/A[1]	0
Eastern Municipal Water District	4,081.28	54
Elsinore Valley Municipal Water District	1,022.98	68
Lake Hemet Municipal Water District	4,056.52	70
Western Municipal Water District	5,295.52	68
Desert Water Agency	92.09	27

Source: Compiled by LSA (2018).
[1] Data are not available. However, since 100 percent of the district's water is from local sources, missing data do not affect calculation results.

For energy embedded in water, a statewide average emission factor is applied because water in Riverside County is supplied from various regions in the State. These emissions factors are listed in Table B-12.

Table B-12. California Statewide Electricity Emission Factors

Year	CO_2 (lbs/MWh)	CH_4 (lbs/MWh)	N_2O (lbs/MWh)
2016[1]	527.9	0.033	0.004

Source: Emissions & Generation Resource Integrated Database (eGRID) (EPA 2016).
[1] 2016 data is the most recent year available and is used as a proxy for 2017 inventory.
CH_4 = methane
CO_2 = carbon dioxide
EPA = United States Environmental Protection Agency
lbs/MWh = pounds per megawatt-hour
N_2O = nitrous oxide

Solid Waste

Emissions from solid waste are primarily in the form of fugitive emissions of CH_4 from decomposition, and only organic waste may decompose. Emission factors are derived from the Community Protocol based on the type of waste disposed. For the community inventory, the emission factor for mixed municipal solid waste was used. The emission factor to determine CH_4 generation varies if the landfill has a CH_4 capture system and if it operates a CH_4 flare or generates electricity from CH_4 capture. The Community Protocol recommends using an average factor of 75 percent recovery from landfill gas, although some landfills with have much higher gas recovery systems and other landfills have lower gas recovery systems. CO_2 generated by the decomposition of waste in landfills is not considered anthropogenic because it would be produced through the natural decomposition process regardless of its disposition in the landfill. N_2O is not a byproduct of decomposition; therefore, no fugitive emissions of N_2O are anticipated from this source. Table B-13 shows the waste disposal amount for all landfills that serve unincorporated Riverside County and whether each landfill has a CH_4 capture system.

Table B-13. Solid Waste Disposal

Landfill Name	Annual Waste Disposal (tons)	Has Methane Recovery System?
Badlands Landfill	77,845.00	Yes
Blythe	6,283.47	No
Desert Center	32.11	No
Lamb Canyon	92,731.44	Yes
Mecca II	3.60	No
Oasis	1,092.00	No
El Sobrante	168,791.00	Yes
Transfer Stations[1]	42,909.21	No
TOTAL	**389,687.83**	-

Source: County of Riverside, Department of Waste Resources (2018).
[1] There are multiple transfer stations serving unincorporated Riverside County. As a worst-case scenario, it is assumed that the landfills that the transfer stations send waste to do not have methane capture systems.

FORECASTS

The forecasts are an estimate of what emissions in Riverside County may be in 2020, 2030, and 2050. The forecasts were developed using standard methodologies under two scenarios: BAU and Adjusted BAU.

Business-as-Usual Forecasts

The BAU scenario uses current (2017) consumption patterns and predicted growth in Riverside County in the absence of State and federal legislation that would reduce future emissions. The growth assumptions are based on County of Riverside General Plan estimates (County of Riverside 2015b) and are applied to emissions sectors based on their relevance. For example, future residential energy emissions were developed using current energy use per household (from the 2017 inventory) and the anticipated number of households in the future. Table B-14 shows the growth factors used to project emissions in Riverside County.

Table B-14. Emissions Sectors and Demographic Growth Indicators

Sector	Demographic Indicator
Residential Energy	Households
Commercial/Industrial Energy	Jobs
Solid Waste, Water, Wastewater, and Off-Road Sources	Service Population (Population + Jobs)
Transportation	VMT
Agriculture	Change in agriculture sector between 2008 and 2017

Source: *AEP White Paper: California Community-Wide GHG Baseline Inventory Protocol* (AEP, June 2011).
AEP = Association of Environmental Professionals
VMT = vehicle miles traveled

Adjusted Business-as-Usual Forecasts

The Adjusted BAU scenario also uses growth estimates for the County but accounts for legislation that will reduce emissions in the future regardless of County actions. The legislation is detailed in the IFT Report under the Adjusted Business-as-Usual Forecast section and summarized below in Table B-15.

Low Carbon Fuel Standard, Assembly Bill 1493, and Advanced Clean Cars

Changes in on-road emissions in Riverside County were modeled using EMFAC2017, which models both the emissions with and without the Low Carbon Fuel Standard and Pavley I. Additional modeling was conducted to estimate the change in emissions due to the State's Advanced Clean Cars Program, which includes additional components that will further reduce GHG emissions statewide, including more stringent fuel efficiency standards for model years 2017–2025 and support infrastructure for the commercialization of zero-emission vehicles. The emission factors with the reductions from on-road transportation measures in 2020, 2030, and 2050 were modeled from EMFAC2017.

Table B-15. Legislation Applied to Adjusted BAU Forecasts

Legislation	Description	Emissions Sector(s) Affected
Low Carbon Fuel Standard	Reduce carbon intensity of transportation fuels 10 percent by 2020 and maintain the target beyond 2020.	On-Road Transportation, Employee Commute, and Vehicle Fleet
AB 1493 and Advanced Clean Cars	Implement GHG standards for passenger vehicles, implement a zero-emission vehicle program, and support clean fuels outlet regulation.	On-Road Transportation
California Building Code Title 24	Improved energy efficiency standards for new residential and nonresidential construction.	Residential Energy and Nonresidential Energy
Renewable Portfolio Standard	Provide 33 percent, 60 percent, and 100 percent of electricity from renewable sources by 2020, 2030, and 2045, respectively.	Residential Energy, Nonresidential Energy, and Water Energy

Sources: California Air Resources Board Low Carbon Fuel Standard Webpage: https://www.arb.ca.gov/fuels/lcfs/lcfs.htm (accessed August 13, 2018).
California Air Resources Board Clean Car Standards (AB 1493) Webpage: https://www.arb.ca.gov/cc/ccms/ccms.htm (accessed August 13, 2018).
California Air Resources Board California Green Building Standards Code Webpage: https://www.arb.ca.gov/research/indoor/greenbuildings.htm (accessed August 13, 2018).
California Air Resources Board Renewable Portfolio Standard Webpage: https://www.arb.ca.gov/energy/rps/rps.htm (accessed August 13, 2018).
Assembly Bill
BAU = Business-as-Usual
GHG = greenhouse gas

California Building Code Title 24

Title 24 updates will raise the minimum energy-efficiency standards for new buildings, thereby decreasing the expected energy consumption of future development in Riverside County. Under the Adjusted BAU scenario, it was assumed that the 2016 Title 24 standards that went into effect in 2017 will make new residential and nonresidential buildings more efficient than they would be under the 2013 Title 24 standards for new residential and nonresidential buildings. The energy savings were estimated using analyses developed by the CEC and applied to the expected new development in Riverside County from 2017 to 2050. The rate of reductions was applied to the County's 2017 energy use (kWh or therms) per household (for residential energy) or per job (for commercial/industrial energy). Savings were then applied to new development anticipated in Riverside County. Detailed energy savings assumptions are provided below.

Residential

Residential electricity is estimated to be 13.3 percent lower under the new standards (CEC 2015). This percentage savings is relative to heating, cooling, lighting, and water heating only; it does not include other appliances, outdoor lighting that is not attached to buildings, plug loads, or other energy uses. Electricity consumption due to heating, cooling, lighting, and water heating accounts for 34 percent of total household electricity use (CEC 2009). Therefore, the percentage of total residential electricity that will be reduced as a result of the 2016 Title 24 standards is 4.5 percent.

Residential natural gas savings under the new standards are estimated to be 25.1 percent. Again, this percentage savings pertains only to the energy sources affected by Title 24 standards. Natural

gas consumption due to space and water heating accounts for 86 percent of total household natural gas use (CEC 2009). Therefore, the percentage of total residential natural gas that will be reduced as a result of the 2016 Title 24 standards is 21.6 percent.

Commercial

Commercial Electricity savings were estimated to be 4.6 percent lower under the new standards. Title 24-related measures would impact 77.2 percent of total electricity use in commercial buildings (CEC 2006a); therefore, a 3.6 percent reduction in electricity consumption may be expected in new commercial development.

Natural gas savings were estimated to be 0.5 percent under the new standards compared to the previous standards. Heating and cooling account for 69.7 percent of natural gas consumption in commercial facilities; therefore, a 0.35 percent reduction in natural gas consumption may be expected from the 2016 Title 24 standards applied to new commercial development.

Renewable Portfolio Standard

The Renewable Portfolio Standard (RPS) requires energy providers to derive 33 percent, 60 percent, and 100 percent of their electricity from qualified renewable sources by 2020, 2030, and 2045, respectively. The level of implementation varies by utility. As the largest electricity provider for the County, SCE's implementation of the RPS was assumed to represent the County. As reported in SCE's 2016 Corporate Responsibility and Sustainability Report, approximately 28 percent of the electricity SCE provided to customers in 2016 came from eligible renewable sources. Therefore, to achieve the RPS goals, the emission factors in 2020, 2030, and 2050 would decrease by 15.2 percent, 53.3 percent, and 72.0 percent, respectively. The reduction is taken for electricity used within Riverside County, as well as the delivery and treatment of water.

TARGET SETTING

The State-aligned targets are provided to assist the County in determining appropriate emission reduction goals. Recommended targets are based on existing California climate change legislation and State guidance relevant to establishing a GHG reduction target. While State goals are based on a 1990 baseline year, the County's baseline year is 2008. Therefore, the reduction targets are expressed as a percentage reduction below 2008 levels. Targets are recommended for 2020 and 2050 to align with AB 32 and for 2030 to align with EO B-30-15.

Table B-16 provides a summary of the State's goals and guidance to local governments regarding GHG reduction targets. This guidance applies to communitywide emissions reductions efforts.

Table B-17 demonstrates how the recommendations for local targets that do not have a 1990 emissions inventory were derived and how they align with State targets.

Table B-16. Summary of State Reduction Targets and Guidance on Local Government Targets Aligned with State Targets

	2020	2030	2050
State Targets (AB 32 and EO B-30-15)	1990 levels	40 percent below 1990 levels	80 percent below 1990 levels
State Guidance on Local Government Targets (AB 32 Scoping Plan)	15 percent below current levels	Demonstrate a trajectory toward statewide 2050 levels	N/A

Sources: AB 32 Scoping Plan Update (California Air Resources Board 2013); California's 2017 Climate Change Scoping Plan (CARB 2017); EO B-30-15 (Office of Governor Edmund G. Brown Jr. 2015)
AB = Assembly Bill
CARB = California Air Resources Board
EO = Executive Order
N/A = not available

Table B-17. Comparison of 1990 Baseline Targets vs. 2008 Baseline Targets

Target Year	Percent Below 1990 Emission Levels	Percent Below 2008 Emission Levels
2020	**0.0**	**15.0**
2021	4.0	18.4
2022	8.0	21.8
2023	12.0	25.2
2024	16.0	28.6
2025	20.0	32.0
2026	24.0	35.4
2027	28.0	38.8
2028	32.0	42.2
2029	36.0	45.6
2030	**40.0**	**49.0**
2031	42.0	50.7
2032	44.0	52.4
2033	46.0	54.1
2034	48.0	55.8
2035	50.0	57.5
2036	52.0	59.2
2037	54.0	60.9
2038	56.0	62.6
2039	58.0	64.3
2040	60.0	66.0
2041	62.0	67.7
2042	64.0	69.4
2043	66.0	71.1
2044	68.0	72.8
2045	70.0	74.5
2046	72.0	76.2
2047	74.0	77.9
2048	76.0	79.6
2049	78.0	81.3
2050	**80.0**	**83.0**

Source: Compiled by LSA (2018).

APPENDIX B

GHG INVENTORY AND FORECASTS CALCULATIONS

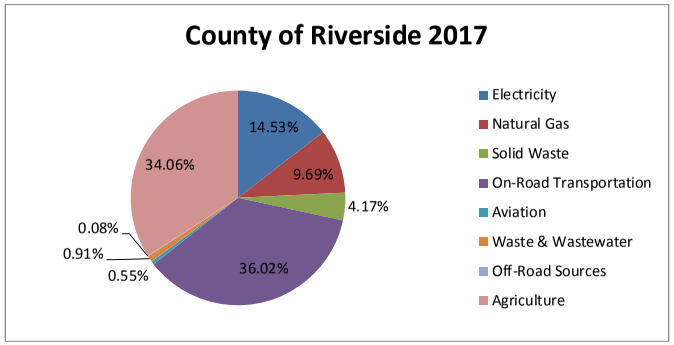
County of Riverside GHG Inventory

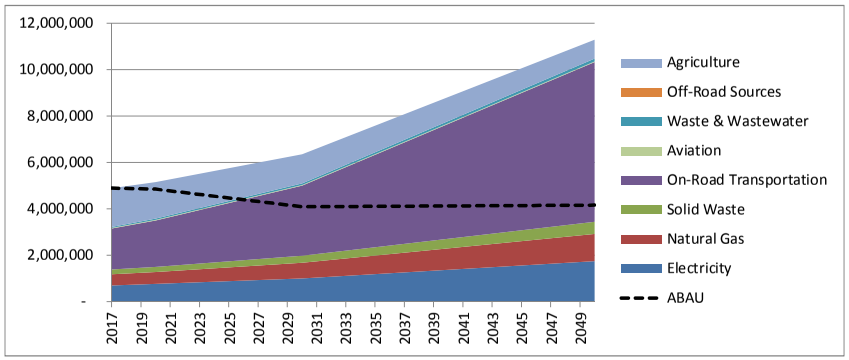
Breakdown of Emissions (BAU)

	2017	2020	2030	2050
Source	**MT CO2e**	**MT CO2e**	**MT CO2e**	**MT CO2e**
Electricity	712,928	774,289	1,017,153	1,756,843
Natural Gas	475,211	515,845	676,742	1,165,761
Solid Waste	204,365	223,448	298,585	533,154
On-Road Transportation	1,766,784	1,999,268	3,018,767	6,882,509
Aviation	26,786	26,786	26,786	26,786
Waste & Wastewater	44,606	48,771	65,171	116,370
Off-Road Sources	3,883	4,024	4,531	5,744
Agriculture	1,670,954	1,565,873	1,261,044	817,858
Total	4,905,518	5,158,305	6,368,781	11,305,026

Breakdown of Emissions (ABAU)

	2017	2020	2030	2050
Source	**MT CO2e**	**MT CO2e**	**MT CO2e**	**MT CO2e**
Electricity	712,928	653,541	466,971	480,289
Natural Gas	475,211	510,268	652,578	1,104,421
Solid Waste	204,365	223,448	298,585	533,154
On-Road Transportation	1,766,784	1,835,938	1,361,200	1,174,310
Aviation	26,786	26,786	26,786	26,786
Waste & Wastewater	44,606	41,377	30,413	32,584
Off-Road Sources	3,883	4,024	4,531	5,744
Agriculture	1,670,954	1,565,873	1,261,044	817,858
Total	4,905,518	4,861,256	4,102,109	4,175,146





Electricity

Emissions Coefficients

	CO2	CH4	N2O		
IID	2.39E-04	1.50E-08	1.81E-09	metric tons/kWh	*EPA 2016 Data - h29*
SCE	2.40E-04	0.00E+00	0.00E+00	metric tons/kWh	*SCE 2016 Data - https://www.edison.com/content/dam/eix/documents/investors/corporate_responsibility/2016-eix-corpo*
ANZA	2.39E-04	1.50E-08	1.81E-09	metric tons/kWh	*EPA 2016 Data - hhttps://www.epa.gov/sites/production/files/2018-02/documents/egrid2016_summarytables.pdf*

GWP (5th Assessment)

CH4	28
N2O	265

Inventory

			Metric Tons			
Utility Provider		Annual kWh	CO2	CH4	N2O	CO2e
IID	Residential	424,752,054	101,707.49	6.36	0.77	102,089.73
IID	Non-Residential	404,905,158	96,955.12	6.06	0.73	97,319.50
SCE	Residential	1,033,261,556	247,982.77	-	-	247,982.77
SCE	Non-Residential	1,047,076,494	251,298.36	-	-	251,298.36
ANZA	Residential	47,396,190.00	11,349.09	0.71	0.09	11,391.74
ANZA	Non-Residential	11,839,830.00	2,835.06	0.18	0.02	2,845.72
TOTAL	**Residential**	**1,505,409,800**	**361,039.34**	**7.07**	**0.86**	**361,464.24**
	Non-Residential	**1,463,821,482**	**351,088.54**	**6.24**	**0.76**	**351,463.58**
	All	**2,969,231,282**	**712,127.89**	**13.31**	**1.61**	**712,927.83**

Forecast

	Forecast Indicator	2017 (MT CO2e)	2017-2020 CAGR	2020 (MT CO2e)	2020-2035 CAGR	2030 (MT CO2e)	2050 (MT CO2e)
Residential	Households	361,464.24	0.025658333	390,007.97	0.025901645	503,652.21	839,934.20
Non-Residential	Service Population	351,463.58	0.030203381	384,281.29	0.029411995	513,501.23	916,908.44
Total		**712,927.83**		**774,289.26**		**1,017,153.43**	**1,756,842.64**

	CO2	CH4	N2O	
IID	527.9	0.033	0.004	lbs/MWh
SCE	529.11			lbs/MWh
ANZA	527.9	0.033	0.004	lbs/MWh

1 lb 0.0004535924 metric ton
1 MWh 1000 kWh

CO2e

SCE 0.24 MT CO2e/MWh
529.1093942 lbs CO2e/Mwh

	2008 kWh	2017 kWh	Growth Rate
SCE	2,593,455,382	2,080,338,050.00	0.80215
IID Residential	529,517,547	424,752,054.27	
IID Non-Residential	504,775,395	404,905,157.89	

Note: 2008 kWh data is from 2015 CAP inventory spreadsheet.

Electricity Reduction

	2010-2020 CAGR	2010	2017	2035
Households	0.025658333	171,380	204,635	324,021
Jobs	0.045048336	97,210	132,332	265,688

	2017 (kWh)	2017-2020 CAGR	2020 (kWh)	2020-2035 CAGR	2030 (kWh)	2050 (kWh)
Residential	1,505,409,800	0.025658333	1,624,287,408	0.025901645	2,097,587,750	3,498,119,640
Non-Residential	1,463,821,482	0.030203381	1,600,504,974	0.029411995	2,138,697,054	3,818,860,173

SCE	0.00024	MT CO2e/kWh

Title 24

kWh per household x 4.5% (residential savings from Title 24)	331.05	Impact Analysis, California Energy Commission
kWh per job x 3.6% (commercial savings from Title 24)	398.22	2016 Update to the California Energy Efficiency Standards for Residential and Nonresidential Buildings
Primary Driver_Household_2017-2035 (units/yr)	6,633	
Primary Driver_Total Jobs_2017-2035 (jobs/yr)	7,409	

RPS

Renewable Portfolio Standards_2017-2020 (Change Carbon Intensity)	84.8%	28% renewable in 2016 based on SCE report, 33% goal by 2020
Renewable Portfolio Standards_2020-2030 (Change Carbon Intensity)	46.7%	Renewable energy 60% by 2030
Renewable Portfolio Standards_2030-2050 (Change Carbon Intensity)	28.0%	Renewable energy 100% by 2045

	2020	2030	2050
Title 24 Residential Reduction (kWh)	6,587,060	28,543,927	72,457,661
Title 24 Non-Residential Reduction (kWh)	8,850,863	38,353,741	97,359,495

	2020	2030	2050
BAU	774,289	1,017,153	1,756,843
ABAU	653,541	466,971	480,289

Natural Gas

Emissions Coefficients

	CO2	CH4	N2O		
SCG	53.06	0.001	0.0001	kg/MMBTU	*CO2 weighted national average- https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf*

GWP (5th Assessment)

CH4	28
N2O	265

Inventory

	Utility Provider	Land Use	Annual Therms	Metric Tons CO2	CH4	N2O	CO2e
	SCG	Residential	48,850,607	259,201.32	4.89	0.49	259,467.55
	SCG	Non-residential	40,618,482	215,521.67	4.06	0.41	215,743.04
TOTAL			**89,469,088.72**	**474,722.98**	**8.95**	**0.89**	**475,210.59**

Forecast

	Forecast Indicator	2017 (MT CO2e)	2017-2020 CAGR	2020 (MT CO2e)	2020-2035 CAGR	2030 (MT CO2e)	2050 (MT CO2e)
Residential	Households	259,467.55	0.025658333	279,956.91	0.025901645	361,533.43	602,924.57
Non-Residential	Service Population	215,743.04	0.030203381	235,887.92	0.029411995	315,208.52	562,836.73
Total		**475,210.59**		**515,844.83**		**676,741.94**	**1,165,761.29**

1 lb 0.4535924 kg
1 therm 0.1 MMBTU
10000 kg/MMBTU to MT/therm

Natural Gas Reduction

	2010-2020 CAGR	2010	2017	2035
Households	0.025658333	171,380	204,635	324,021
Jobs	0.045048336	97,210	132,332	265,688

	2017 (therms)	2017-2020 CAGR	2020 (therms)	2020-2035 CAGR	2030 (therms)	2050 (therms)
Residential	48,850,607	0.025658333	52,708,190	0.025901645	68,066,804	113,514,119
Non-Residential	40,618,482	0.030203381	44,411,210	0.029411995	59,345,097	105,966,681

	CO2	CH4	N2O	
SCG	53.06	0.001	0.0001	kg/MMBTU

Title 24

therm per household x 21.6% (residential savings from Title 24)	51.56	Impact Analysis, California Energy Commission
therm per job x 0.35% (commercial savings from Title 24)	1.07	2016 Update to the California Energy Efficiency Standards for Residential and Nonresidential Buildings
Primary Driver_Household_2017-2035 (units/yr)	6,633	
Primary Driver_Total Jobs_2017-2035 (jobs/yr)	7,409	

	2020	2030	2050
Title 24 Residential Reduction (therms)	1,026,002	4,446,007	11,286,019
Title 24 Non-Residential Reduction (therms)	23,877	103,469	262,651

	2020	2030	2050
BAU	515,845	676,742	1,165,761
ABAU	510,268	652,578	1,104,421

Transportation

On-Road Transportation

Inventory

Vehicle Category	Fuel	VMT %	CO2 (g/mile)	CH4 (g/mile)	N2O (g/mile)	VMT (mile)	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)
All Other Buses	DSL	0.0268%	1136.310911	0.001	0.0015	1149102.184	1305.73735	0.001149102	0.001723653	1306.226293
LDA	GAS	54.6410%	335.1849048	0.0173	0.0036	2341343607	784783.034	40.50524441	8.428836986	788150.8227
LDA	DSL	0.3998%	242.8427106	0.0005	0.001	17130113.09	4159.923096	0.008565057	0.017130113	4164.702397
LDA	ELEC	0.2242%	0	0	0	9606438.542	0	0	0	0
LDT1	GAS	5.4589%	397.1838452	0.0163	0.0066	233912061.2	92906.09193	3.812766598	1.543819604	93421.96159
LDT1	DSL	0.0028%	450.7642356	0.001	0.0015	118468.9705	53.40157492	0.000118469	0.000177703	53.45198347
LDT1	ELEC	0.0025%	0	0	0	107635.9053	0	0	0	0
LDT2	GAS	17.9605%	437.7843688	0.0163	0.0066	769597904.6	336917.9329	12.54444584	5.07934617	338615.2041
LDT2	DSL	0.0573%	335.1468908	0.001	0.0015	2454135.929	822.496026	0.002454136	0.003681204	823.5402608
LDT2	ELEC	0.0215%	0	0	0	919916.9092	0	0	0	0
LHD1	GAS	1.5298%	914.7238407	0.0333	0.0134	65549815.77	59959.97924	2.182808865	0.878367531	60253.86528
LHD1	DSL	1.4508%	562.2074067	0.0051	0.0048	62166943.31	34950.71598	0.317051411	0.298401328	35038.66977
LHD2	GAS	0.2306%	1047.891406	0.0333	0.0134	9879189.314	10352.31758	0.328977004	0.132381137	10396.60994
LHD2	DSL	0.5467%	613.0286826	0.0051	0.0048	23426792.33	14361.29564	0.119476641	0.112448603	14394.43987
MCY	GAS	0.5452%	246.5148793	0.0173	0.0036	23362638.83	5759.238092	0.404173652	0.0841055	5792.842911
MDV	GAS	16.1063%	528.4366685	0.0333	0.0134	690148155.7	364699.5921	22.98193358	9.247985286	367793.8024
MDV	DSL	0.2423%	441.921389	0.0051	0.0048	10384478.57	4589.123194	0.052960841	0.049845497	4603.815154
MDV	ELEC	0.0027%	0	0	0	115999.8889	0	0	0	0
MH	GAS	0.1273%	1897.189821	0.0163	0.0066	5453507.054	10346.33807	0.088892165	0.035993147	10358.36523
MH	DSL	0.0490%	1053.95778	0.001	0.0015	2098762.596	2212.007167	0.002098763	0.003148144	2212.90019
Motor Coach	DSL	0.0148%	1797.702614	0.001	0.0015	633211.1006	1138.325251	0.000633211	0.000949817	1138.594682
OBUS	GAS	0.0615%	1926.348783	0.0163	0.0066	2637056.57	5079.890714	0.042984022	0.017404573	5085.706479
PTO	DSL	0.0706%	2337.179307	0.001	0.0015	3024593.133	7069.016481	0.003024593	0.00453689	7070.303446
SBUS	GAS	0.0351%	1073.061844	0.0163	0.0066	1505788.761	1615.804465	0.024544357	0.009938206	1619.125331
SBUS	DSL	0.0658%	1537.071186	0.001	0.0015	2819337.329	4333.522173	0.002819337	0.004229006	4334.721802
UBUS	GAS	0.0445%	1632.671346	0.0163	0.0066	1906112.486	3112.055239	0.031069634	0.012580342	3116.25898
UBUS	DSL	0.0001%	1314.437251	0.001	0.0015	6361.092159	8.361256491	6.36109E-06	9.54164E-06	8.363963136
UBUS	ELEC	0.0005%	0	0	0	23011.83773	0	0	0	0
UBUS	NG	0.0811%	1921.904328	1.966	0.175	3474317.694	6677.306211	6.830508586	0.608005596	7029.681934
Total						4284955458	**1757213.506**	**90.28870664**	**26.57504558**	**1766783.977**

Forecast

	2017 (MT CO2e)	2017-2060 CAGR	2020 (MT CO2e)	2030 (MT CO2e)	2050 (MT CO2e)	2017 VMT	2060 VMT
Total	1,766,783.98	0.0420675	1,999,268.06	3,018,767.14	6,882,508.97	4,284,955,457.91	25,203,928,089.77

2030 VMT
7321371995

Aviation

CO2	8.31 kg/gallon	*EPA Emission Factors for Greenhouse Gas Inventories - https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf*
CH4	0.36 g/gallon	
N2O	0.07 g/gallon	

		Metric Tons			
	Annual Gallons	CO2	CH4	N2O	CO2e
Jet Fuel	2,781,219	23,111.93	1.00	0.19	23,191.56
Aviation Fuel	431,069	3,582.18	0.16	0.03	3,594.52
Total	**3,212,288**	**26,694.11**	**1.16**	**0.22**	**26,786.08**

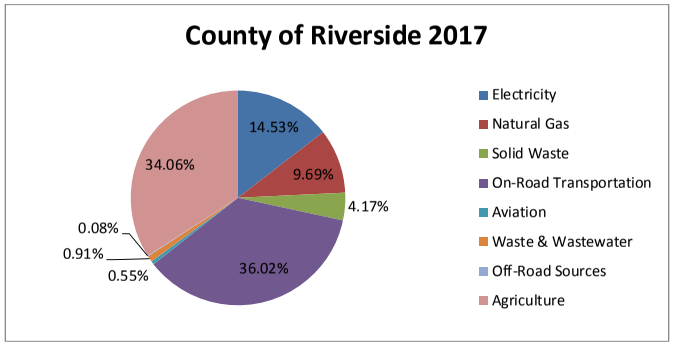
County of Riverside GHG Inventory

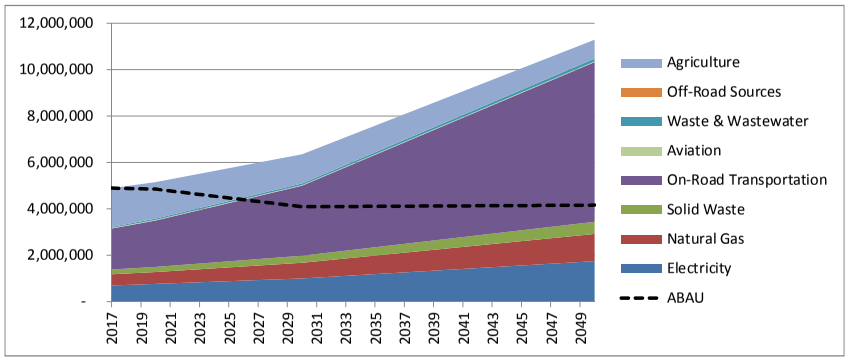
Breakdown of Emissions (BAU)

	2017	2020	2030	2050
Source	**MT CO2e**	**MT CO2e**	**MT CO2e**	**MT CO2e**
Electricity	712,928	774,289	1,017,153	1,756,843
Natural Gas	475,211	515,845	676,742	1,165,761
Solid Waste	204,365	223,448	298,585	533,154
On-Road Transportation	1,766,784	1,999,268	3,018,767	6,882,509
Aviation	26,786	26,786	26,786	26,786
Waste & Wastewater	44,606	48,771	65,171	116,370
Off-Road Sources	3,883	4,024	4,531	5,744
Agriculture	1,670,954	1,565,873	1,261,044	817,858
Total	4,905,518	5,158,305	6,368,781	11,305,026

Breakdown of Emissions (ABAU)

	2017	2020	2030	2050
Source	**MT CO2e**	**MT CO2e**	**MT CO2e**	**MT CO2e**
Electricity	712,928	653,541	466,971	480,289
Natural Gas	475,211	510,268	652,578	1,104,421
Solid Waste	204,365	223,448	298,585	533,154
On-Road Transportation	1,766,784	1,835,938	1,361,200	1,174,310
Aviation	26,786	26,786	26,786	26,786
Waste & Wastewater	44,606	41,377	30,413	32,584
Off-Road Sources	3,883	4,024	4,531	5,744
Agriculture	1,670,954	1,565,873	1,261,044	817,858
Total	4,905,518	4,861,256	4,102,109	4,175,146





Electricity

Emissions Coefficients

	CO2	CH4	N2O		
IID	2.39E-04	1.50E-08	1.81E-09	metric tons/kWh	*EPA 2016 Data - h29*
SCE	2.40E-04	0.00E+00	0.00E+00	metric tons/kWh	*SCE 2016 Data - https://www.edison.com/content/dam/eix/documents/investors/corporate_responsibility/2016-eix-corpo*
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	Non-Residential	**1,463,821,482**	**351,088.54**	**6.24**	**0.76**	**351,463.58**
	All	**2,969,231,282**	**712,127.89**	**13.31**	**1.61**	**712,927.83**

Forecast

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SCE	0.00024	MT CO2e/kWh

Title 24

kWh per household x 4.5% (residential savings from Title 24)	331.05	Impact Analysis, California Energy Commission
kWh per job x 3.6% (commercial savings from Title 24)	398.22	2016 Update to the California Energy Efficiency Standards for Residential and Nonresidential Buildings
Primary Driver_Household_2017-2035 (units/yr)	6,633	
Primary Driver_Total Jobs_2017-2035 (jobs/yr)	7,409	

RPS

Renewable Portfolio Standards_2017-2020 (Change Carbon Intensity)	84.8%	28% renewable in 2016 based on SCE report, 33% goal by 2020
Renewable Portfolio Standards_2020-2030 (Change Carbon Intensity)	46.7%	Renewable energy 60% by 2030
Renewable Portfolio Standards_2030-2050 (Change Carbon Intensity)	28.0%	Renewable energy 100% by 2045

	2020	2030	2050
Title 24 Residential Reduction (kWh)	6,587,060	28,543,927	72,457,661
Title 24 Non-Residential Reduction (kWh)	8,850,863	38,353,741	97,359,495

	2020	2030	2050
BAU	774,289	1,017,153	1,756,843
ABAU	653,541	466,971	480,289

Natural Gas

Emissions Coefficients

	CO2	CH4	N2O		
SCG	53.06	0.001	0.0001	kg/MMBTU	*CO2 weighted national average- https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf*

GWP (5th Assessment)

CH4	28
N2O	265

Inventory

	Utility Provider	Land Use	Annual Therms	Metric Tons CO2	CH4	N2O	CO2e
	SCG	Residential	48,850,607	259,201.32	4.89	0.49	259,467.55
	SCG	Non-residential	40,618,482	215,521.67	4.06	0.41	215,743.04
TOTAL			**89,469,088.72**	**474,722.98**	**8.95**	**0.89**	**475,210.59**

Forecast

	Forecast Indicator	2017 (MT CO2e)	2017-2020 CAGR	2020 (MT CO2e)	2020-2035 CAGR	2030 (MT CO2e)	2050 (MT CO2e)
Residential	Households	259,467.55	0.025658333	279,956.91	0.025901645	361,533.43	602,924.57
Non-Residential	Service Population	215,743.04	0.030203381	235,887.92	0.029411995	315,208.52	562,836.73
Total		**475,210.59**		**515,844.83**		**676,741.94**	**1,165,761.29**

1 lb 0.4535924 kg
1 therm 0.1 MMBTU
10000 kg/MMBTU to MT/therm

Natural Gas Reduction

	2010-2020 CAGR	2010	2017	2035
Households	0.025658333	171,380	204,635	324,021
Jobs	0.045048336	97,210	132,332	265,688

	2017 (therms)	2017-2020 CAGR	2020 (therms)	2020-2035 CAGR	2030 (therms)	2050 (therms)
Residential	48,850,607	0.025658333	52,708,190	0.025901645	68,066,804	113,514,119
Non-Residential	40,618,482	0.030203381	44,411,210	0.029411995	59,345,097	105,966,681

	CO2	CH4	N2O	
SCG	53.06	0.001	0.0001	kg/MMBTU

Title 24

therm per household x 21.6% (residential savings from Title 24)	51.56	Impact Analysis, California Energy Commission
therm per job x 0.35% (commercial savings from Title 24)	1.07	2016 Update to the California Energy Efficiency Standards for Residential and Nonresidential Buildings
Primary Driver_Household_2017-2035 (units/yr)	6,633	
Primary Driver_Total Jobs_2017-2035 (jobs/yr)	7,409	

	2020	2030	2050
Title 24 Residential Reduction (therms)	1,026,002	4,446,007	11,286,019
Title 24 Non-Residential Reduction (therms)	23,877	103,469	262,651

	2020	2030	2050
BAU	515,845	676,742	1,165,761
ABAU	510,268	652,578	1,104,421

Natural Gas Reduction

	2010-2020 CAGR	2010	2017	2035
Households	0.025658333	171,380	204,635	324,021
Jobs	0.045048336	97,210	132,332	265,688

	2017 (therms)	2017-2020 CAGR	2020 (therms)	2020-2035 CAGR	2030 (therms)	2050 (therms)
Residential	48,850,607	0.025658333	52,708,190	0.025901645	68,066,804	113,514,119
Non-Residential	40,618,482	0.030203381	44,411,210	0.029411995	59,345,097	105,966,681

	CO2	CH4	N2O	
SCG	53.06	0.001	0.0001	kg/MMBTU

Title 24

therm per household x 21.6% (residential savings from Title 24)	51.56	Impact Analysis, California Energy Commission
therm per job x 0.35% (commercial savings from Title 24)	1.07	2016 Update to the California Energy Efficiency Standards for Residential and Nonresidential Buildings
Primary Driver_Household_2017-2035 (units/yr)	6,633	
Primary Driver_Total Jobs_2017-2035 (jobs/yr)	7,409	

	2020	2030	2050
Title 24 Residential Reduction (therms)	1,026,002	4,446,007	11,286,019
Title 24 Non-Residential Reduction (therms)	23,877	103,469	262,651

	2020	2030	2050
BAU	515,845	676,742	1,165,761
ABAU	510,268	652,578	1,104,421

Transportation

On-Road Transportation

Inventory

Vehicle Category	Fuel	VMT %	CO2 (g/mile)	CH4 (g/mile)	N2O (g/mile)	VMT (mile)	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)
All Other Buses	DSL	0.0268%	1136.310911	0.001	0.0015	1149102.184	1305.73735	0.001149102	0.001723653	1306.226293
LDA	GAS	54.6410%	335.1849048	0.0173	0.0036	2341343607	784783.034	40.50524441	8.428836986	788150.8227
LDA	DSL	0.3998%	242.8427106	0.0005	0.001	17130113.09	4159.923096	0.008565057	0.017130113	4164.702397
LDA	ELEC	0.2242%	0	0	0	9606438.542	0	0	0	0
LDT1	GAS	5.4589%	397.1838452	0.0163	0.0066	233912061.2	92906.09193	3.812766598	1.543819604	93421.96159
LDT1	DSL	0.0028%	450.7642356	0.001	0.0015	118468.9705	53.40157492	0.000118469	0.000177703	53.45198347
LDT1	ELEC	0.0025%	0	0	0	107635.9053	0	0	0	0
LDT2	GAS	17.9605%	437.7843688	0.0163	0.0066	769597904.6	336917.9329	12.54444584	5.07934617	338615.2041
LDT2	DSL	0.0573%	335.1468908	0.001	0.0015	2454135.929	822.496026	0.002454136	0.003681204	823.5402608
LDT2	ELEC	0.0215%	0	0	0	919916.9092	0	0	0	0
LHD1	GAS	1.5298%	914.7238407	0.0333	0.0134	65549815.77	59959.97924	2.182808865	0.878367531	60253.86528
LHD1	DSL	1.4508%	562.2074067	0.0051	0.0048	62166943.31	34950.71598	0.317051411	0.298401328	35038.66977
LHD2	GAS	0.2306%	1047.891406	0.0333	0.0134	9879189.314	10352.31758	0.328977004	0.132381137	10396.60994
LHD2	DSL	0.5467%	613.0286826	0.0051	0.0048	23426792.33	14361.29564	0.119476641	0.112448603	14394.43987
MCY	GAS	0.5452%	246.5148793	0.0173	0.0036	23362638.83	5759.238092	0.404173652	0.0841055	5792.842911
MDV	GAS	16.1063%	528.4366685	0.0333	0.0134	690148155.7	364699.5921	22.98193358	9.247985286	367793.8024
MDV	DSL	0.2423%	441.921389	0.0051	0.0048	10384478.57	4589.123194	0.052960841	0.049845497	4603.815154
MDV	ELEC	0.0027%	0	0	0	115999.8889	0	0	0	0
MH	GAS	0.1273%	1897.189821	0.0163	0.0066	5453507.054	10346.33807	0.088892165	0.035993147	10358.36523
MH	DSL	0.0490%	1053.95778	0.001	0.0015	2098762.596	2212.007167	0.002098763	0.003148144	2212.90019
Motor Coach	DSL	0.0148%	1797.702614	0.001	0.0015	633211.1006	1138.325251	0.000633211	0.000949817	1138.594682
OBUS	GAS	0.0615%	1926.348783	0.0163	0.0066	2637056.57	5079.890714	0.042984022	0.017404573	5085.706479
PTO	DSL	0.0706%	2337.179307	0.001	0.0015	3024593.133	7069.016481	0.003024593	0.00453689	7070.303446
SBUS	GAS	0.0351%	1073.061844	0.0163	0.0066	1505788.761	1615.804465	0.024544357	0.009938206	1619.125331
SBUS	DSL	0.0658%	1537.071186	0.001	0.0015	2819337.329	4333.522173	0.002819337	0.004229006	4334.721802
UBUS	GAS	0.0445%	1632.671346	0.0163	0.0066	1906112.486	3112.055239	0.031069634	0.012580342	3116.25898
UBUS	DSL	0.0001%	1314.437251	0.001	0.0015	6361.092159	8.361256491	6.36109E-06	9.54164E-06	8.363963136
UBUS	ELEC	0.0005%	0	0	0	23011.83773	0	0	0	0
UBUS	NG	0.0811%	1921.904328	1.966	0.175	3474317.694	6677.306211	6.830508586	0.608005596	7029.681934
Total						4284955458	**1757213.506**	**90.28870664**	**26.57504558**	**1766783.977**

Forecast

	2017 (MT CO2e)	2017-2060 CAGR	2020 (MT CO2e)	2030 (MT CO2e)	2050 (MT CO2e)	2017 VMT	2060 VMT
Total	1,766,783.98	0.0420675	1,999,268.06	3,018,767.14	6,882,508.97	4,284,955,457.91	25,203,928,089.77

2030 VMT
7321371995

Aviation

CO2	8.31 kg/gallon	*EPA Emission Factors for Greenhouse Gas Inventories - https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf*
CH4	0.36 g/gallon	
N2O	0.07 g/gallon	

		Metric Tons			
	Annual Gallons	CO2	CH4	N2O	CO2e
Jet Fuel	2,781,219	23,111.93	1.00	0.19	23,191.56
Aviation Fuel	431,069	3,582.18	0.16	0.03	3,594.52
Total	**3,212,288**	**26,694.11**	**1.16**	**0.22**	**26,786.08**

Emission Coefficients

	GWP (5th Assessment)
CH4	28
N2O	265

CH4	g/mile	
Passenger Car	Gasoline	0.0173
Passenger Car	Diesel	0.0005
Light-Duty Truck	Gasoline	0.0163
Light-Duty Truck	Diesel	0.001
Heavy-Duty Truck	Gasoline	0.0333
Heavy-Duty Truck	Diesel	0.0051
Buses	CNG	1.966

N2O	g/mile	
Passenger Car	Gasoline	0.0036
Passenger Car	Diesel	0.001
Light-Duty Truck	Gasoline	0.0066
Light-Duty Truck	Diesel	0.0015
Heavy-Duty Truck	Gasoline	0.0134
Heavy-Duty Truck	Diesel	0.0048
Buses	CNG	0.175

EPA Emission Factors for Greenhouse Gas Inventories - https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf

Emission Coefficients

	GWP (5th Assessment)
CH4	28
N2O	265

CH4	g/mile	
Passenger Car	Gasoline	0.0173
Passenger Car	Diesel	0.0005
Light-Duty Truck	Gasoline	0.0163
Light-Duty Truck	Diesel	0.001
Heavy-Duty Truck	Gasoline	0.0333
Heavy-Duty Truck	Diesel	0.0051
Buses	CNG	1.966

N2O	g/mile	
Passenger Car	Gasoline	0.0036
Passenger Car	Diesel	0.001
Light-Duty Truck	Gasoline	0.0066
Light-Duty Truck	Diesel	0.0015
Heavy-Duty Truck	Gasoline	0.0134
Heavy-Duty Truck	Diesel	0.0048
Buses	CNG	0.175

EPA Emission Factors for Greenhouse Gas Inventories - https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf

Transportation Reduction

2020 ABAU

Vehicle Category	Fuel	VMT %	CO2 (g/mile)	CH4 (g/mile)	N2O (g/mile)	VMT (mile)	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)
All Other Buses	DSL	0.0302%	1085.676537	0.001	0.0015	1462807.405	1588.13568	0.001462807	0.002194211	1588.7581
LDA	GAS	55.5738%	312.2848118	0.0173	0.0036	2694658441	841500.904	46.61759103	9.700770388	845376.901
LDA	DSL	0.5031%	225.5701497	0.0005	0.001	24396689.26	5503.16485	0.012198345	0.024396689	5509.97152
LDA	ELEC	0.5838%	0	0	0	28309357.98	0	0	0	0
LDT1	GAS	5.6057%	368.5351479	0.0163	0.0066	271807788.2	100170.723	4.430466947	1.793931402	100770.168
LDT1	DSL	0.0019%	442.4649996	0.001	0.0015	93714.20537	41.4652558	9.37142E-05	0.000140571	41.5051312
LDT1	ELEC	0.0129%	0	0	0	626172.0581	0	0	0	0
LDT2	GAS	18.0063%	398.3884857	0.0163	0.0066	873090642.6	347829.259	14.23137747	5.762398241	349754.773
LDT2	DSL	0.0981%	304.7201361	0.001	0.0015	4754687.687	1448.84908	0.004754688	0.007132032	1450.8722
LDT2	ELEC	0.0741%	0	0	0	3592374.749	0	0	0	0
LHD1	GAS	1.3435%	895.1683233	0.0333	0.0134	65141484.63	58312.5936	2.169211438	0.872895894	58604.6489
LHD1	DSL	1.3332%	545.8221175	0.0051	0.0048	64644015.82	35284.1336	0.329684481	0.310291276	35375.592
LHD2	GAS	0.2093%	1025.787333	0.0333	0.0134	10150776.32	10412.5378	0.338020851	0.136020403	10458.0478
LHD2	DSL	0.5108%	595.5254904	0.0051	0.0048	24766733.21	14749.2209	0.126310339	0.118880319	14784.2609
MCY	GAS	0.5096%	246.9361868	0.0173	0.0036	24707143.75	6101.08786	0.427433587	0.088945718	6136.62662
MDV	GAS	14.7566%	493.01707	0.0333	0.0134	715515954.2	352761.579	23.82668127	9.587913786	355969.523
MDV	DSL	0.3041%	411.3825709	0.0051	0.0048	14744289.84	6065.54386	0.075195878	0.070772591	6086.40408
MDV	ELEC	0.0261%	0	0	0	1266064.937	0	0	0	0
MH	GAS	0.1016%	1870.732594	0.0163	0.0066	4924879.639	9213.13286	0.080275538	0.032504206	9223.99419
MH	DSL	0.0420%	1044.886575	0.001	0.0015	2037612.914	2129.07438	0.002037613	0.003056419	2129.94138
Motor Coach	DSL	0.0153%	1721.823799	0.001	0.0015	741842.3504	1277.32181	0.000741842	0.001112764	1277.63747
OBUS	GAS	0.0531%	1888.093453	0.0163	0.0066	2574765.21	4861.39734	0.041968673	0.01699345	4867.07573
PTO	DSL	0.0790%	2278.313122	0.001	0.0015	3828160.056	8721.74729	0.00382816	0.00574224	8723.37617
SBUS	GAS	0.0357%	1065.419723	0.0163	0.0066	1731751.702	1845.04242	0.028227553	0.011429561	1848.86162
SBUS	DSL	0.0669%	1506.648397	0.001	0.0015	3241955.247	4884.48668	0.003241955	0.004862933	4885.86613
UBUS	GAS	0.0435%	1536.934409	0.0163	0.0066	2108996.262	3241.38892	0.034376639	0.013919375	3246.0401
UBUS	DSL	0.0001%	1257.891569	0.001	0.0015	5398.664839	6.79093499	5.39866E-06	8.098E-06	6.79323212
UBUS	ELEC	0.0005%	0	0	0	25027.38542	0	0	0	0
UBUS	NG	0.0793%	1931.862443	1.966	0.175	3846192.188	7430.31424	7.561613841	0.673083633	7820.40659
Total						4,848,795,719.53	**1825379.9**	**100.3468001**	**29.2393962**	**1835938.05**

2030 ABAU

Vehicle Category	Fuel	VMT %	CO2 (g/mile)	CH4 (g/mile)	N2O (g/mile)	VMT (mile)	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)
All Other Buses	DSL	0.0369%	893.3998319	0.001	0.0015	1791263.858	1600.31483	0.001791264	0.002686896	1601.07701
LDA	GAS	55.4282%	244.3691056	0.0173	0.0036	2687601174	656766.695	46.49550031	9.675364227	660632.541
LDA	DSL	0.6556%	179.8926099	0.0005	0.001	31787992.69	5718.42497	0.015893996	0.031787993	5727.29382
LDA	ELEC	2.6151%	0	0	0	126801262.6	0	0	0	0
LDT1	GAS	5.8392%	289.4321659	0.0163	0.0066	283128613.6	81946.5279	4.614996401	1.86864885	82570.9397
LDT1	DSL	0.0007%	343.7193606	0.001	0.0015	35272.2483	12.1237546	3.52722E-05	5.29084E-05	12.138763
LDT1	ELEC	0.1517%	0	0	0	7356529.039	0	0	0	0
LDT2	GAS	18.0764%	292.2394867	0.0163	0.0066	876488991.3	256144.693	14.28677056	5.784827343	258077.702
LDT2	DSL	0.1679%	240.0300016	0.001	0.0015	8142435.141	1954.42872	0.008142435	0.012213653	1957.89333
LDT2	ELEC	0.3994%	0	0	0	19364474.72	0	0	0	0
LHD1	GAS	1.0696%	783.2496262	0.0333	0.0134	51864757.51	40623.0519	1.727096425	0.694987751	40855.5824
LHD1	DSL	1.1204%	471.3010344	0.0051	0.0048	54326999.28	25604.371	0.277067696	0.260769597	25681.2328
LHD2	GAS	0.1695%	902.9127779	0.0333	0.0134	8219338.033	7421.34534	0.273703956	0.11013913	7458.19592
LHD2	DSL	0.4411%	517.0721919	0.0051	0.0048	21389130.34	11059.7245	0.109084565	0.102667826	11089.9858
MCY	GAS	0.4527%	248.5075292	0.0173	0.0036	21951481.81	5455.10851	0.379760635	0.079025335	5486.68352
MDV	GAS	12.2269%	364.2269632	0.0333	0.0134	592857401.6	215934.651	19.74215147	7.944289181	218592.668
MDV	DSL	0.3990%	321.033346	0.0051	0.0048	19345476.28	6210.54298	0.098661929	0.092858286	6237.91296
MDV	ELEC	0.2858%	0	0	0	13856714.84	0	0	0	0
MH	GAS	0.0613%	1630.55243	0.0163	0.0066	2973536.096	4848.50651	0.048468638	0.019625338	4855.06434
MH	DSL	0.0298%	950.9374066	0.001	0.0015	1446243.413	1375.28696	0.001446243	0.002169365	1375.90234
Motor Coach	DSL	0.0156%	1437.906085	0.001	0.0015	756116.4465	1087.22444	0.000756116	0.001134175	1087.54617
OBUS	GAS	0.0411%	1603.539026	0.0163	0.0066	1994504.627	3198.26601	0.032510425	0.013163731	3202.66469
PTO	DSL	0.0933%	1938.320407	0.001	0.0015	4525344.437	8771.56747	0.004525344	0.006788017	8773.49301
SBUS	GAS	0.0382%	999.7292236	0.0163	0.0066	1853761.28	1853.25932	0.030216309	0.012234824	1857.34761
SBUS	DSL	0.0701%	1324.587338	0.001	0.0015	3396797.595	4499.35508	0.003396798	0.005095196	4500.80042
UBUS	GAS	0.0403%	1367.24777	0.0163	0.0066	1952024.188	2668.90072	0.031817994	0.01288336	2673.20571
UBUS	NG	0.0740%	1920.425423	0.001	0.0015	3588082.494	6890.64484	0.003588082	0.005382124	6892.17157
Total						7,321,371,994.74	**1351645.01**	**88.18738287**	**26.7387951**	**1361200.04**

2050 ABAU

Vehicle Category	Fuel	VMT %	CO2 (g/mile)	CH4 (g/mile)	N2O (g/mile)	VMT (mile)	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)
All Other Buses	DSL	0.0412%	822.3565464	0.001	0.0015	1999744.306	1644.50282	0.001999744	0.002999616	1645.35371
LDA	GAS	54.6425%	219.0783546	0.0173	0.0036	2649501859	580448.508	45.83638216	9.538206692	584259.551
LDA	DSL	0.6816%	163.7588653	0.0005	0.001	33048923.29	5412.05418	0.016524462	0.033048923	5421.27483
LDA	ELEC	3.4540%	0	0	0	167477615.5	0	0	0	0
LDT1	GAS	6.0597%	252.1884794	0.0163	0.0066	293821534.9	74098.4061	4.789291018	1.93922213	74746.4001
LDT1	DSL	0.0008%	310.0937713	0.001	0.0015	40989.20048	12.7104958	4.09892E-05	6.14838E-05	12.7279367
LDT1	ELEC	0.2283%	0	0	0	11067894.41	0	0	0	0
LDT2	GAS	18.1324%	249.3901861	0.0163	0.0066	879203742	219264.785	14.33102099	5.802744697	221203.781
LDT2	DSL	0.1882%	217.214917	0.001	0.0015	9124804.955	1982.04375	0.009124805	0.013687207	1985.92636
LDT2	ELEC	0.5534%	0	0	0	26830836.57	0	0	0	0
LHD1	GAS	1.0244%	699.9014162	0.0333	0.0134	49669239.45	34763.571	1.653985674	0.665567809	34986.2581
LHD1	DSL	1.0574%	412.1765481	0.0051	0.0048	51270958.94	21132.6869	0.261481891	0.246100603	21205.225
LHD2	GAS	0.1591%	802.7750214	0.0333	0.0134	7715293.613	6193.645	0.256919277	0.103384934	6228.23574
LHD2	DSL	0.4193%	454.2069155	0.0051	0.0048	20329564.51	9233.82879	0.103680779	0.09758191	9262.59106
MCY	GAS	0.4360%	250.9743194	0.0173	0.0036	21140542.96	5305.73338	0.365731393	0.076105955	5336.14194
MDV	GAS	11.6436%	301.3800882	0.0333	0.0134	564576484.6	170152.111	18.80039694	7.565324894	172683.333
MDV	DSL	0.4244%	281.7292936	0.0051	0.0048	20578052.49	5797.44019	0.104948068	0.098774652	5826.55402
MDV	ELEC	0.4169%	0	0	0	20215676.62	0	0	0	0
MH	GAS	0.0499%	1415.362346	0.0163	0.0066	2420444.807	3425.80644	0.03945325	0.015974936	3431.14449
MH	DSL	0.0223%	817.4728382	0.001	0.0015	1082707.934	885.084328	0.001082708	0.001624062	885.54502
Motor Coach	DSL	0.0161%	1270.690317	0.001	0.0015	781105.882	992.543681	0.000781106	0.001171659	992.876041
OBUS	GAS	0.0388%	1438.519807	0.0163	0.0066	1883156.324	2708.95767	0.030695448	0.012428832	2713.11078
PTO	DSL	0.1027%	1625.315816	0.001	0.0015	4980309.455	8094.57573	0.004980309	0.007470464	8096.69485
SBUS	GAS	0.0305%	824.2936259	0.0163	0.0066	1480454.432	1220.32915	0.024131407	0.009770999	1223.59415
SBUS	DSL	0.0697%	1041.52683	0.001	0.0015	3380725.691	3521.11651	0.003380726	0.005071089	3522.55501
UBUS	GAS	0.0376%	1211.29407	0.0163	0.0066	1822696.72	2207.82173	0.029709957	0.012029798	2211.8415
UBUS	NG	0.0691%	1918.54007	0.001	0.0015	3350361.249	6427.8023	0.003350361	0.005025542	6429.22788
Total						16,692,048,802.44	**1164926.06**	**86.66909346**	**26.25337889**	**1174309.94**

2017 VMT	2060 VMT	2017-2060 CAGR	2020 VMT	2030 VMT	2050 VMT
4,284,955,457.91	25,203,928,089.77	0.0420675	4,848,795,719.53	7,321,371,994.74	16,692,048,802.44

Solid Waste

Inventory

Landfill Name	Tons Waste/Year	Methane Recovery System	CH4 Emissions Coefficient (metric tons CH4/ton waste)	Total CH4 Emissions (metric tons)	Total CO2e (metric tons)	Sources
Badlands Landfill	77,845.00	Yes	0.0135	1,050.91	29,425.41	http://www.rcwaste.org/disposal/hours
Blythe	6,283.47	No	0.054	339.31	9,500.61	https://www.epa.gov/lmop/landfill-gas-energy-project-data
Desert Center	32.11	No	0.054	1.73	48.55	
Lamb Canyon	92,731.44	Yes	0.0135	1,251.87	35,052.48	
Mecca II	3.60	No	0.054	0.19	5.44	
Oasis	1,092.00	No	0.054	58.97	1,651.10	
El Sobrante	168,791.00	Yes	0.0135	2,278.68	63,803.00	
Transfer Stations	42,909.21	No	0.054	2,317.10	64,878.73	
TOTAL	**389,687.83**			**7,298.76**	**204,365.32**	

Forecast

	Forecast Indicator	2017 (MT CO2e)	2017-2020 CAGR	2020 (MT CO2e)	2020-2035 CAGR	2030 (MT CO2e)	2050 (MT CO2e)
Total	Service population	204,365.32	0.03020338	223,447.82	0.02941199	298,585.26	533,154.21

Emission Coefficients

ICLEI 2012 - U.S. Community Protocol

Methane Recovery Systems	metric tons CH4/ton waste
No	0.054
Yes	0.0135

*MT CH4/ton = Emission Factor for Mixed Municipal Solid Waste * (1-Collection Efficiency) * (1-Oxidation Rate)*
Assumes 75% recovery rate and 100% mixed municipal solid waste
U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, October 2012, Appendix E

GWP (5th Assessment)

CH4	28
N2O	265

Water & Wastewater

Emissions Coefficients

	CO2	CH4	N2O	
State-wide	2.39E-04	1.50E-08	1.81E-09	metric tons/kWh

	GWP (5th Assessment)
CH4	28
N2O	265

Inventory

Metric Tons

Water District	Annual Water Usage (million gallons)	Imported Water Percentage	Imported Water Volume (million gallons)	Indoor Water Use Intensity Factor (kWh/MG)	Outdoor Water Use Intensity Factor (kWh/MG)	Indoor Water Energy (kWh)	Outdoor Water Energy (kWh)	Total Energy (kWh)	CO2	CH4	N2O	CO2e	Sources
Fern Valley Water District	38.12	0%	-	13,022	11,111	-	-	-	-	-	-	-	
High Valleys Water District	24.45	100%	24.45	13,022	11,111	159,193.95	135,831.98	295,025.93	70.64	0.00	0.00	70.91	
Rancho California Water District	8,233.13	40%	3,293.25	13,022	11,111	21,442,363.77	18,295,661.49	39,738,025.26	9,515.33	0.59	0.07	9,551.09	
Temescal Valley Water District	938.78	74%	694.70	13,022	11,111	4,523,173.47	3,859,390.29	8,382,563.76	2,007.22	0.13	0.02	2,014.76	
Cabazon County Water District	148.34	0%	-	13,022	11,111	-	-	-	-	-	-	-	
Chiriaco Summit Water District	9.31	100%	9.31	13,022	11,111	60,617.41	51,721.71	112,339.12	26.90	0.00	0.00	27.00	
Coachella Valley Water District		0%	-	13,022	11,111	-	-	-	-	-	-	-	
Home Gardens County Water District	120.89	57%	68.91	13,022	11,111	448,655.43	382,814.51	831,469.94	199.10	0.01	0.00	199.84	
Idyllwild Water District	86.68	0%	-	13,022	11,111	-	-	-	-	-	-	-	https://www.idyllwildwater.com/solar
Mission Springs Water District		0%	-	13,022	11,111	-	-	-	-	-	-	-	
Pine Cove Water District	29.14	0%	-	13,022	11,111	-	-	-	-	-	-	-	https://www.idyllwildwater.com/solar
Pinyon Pines County Water District	5.76	0%	-	13,022	11,111	-	-	-	-	-	-	-	
Yucaipa Valley Water District	88.31	48%	42.39	13,022	11,111	275,987.23	235,485.65	511,472.87	122.47	0.01	0.00	122.93	http://documents.yvwd.dst.ca.us/programs/uwmp/sbv_ruwmp.pdf
Beaumont-Cherry Valley Water District	3,190.73	59%	1,882.53	13,022	11,111	12,257,157.39	10,458,399.30	22,715,556.69	5,439.27	0.34	0.04	5,459.71	https://bcvwd.org/wp-content/uploads/2017/09/January-2017-Urban-Water-Management-Plan-Final.pdf
Palo Verde Irrigation District		0%	-	13,022	11,111	-	-	-	-	-	-	-	
Eastern Municipal Water District	4,081.28	54%	2,203.89	13,022	11,111	14,349,535.60	12,243,717.56	26,593,253.16	6,367.79	0.40	0.05	6,391.72	
Elsinore Valley Municipal Water District	1,022.98	68%	695.63	13,022	11,111	4,529,223.49	3,864,552.47	8,393,775.96	2,009.90	0.13	0.02	2,017.46	
Lake Hemet Municipal Water District	4,056.52	70%	2,839.56	13,022	11,111	18,488,401.20	15,775,197.80	34,263,599.01	8,204.47	0.51	0.06	8,235.30	
Western Municipal Water District	5,295.52	68%	3,600.95	13,022	11,111	23,445,808.89	20,005,097.72	43,450,906.61	10,404.38	0.65	0.08	10,443.48	
Desert Water Agency	92.09	27%	24.86	13,022	11,111	161,891.46	138,133.62	300,025.08	71.84	0.00	0.00	72.11	
TOTAL			**27,462.03**					185,588,013.38	**44,439.31**	**2.78**	**0.34**	**44,606.33**	

Forecast

	Forecast Indicator	2017 (MT CO2e)	2017-2020 CAGR	2020 (MT CO2e)	2020-2035 CAGR	2030 (MT CO2e)	2050 (MT CO2e)
Total	Service population	44,606.33	0.03020338	48,771.42	0.02941199	65,171.49	116,370.30

AF	325,851	Gallon
AF	435	CCF
CCF	748	Gallon

Table ES-1. Recommended revised water-energy proxies

	Indoor Uses		Outdoor Uses	
	Northern California kWh/MG	Southern California kWh/MG	Northern California kWh/MG	Southern California kWh/MG
Water Supply and Conveyance	2,117	9,727	2,117	9,727
Water Treatment	111	111	111	111
Water Distribution	1,272	1,272	1,272	1,272
Wastewater Treatment	1,911	1,911	0	0
Regional Total	5,411	13,022	3,500	11,111

General Southern California energy intensity can be used if there is no available information from water district
CEC, Refining Estimates of Water-related Energy Use in California, December 2006

Water & Wastewater Reduction

	2017 (kWh)	2017-2020 CAGR	2020 (kWh)	2020-2035 CAGR	2030 (kWh)	2050 (kWh)
Residential	185,588,013	0.030203381	202,917,188	0.029411995	271,150,917	484,167,422

	CO2	CH4	N2O	
State-wide	2.39E-04	1.50E-08	1.81E-09	metric tons/kWh

RPS

Renewable Portfolio Standards_2017-2020 (Change Carbon Intensity)	84.8%	28% renewable in 2016 based on SCE report, 33% goal by 2020
Renewable Portfolio Standards_2020-2030 (Change Carbon Intensity)	46.7%	Renewable energy 60% by 2030
Renewable Portfolio Standards_2030-2050 (Change Carbon Intensity)	28.0%	Renewable energy 100% by 2045

	2020	2030	2050
BAU	48,771	65,171	116,370
ABAU	41,377	30,413	32,584

Off-Road

Inventory

	CO_2	CH_4	N_2O	MT CO_2e
Agricultural Equipment	1,219	0.0147	0.1102	1,248.88
Construction and Mining Equipment	2,190	0.0116	0.1866	2,240
Industrial Equipment	25	0.0013	0.0085	28
Lawn and Garden Equipment	124	0.0797	0.1817	175
Light Commercial Equipment	59	0.0094	0.0154	63
Recreational Equipment	59	0.0898	0.2543	129
	3,677	***0.2066***	***0.7567***	***3,883***

	GWP (5th Assessment)
CH4	28
N2O	265

Forecast

	2017 (MT CO2e)	2017-2035 CAGR	2020 (MT CO2e)	2030 (MT CO2e)	2050 (MT CO2e)
Total	3,883.50	0.011934	4,024.20	4,531.06	5,744.36

Class	Values	2017	2035
Agricultural Equipment	Sum of Annual_MT_CO2 Exhaust	1579.970	1444.740194
	Sum of Annual_MT_CH4 Exhaust	0.019	0.057473649
	Sum of Annual_MT_N2O Exhaust	0.143	0.019883643
Construction and Mining Equipment	Sum of Annual_MT_CO2 Exhaust	7438.485	9319.949865
	Sum of Annual_MT_CH4 Exhaust	0.040	0.39051232
	Sum of Annual_MT_N2O Exhaust	0.634	0.042840813
Industrial Equipment	Sum of Annual_MT_CO2 Exhaust	727.996	922.6096656
	Sum of Annual_MT_CH4 Exhaust	0.037	0.342661552
	Sum of Annual_MT_N2O Exhaust	0.245	0.040977154
Lawn and Garden Equipment	Sum of Annual_MT_CO2 Exhaust	789.819	1878.01504681
	Sum of Annual_MT_CH4 Exhaust	0.506	2.70208787
	Sum of Annual_MT_N2O Exhaust	1.154	1.19115217
Light Commercial Equipment	Sum of Annual_MT_CO2 Exhaust	502.421	561.35075861
	Sum of Annual_MT_CH4 Exhaust	0.080	0.11382673
	Sum of Annual_MT_N2O Exhaust	0.131	0.08487068
Recreational Equipment	Sum of Annual_MT_CO2 Exhaust	435.736	658.25561230
	Sum of Annual_MT_CH4 Exhaust	0.659	3.42918678
	Sum of Annual_MT_N2O Exhaust	1.865	1.09256148

For Projections	2017 MT	2035 MT
Sum of Annual_MT_CO2 Exhaust	1579.970313	1444.740194
Sum of Annual_MT_CH4 Exhaust	0.019096789	0.057473649
Sum of Annual_MT_N2O Exhaust	0.142820075	0.019883643
Sum of Annual_MT_CO2 Exhaust	7438.484758	9319.949865
Sum of Annual_MT_CH4 Exhaust	0.039509247	0.39051232
Sum of Annual_MT_N2O Exhaust	0.633786559	0.042840813
Sum of Annual_MT_CO2 Exhaust	727.9961887	922.6096656
Sum of Annual_MT_CH4 Exhaust	0.036877734	0.342661552
Sum of Annual_MT_N2O Exhaust	0.244674703	0.040977154
Sum of Annual_MT_CO2 Exhaust	789.8193644	1878.015047
Sum of Annual_MT_CH4 Exhaust	0.506337835	2.702087873
Sum of Annual_MT_N2O Exhaust	1.153857547	1.191152172
Sum of Annual_MT_CO2 Exhaust	502.4208143	561.3507586
Sum of Annual_MT_CH4 Exhaust	0.080141009	0.113826727
Sum of Annual_MT_N2O Exhaust	0.131122241	0.084870677
Sum of Annual_MT_CO2 Exhaust	435.7356939	658.2556123
Sum of Annual_MT_CH4 Exhaust	0.658586568	3.429186777
Sum of Annual_MT_N2O Exhaust	1.865233757	1.092561476
Total MT CO2e	12613.38701	15615.97064
CAGR_Offroad_2017-2035	0.011933725	

	Unincorporated County	County	Sources:
BuildingPermits	1512	5,136	US Census Bureau https://www2.census.gov/econ/bps/
Population	364,413	2,347,828	SCAG 2017 Local Profile
Portion Population weighted by Inco	13.63%		
Households	112,292	713,205	SCAG 2017 Local Profile
Portion Households	15.74%		
Jobs_Total	81,754	709,940	SCAG 2017 Local Profile (2015 Number of Jobs)
Portion Other Jobs	11.73%		
Jobs_Agriculture	8,257	10,700	SCAG 2017 Local Profile (2015 Jobs in Agriculture 10.1%)
Portion Ag jobs	77.17%		
Jobs_Manufacturing	3,613	103,633	SCAG 2017 Local Profile (2015 Jobs in Manufacturing)
Portion Manufacturing Jobs	3.49%		
Median_Income	50,394	57,367	SCAG 2017 Local Profile
Portion Building Permits	29.44%		
Other Jobs	69,884	595,607	

		Unincorporated County
Offroad_Agriculture_2017	CO2	1219.25777486
	CH4	0.01473693
	N2O	0.11021377
Offroad_Construction_2017	CO2	2189.83429802
	CH4	0.01163123
	N2O	0.18658202
Offroad_Industrial_2017	CO2	25.38043123
	CH4	0.00128568
	N2O	0.00853020
Offroad_Lawn&Garden_2017	CO2	124.35470316
	CH4	0.07972138
	N2O	0.18167143
Offroad_Commercial_2017	CO2	58.95011109
	CH4	0.00940312
	N2O	0.01538485
Offroad_Recreation_2017	CO2	59.41107541
	CH4	0.08979603
	N2O	0.25431826

Agriculture

Annual Crop Growth

	Acres Harvested	Annual Yield (tons)
Hay (including Alfalfa)	45,353	306,199
Corn	740	19,936
Oats	833	2,318
Sorghum	130	1,943
Wheat	18,394	91,937
Cotton	7,291	9,041
Vegetable Crops & Fruit Trees	78,688	1,005,572

Annual Animal head

	#
Dairy Cow	21,900
Poultry	1,893,394
Sheep	8,300

	GWP (5th Assessment)
CH4	28
N2O	265

Inventory

	CO_2	CH_4	N_2O	MT CO_2e
Enteric Fermentation	-	2,769	-	77,539
Manure Management	-	3,886	99	135,152
Rice Cultivation	-	-	-	-
Agriculture ResidueBurning	-	8	0	289
Annimals and Runoff	-	-	713	188,951
Fertilizer Use	-	-	794	210,428
Crop Growth	-	-	3,995	1,058,594
	-	***6,664***	***5,601***	***1,670,954***

Forecast

	Forecast Indicator	2008 (MT CO2e)	2017 (MT CO2e)	2008-2017 CAGR	2020 (MT CO2e)	2030 (MT CO2e)	2050 (MT CO2e)
Total	2008-2017 Growth	2,030,430.81	1,670,954.14	-0.02141767	1,565,873.39	1,261,044.33	817,857.74

Sources:

EPA. 2015. State Inventory Tool - Methane and Nitrous Oxide Emissions from Agricultural Model. Website: https://www.epa.gov/statelocalenergy/download-state-inventory-and-projection-tool (accessed August 20, 2018)

State of California Department of Conservation. 2016. Important Farmland GIS Data for Riverside County. Website: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/2016/ (accessed August 20, 2018)

Riverside County Agricultural Comissioner's Office. 2017. Riverside County Agricultural Production Report. Website: http://www.rivcoawm.org/Resources/Publications.aspx (accessed August 20, 2018).

California Department of Food and Agriculture. California Agricultural Statistics Review 2016-2017. Website: https://www.cdfa.ca.gov/statistics/

APPENDIX C

REDUCTION MEASURES, ASSUMPTIONS, AND ATTRIBUTED REDUCTIONS

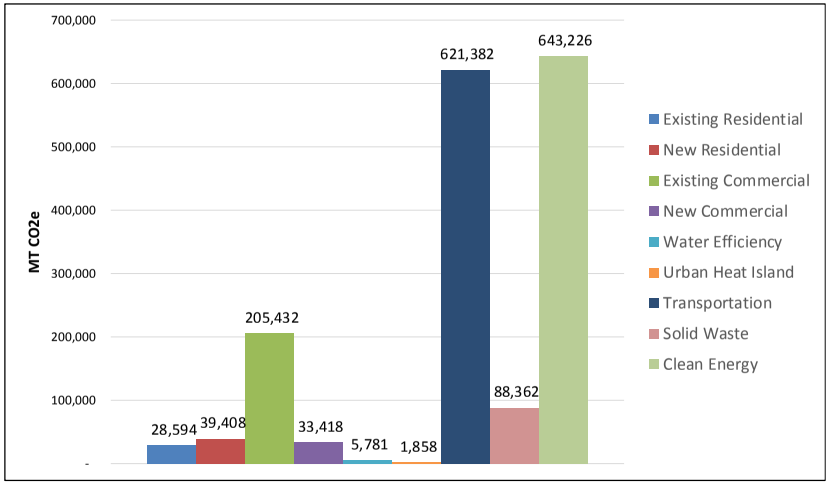
County of Riverside Community Reduction Measures

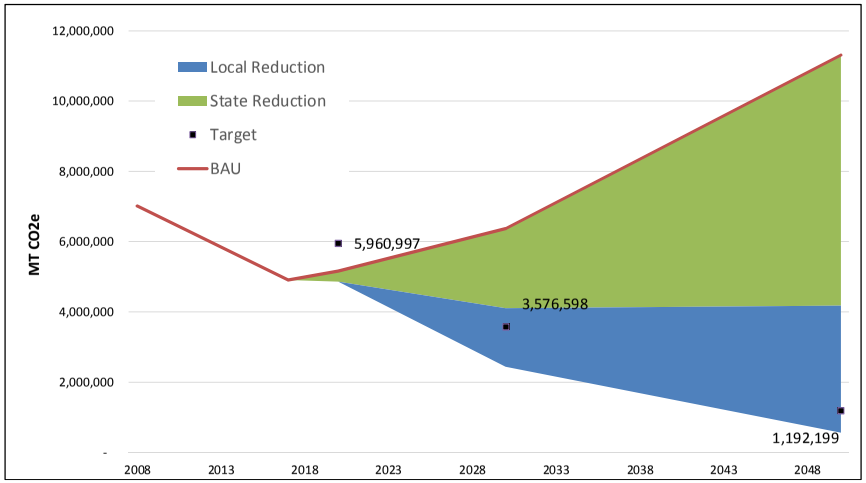
Goal	Measure	Action	Level of Participation	2030 GHG Reductions Achieved (MT CO2e)		2050 GHG Reductions Achieved (MT CO2e)		GHG Reduction Potential
				No Enhancing	With Enhancing	No Enhancing	With Enhancing	
Goal 1.	**Increase Energy Efficiency in Existing Residential**							
	Measure 1.1	**Energy Efficiency Training, Education, and Recognition in the Residential Sector**		The actions taken by the County can increase participation levels of other measures.				Supporting Measure
		Actions Post energy efficiency information links on website and/or social media and provide materials at public events	High					
		Set up email list for email blasts of new information or trainings	Medium					
		~~Establish an annual energy efficiency fair~~	Not Selected					
		Encourage Homeowners to use the SCE Energy Education Centers for energy efficiency resources	Medium					
		Designate an energy advocate to promote and manage energy efficiency programs	High					
		Invite building inspectors to hold trainings semi-annually on energy efficiency and Title 24 requirements	High					
	Measure 1.2	**Increase Community Participation in Existing Energy Efficiency Programs**		16,844.9	16,845	28,091	28,091	Low
		Actions Partner with SCAG, WRCOG, SCE, and SoCalGas for outreach events such as annual energy efficiency fair.	High					
	Measure 1.3	**Home Energy Evaluations**		The actions taken by the County can increase participation levels of other measures.				Supporting Measure
		Actions Promote SCE energy audits program for residents within the SCE service area and promote similar programs through the Energy Upgrade California for the IID service area	Medium					
		~~Present to the City Council for consideration of a residential Energy Conservation and Disclosure Ordinance~~	Not Selected					
	Measure 1.4	**Residential Home Energy Renovations**		7,839.7	11,749	13,074	19,592	Medium-High
		Actions Promote Title 24 code compliance for exisitng residential buildings during code enforcement inspections of residential properties	High					
		Promote existing home energy renovation programs	High					
		Promote participation in green building programs, such as Leadership in Energy and Environmental Design (LEED) and Energy Upgrade California	High					
		Promote financing programs for home upgrades, such as Home Energy Renovation Opportunity (HERO) program sponsored by the Western Riverside Couny Council of Governments (WRCOG) and other Property Assessed Clean Energy (PACE) programs in the IID srvice area.	Medium					
		Establish online permitting to facilitate upgrades	Medium					
		~~Reduce or waive permit fees for upgrades~~	Not Selected					
		~~Establish a Residential Energy Conservation Ordinance (RECO) requiring time-of-sale energy rating~~	Not Selected					
Goal 2.	**Increase Energy Efficiency in New Residential Units**							
	Measure 2.1	**Exceed Energy Efficiency Standards**		37,532	39,408	303,459	318,632	Medium-High
		Actions Educate City staff and developers on future Title 24 updates and new energy efficiency opportunities for new residential development	Low					
		Promote Tier 1 and Tier 2 green building ratings such as LEED, Build It Green, or Energy Star® certified buildings	Medium					
		~~Waive or reduce permit fees for new energy efficiency opportunities~~	Not Selected					
		Establish online permitting to facilitate new residential building energy efficiency programs.	High					
		~~Create an energy award program for zero-net-energy homes~~	Not Selected					
		Comply with State Title 24 energy efficiency requiremenst on new residential buildings, such as zero net energy homes that require all new residential construction projects to achieve zero net-energy use by 2020	Low					

Goal	Measure	Action	Level of Participation	2030 GHG Reductions Achieved (MT CO2e)		2050 GHG Reductions Achieved (MT CO2e)		GHG Reduction Potential
Goal 3.	**Increase Energy Efficiency in Existing Commercial Units**							
	Measure 3.1	**Energy Efficiency Training, Education, and Recognition in Commercial Sector**		The actions taken by the County may increase participation levels of other programs by up to 85%				Supporting Measure
		Actions Post links on website and/or social media and provide materials at public events	High					
		Set up email list for email blasts of new information or trainings	Medium					
		~~Establish an annual energy efficiency fair~~	Not Selected					
		Encourage buisness owners to visit SCE Energy Education Centers for energy efficiency resources	Low					
		Designate an Energy Advocate to promote and manage energy efficiency programs	High					
		Invite building inspectors to hold trainings semi-annually on energy efficiency and Title 24	Medium					
	Measure 3.2	**Increase Business Participation in Existing Energy Efficiency Programs**		31,877.5	31,878	67,730	67,730	Medium
		Actions Partner with SCAG, WROG, SCE, and SoCalGas for outreach events	High					
	Measure 3.3	**Non-Residential Building Energy Audits**		The actions taken by the County can increase participation levels of other measures.				Supporting Measure
		Actions Promote the SCE energy audit program for residents within the SCE service aea and promote similar programs through the Energy Upgrade California for the Imperial	Medium					
		~~Require energy disclosure for small buildings (5,000 – 10,000 square feet)~~	Not Selected					
	Measure 3.4	**Non-Residential Building Retrofits**		90,973.3	173,554	193,289	368,747	Medium-High
		Actions Promote Title 24 compliance for existing non-residential buildings during code enforcement inspections	Medium					
		Promote existing non-residential building retrofits programs	Medium					
		Promote participation in green building programs, such as California Solar Initiative	Medium					
		Promote energy efficiency retrofit financing programs for non-residential buildings such as PACE	Medium					
		Establish online permitting to facilitate retrofits	Medium					
		~~Reduce or waive permit fees for retrofits~~	Not Selected					
		~~Establish a Commercial Energy Conservation Ordinance (CECO)~~	Not Selected					
Goal 4.	**Increase Energy Efficiency in New Commercial Units**							
	Measure 4.1	**Exceed Energy Efficiency Standards**		33,567	33,418	554,274	580,161	Medium-High
		Actions Educate City staff and developers on future Title 24 updates and additional energy efficiency opportunities for new non-residential development	Low					
		Promote Tier 1 and Tier 2 Green Building Ratings such as LEED, Build It Green, or Energy Star® certified buildings	Medium					
		~~Waive or reduce permit fees for new energy efficiency opportunities~~	Not Selected					
		Establish online permitting to facilitate new non residential building energy efficiency programs	High					
		~~Create an energy award program for zero-net-energy businesses~~	Not Selected					
		~~Adopt a local ordinance to exceed Title 24~~	Not Selected					
		Comply with State requirements on new non-residential buildings, such as Net-Zero Energy Buildings for all new non-residential constructions zero-net-energy by 2030	Low					

Goal	Measure	Action	Level of Participation	2030 GHG Reductions Achieved (MT CO2e)		2050 GHG Reductions Achieved (MT CO2e)		GHG Reduction Potential
Goal 5.	**Reduce Energy Use through Increased Water Efficiency**							
	Measure 5.1	**Water Efficiency through Enhanced Implementation of SB X7-7**		4,091.8	5,666	7,305	10,114	
		Actions Provide general water efficiency information and links to water district conservation webpages on the county's website	High					Medium
		~~Set up email list for email blasts of new information or trainings~~	Not Selected					
		Implement the low-irrigation landscaping requirements as part of plan check	Medium					
	Measure 5.2	**Exceed Water Efficiency Standards**		63.6	116	114	206	
		Actions Support water districts in direct outreach to HOA, businesses, and other community groups	Medium					Low-Medium
		Promote recycled or grey water for community uses	Low					
		Promote rainwater harvesting rebates and demonstrations	Medium					
Goal 6.	**Decrease Energy Demand through Reducing Urban Heat Island Effect**							
	Measure 6.1	**Tree Planting for Shading and Energy Saving**		6.5	13	12	22	
		Actions ~~Promote tree planting at plan check~~	Not Selected					
		Work with community to support nonprofit tree-planting groups within the county consisiting of volunteers to plant and care for tress correctly and safely	Medium					Low
		Develop and promote a County tree-planting program for new development at plan check	Medium					
	Measure 6.2	**Light-Reflecting Surfaces for Energy Saving**		1,537.5	1,845	2,745	3,294	
		Actions Comply with Title 24 requirements on installing enhanced cool roofs	Low					Medium
		Comply with Title 24 requirements on installing cool pavements	Low					
Goal 7.	**Decrease GHG Emissions through Reducing Vehicle Miles Traveled**							
	Measure 7.1	**Alternative Transportation Options**		129,545	161,932	294,969	368,711	
		Actions						
		Work with SCAG and the community to remove barriers to alternative transportation	High					
		Create a "bike to work day" or "car free zone day" and other sponsored events to promote biking and other non-motorized transportation	Medium					Low-Medium
		Create additional active transportation routes from Corona Transit Center to surrounding residential areas	Medium					
		Implement reduced parking requirement in areas served by transit	Low					
		~~Replace stop signs with roundabouts at selected intersections~~	Not Selected					
	Measure 7.2	**Adopt & Implement Bicycle Master Plan to Expand Bike Routes around the County**		2,234	2,234	5,086	5,086	
		Action Expand bicycle routes and prioritize funding for Class I bicycle lanes to improve bike transit.	High					Low-Medium
	Measure 7.3	**Ride-Sharing and Bike-to-Work Programs within Businesses**		182,846	182,846	416,332	416,332	Low-Medium
		Action Promote ride-sharing and facilitate air district incentives for ride-sharing	Medium					
		Provide reserved preferential parking spaces for ride-sharing, carpooling, and ultra-low or zero-emission vehicles	Medium					
		Require businesses of a certain size to provide facilities such as bike racks	Low					
	Measure 7.4	**Electrify the Fleet**		268,025	274,370	610,281	624,729	
		Actions Promote electrical vehicle incentive programs at outreach meetings	Low					
		Promote neighborhood electric vehicles (NEV)	Low					
		Support application for grants to install e-chargers at public facilities	Low					Medium-High
		Work with community groups and businesses to install e-chargers	Low					
		Comply with State Title 24 energy efficiency requirements that require new commercial development to install e-chargers starting 2020	Medium					

Goal	Measure	Action		Level of Participation	2030 GHG Reductions Achieved (MT CO2e)		2050 GHG Reductions Achieved (MT CO2e)		GHG Reduction Potential
Goal 8.	**Decrease GHG Emissions through Reducing Solid Waste Generation**								
	Measure 8.1	**Reduce Waste to Landfills**			88,362	88,362	157,742	157,742	
		Actions	Outreach to community to promote waste recycling and diversion	Medium					Low-Medium
			Add additional recycling containers in public places	Low					
			Comply with Statewide waste reduction, recycling, and composting requirements	High					
Goal 9.	**Decrease GHG Emissions through Increasing Clean Energy Use**								
	Measure 9.1	**Promote Clean Energy**			24,431	34,204	24,431	34,204	
		Actions	Outreach to the community to promote clean energy incentives	Low					
			~~Reduce or waive permit fees for solar permits~~	Not Selected					
			Encourage solar panels installation on existing residential buildings	Medium					Medium-High
			Encourage solar panels installation on existing commercial buildings and commercial parking lots	Medium					
			Encourage energy storage systems installation with solar panels	Medium					
	Measure 9.2	**Join Community Choice Aggregation Program**			624,955	609,022	624,955	609,022	Medium-High
		Action	Explore opportunities to join a regional CCA program	Low					
				Total	**1,544,732**	**1,667,460**	**3,303,889**	**3,612,416**	





APPENDIX D

SCREENING TABLES

GREENHOUSE GAS EMISSIONS

Screening Tables
County of Riverside, California

March 2019

Prepared for:

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CONTENTS

TABLES

Introduction

The County of Riverside Climate Action Plan Update (CAP Update) includes reducing 525,511 metric tons of carbon dioxide equivalents (MT CO_2e) by 2030 and 2,982,947 MT CO_2e by 2050 from an Adjusted Business As Usual (ABAU) forecast.[1] These targets are consistent with the State's recommended emission reduction goals of 40 percent reduction below 2008 levels by 2030, and an 83 percent reduction below 2008 levels by 2050. Reductions related to transportation, water, solid waste, energy, and renewable energy sources all play a part in gaining the level of efficiency needed within new development.

Mitigation of greenhouse gas (GHG) emissions impacts during the development review process of projects provides one cost-effective way of implementing the GHG reduction strategies for reducing community-wide emissions associated with new development. The development review process procedures for evaluating GHG impacts and determining significance for California Environmental Quality Act (CEQA) purposes will be streamlined by (1) applying an emissions level that is determined to be less than significant for small projects, and (2) utilizing Screening Tables to mitigate project GHG emissions that exceed the threshold level. Projects will have the option of preparing a project-specific technical analysis to quantify and mitigate GHG emissions. A threshold level above 3,000 MT CO_2e per year will be used to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions.

CEQA requires the assessment of environmental impacts for proposed projects, including the assessment of GHG emissions. The purpose of this document is to provide guidance on how to analyze GHG emissions and determine the significance of those emissions during CEQA review of proposed development projects within the County of Riverside (County). The analysis, methodology, and significance determination (thresholds) are based upon the County of Riverside GHG Inventory, Forecasting, and Target-Setting (IFT) Report, the GHG emission inventory within the IFT Report, and the GHG reduction measures that reduce emissions to the Assembly Bill (AB) 32, Senate Bill (SB) 32, and Executive Order (EO) S-3-05 compliant reduction targets in the CAP Update. The Screening Tables can be used by the County of Riverside Planning Department for review of development projects in order to ensure that the specific implementation measures in the CAP Update are applied as part of the CEQA process for development projects. The Screening Tables provide a menu of options that ensures both implementation of the measures and flexibility on how development projects will implement the measures to achieve an overall reduction of emissions, consistent with the reduction targets in the CAP Update.

[1] An Adjusted Business As Usual Forecast (ABAU) refers to the emissions that include State policies and measures. The County of Riverside will be required to reduce additional emissions to meet the State goals. These reduction measures are detailed in the CAP Update, Chapter 4, GHG Emissions Reduction Programs and Regulations.

California Environmental Quality Act

CEQA Mandates for Analysis of Impacts

CEQA requires that Lead Agencies inform decision makers and the public regarding the following: potential significant environmental effects of proposed projects; feasible ways that environmental damage can be avoided or reduced through the use of feasible mitigation measures and/or project alternatives; and the reasons why the Lead Agency approved a project if significant environmental effects are involved (CEQA Guidelines §15002). CEQA also requires Lead Agencies to evaluate potential environmental effects based to the fullest extent possible on scientific and factual data (CEQA Guidelines §15064[b]). A determination of whether or not a particular environmental impact would be significant shall be based on substantial evidence, which includes facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts (CEQA Guidelines §15064f[5]).

The recently amended CEQA Guidelines (CEQA Guidelines §15064.4[a] [b]) explicitly require Lead Agencies to evaluate GHG emissions during CEQA review of potential environmental impacts generated by a proposed project. To assist in this effort, two questions were added to Appendix G of the CEQA Guidelines:

- Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Finally, under the "rule of reason," an Environmental Impact Report (EIR) is required to evaluate impacts to the extent that is reasonably feasible (CEQA Guidelines § 15151; *San Francisco Ecology Center v. City and County of San Francisco* [1975] 48 Cal.App.3rd 584). While CEQA does require Lead Agencies to make a good faith effort to disclose what they reasonably can, CEQA does not demand what is not realistically possible (*Residents at Hawks Stadium Committee v. Board of Trustees* [1979] 89 Cal.App.3rd 274, 286).

Greenhouse Gas Impact Determination

Statewide or Regional Thresholds of Significance

There are currently no published Statewide or regional thresholds of significance for measuring the impact of GHG emissions generated by a proposed project. CEQA Guidelines §15064.7 indicates only that, "each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects." The County of Riverside CAP Update addresses cumulative GHG emissions, has reduction targets that reduce the cumulative GHG impacts to less than significant, has a set of reduction measures that achieves the reduction

targets, and provides an implementation plan to implement the reduction measures. This document provides guidance in how to address GHG emissions in CEQA analysis and determine the significance of project-generated GHG emissions.

Quantitative Analysis Relative to the Riverside County Climate Action Plan Update

METHODOLOGY OVERVIEW

An individual project cannot generate enough GHG emissions to influence global climate change. The project participates in this potential impact by its incremental contribution combined with the cumulative increase of all other sources of GHGs, which when taken together may have a significant impact on global climate change (AEP 2007). To address the State's requirements to reduce GHG emissions, the County of Riverside adopted the CAP in 2015 with the target of reducing GHG emissions within the unincorporated County by 15 percent below 2008 levels by the year 2020. The CAP Update sets new targets of 49 percent below 2008 baseline levels by year 2030 and 83 percent below the 2008 baseline levels by 2050. The County's GHG reduction targets are consistent with the AB 32, SB 32, and EO S-3-05, and ensure that the County is providing GHG reductions locally that will complement the State and international efforts of stabilizing climate change.

Because the County's CAP Update addresses GHG emissions reduction, in concert with AB 32, SB 32, EO S-3-05, and international efforts to address global climate change, and includes specific local requirements that would substantially lessen the cumulative problem, the CAP Update fulfills the description of mitigation found in CEQA Guidelines §15130(a)(3) and §15183.5.

No single project has the ability to generate GHG emissions in sufficient quantities to change the global climate. Rather, it is the incremental contribution of all past, present, and future projects that when combined with all other anthropogenic sources of GHG emissions globally generates climate change impacts. Because GHG emissions are only important in the context of cumulative emissions, the focus of the analysis is on answering the question of whether incremental contributions of GHGs are a cumulatively considerable contribution to climate change impacts. The CAP Update includes a set of mitigation measures designed to substantially lessen cumulative impacts associated with GHG emissions as described in CEQA Guidelines §15130(a)(3), in determining if a project's effects would result in significant impacts. The CAP Update has the following components that fulfill cumulative mitigation for GHG emissions:

1. Provides community-wide GHG emissions reduction targets that would substantially lessen the cumulative impact;
2. Provides measures that new development projects shall follow to meet the County's reduction targets and substantially lessen the cumulative impact;

3. Provides a set of GHG emission inventories that provide quantitative facts and analysis for how the measures within the CAP Update meet the reduction targets that substantially lessen the cumulative impact; and
4. Provides an implementation, monitoring, and update program to ensure that the reduction targets are met.

The CAP Update satisfies the first condition by adopting targets of reducing GHG emissions down to 15 percent below 2008 baseline levels within the County of Riverside by 2020, 49 percent below 2008 levels by 2030, and 83 percent below 2008 levels by 2050. These reduction targets are compliant with AB 32. The AB 32 Climate Change Scoping Plan states: "In recognition of the critical role local governments will play in the successful implementation of AB 32, ARB recommended a greenhouse gas reduction goal for local governments of 15 percent below today's levels by 2020 to ensure that their municipal and community-wide emissions match the State's reduction target" (Scoping Plan page ES-5, CARB, December 2008). The 2030 and 2050 reduction targets are compliant with SB 32 and EO S-3-05 and continue the GHG reduction trends (AEP 2012). In this way, the County is teaming with the State's efforts to reduce GHG emissions globally and substantially lessen cumulative emissions.

The CAP Update satisfies the second condition through the implementation of the reduction measures for new development. This document supplies the specific criteria that new development shall follow to ensure that the reduction measures associated with new development are implemented and the reduction targets are met.

The CAP Update satisfies the third criteria by providing an update of community-wide GHG emissions inventory for existing conditions (2017); and future 2020, 2030, and 2050 GHG emissions that are anticipated with Statewide reduction measures that are already in place but without the local reduction measures (ABAU). The CAP Update also supports reduced levels of 2030 and 2050 GHG emissions, which demonstrate how the implementation of local reduction measures helps to achieve the reduction targets.

The CAP Update satisfies the fourth criteria through the implementation and monitoring program described in detail in Chapter 7 of the CAP Update.

The Development Review Process

Integrating the reduction measures of the CAP Update into the CEQA development review process is the first step in determining how a proposed project will implement the GHG reduction measures within the CAP Update. The GHG emissions development review process is predicated on responses to several identified questions. Appendix A of this document contains a flow chart that diagrams this development review process. The questions are as follows:

Question 1: Is the project exempt under CEQA? If so, then the South Coast Air Quality Management District (SCAQMD) and the County would determine that GHG emissions are less than significant, and no

additional GHG reductions are needed. A list of CEQA Exemptions are found in CEQA Guidelines §15300 through §15332. There are exemption opportunities associated with transit-oriented development (TOD) associated with the Sustainable Communities Strategy (SCS) for the region developed by the Southern California Association of Governments (SCAG) and first introduced in the 2012 Regional Transportation Plan (RTP). Exemptions associated with TOD are divided into two categories: transit priority projects (TPP) and Sustainable Community Projects (SCP). A TPP and SCP Checklist is provided in Appendix B of this document to assist project applicants in determining if a project qualifies for these Exemptions under CEQA. If the project does not qualify for a CEQA exemption, then the applicant can move on to Question 2.

Question 2: Are project GHG emissions less than 3,000 MT CO_2e per year? To assist applicants in answering this question, Appendix C of this document includes a table showing various sizes of typical land use development projects that are typically at or below that level of emissions threshold. Applicants can also calculate emissions using the methodology described below to answer this question. Additional information is provided below on how this level of emissions was determined and the next steps to take if a project is at or below this level. If the project's emissions are above 3,000 MT CO_2e, then the applicant needs to either use the Screening Tables or analyze the GHG emissions and provide additional mitigation as shown in Appendix A.

3,000 MT CO_2e Emission Level

The County has determined the development size that would be too small to be able to provide the level of GHG emission reductions expected from the Screening Tables or the alternative emission analysis method. To do this the County determined the GHG emissions allowed by a project such that 90 percent of the emissions on average from all projects would exceed that level and be "captured" by the Screening Tables or alternative emission analysis method.

In determining this level of emissions, SCAQMD used the database of projects kept by the Governor's Office of Planning and Research (OPR). That database contained 798 projects, 60 of which were extremely large General Plan Updates, Master Plans, or Specific Plan Projects. The 60 very large projects were removed from the database in order not to skew the emissions value, leaving a net of 738 projects. In addition, 27 projects were found to be outliers that would skew the emission value too high, leaving 711 as the sample population to use in determining the 90^{th} percentile capture rate.

The analysis of the 711 projects within the sample population combined commercial, residential, and mixed-use projects. Also, note that the sample of projects included warehouses and other light industrial land uses but did not include industrial processes (i.e., oil refineries, heavy manufacturing, electric generating stations, mining operations, etc.). Emissions from each of these projects were calculated by SCAQMD to provide a consistent method of emissions calculations across the sample population and further reduce potential errors in the statistical analysis. In calculating the emissions

from projects within the sample population, construction period GHG emissions were amortized over 30 years (the average economic life of a development project).

This analysis determined that the 90th percentile ranged from 2,983 to 3,143 MT CO_2e per year. The 3,000 MT CO_2e per year value is the low end value within that range rounded to the nearest hundred tons of emissions and is used in defining small projects that are considered less than significant and do not need to use the Screening Tables or alternative GHG mitigation analysis described below.

The 3,000 MT CO_2e per year value is used in defining small projects that, when combined with the modest efficiency measures shown in the bullet points below are considered less than significant and do not need to use the Screening Tables or alternative GHG mitigation analysis described below. The efficiency measures required of small projects are summarized below:

- Energy efficiency matching or exceeding the Title 24 requirements in effect as of January 2017, and
- Water conservation measures that match the California Green Building Standards Code in effect as of January 2017.

Projects that Exceed 3,000 MT CO_2e Emission Level

Methodology for the Calculation of GHG Emissions

Development projects that are determined to be above the 3,000 MT CO_2e emissions level shall quantify and disclose the anticipated GHG emissions of the proposed development.

Total GHG emissions are the sum of emissions from both direct and indirect sources. Direct sources include mobile sources such as construction equipment, motor vehicles, landscape equipment; and stationary sources such as cooling and heating equipment. Indirect sources are comprised of electrical and potable water use, and the generation of solid waste and wastewater.

Direct GHG emissions from mobile and stationary sources are determined as the sum of the annual GHG emissions from construction equipment, motor vehicles, landscape equipment, and heating and cooling equipment.

Indirect sources are determined based on source as follows. Electrical usage is reported as annual emissions from electrical usage. Potable water usage is reported as the annual emissions from electricity used for potable water treatment and transportation. Solid waste is reported as the sum of annual emissions from solid waste disposal treatment, transportation, and fugitive emissions of methane at the solid waste facilities. Wastewater usage is reported as the annual emissions from wastewater transport and treatment.

Analysis of development projects not using the Screening Tables should use the emission factors found in the latest version of the California Climate Action Registry (CCAR) General Reporting Protocol (CCAR,

January 2009) and guidance in the Association of Environment Professionals' (AEP) *White Paper: Community-Wide Greenhouse Gas Emissions Inventory Protocols* (AEP 2010). Quantification of emissions from electricity used for potable water treatment and transportation as well as wastewater transport and treatment can be found in the California Energy Commission (CEC) document titled *Refining Estimates of Water-Related Energy Use in California* (CEC, December 2006).

Analysis of development projects not using the Screening Tables should use the latest version of the California Emissions Estimator Model (CalEEMod). Two modeling runs should be completed. The first modeling run calculates GHG emissions at 2017 levels of efficiency using energy efficiency standards (2016 Title 24, in effect January 2017) and the California Air Resources Board (CARB) on-road vehicle emissions factors (EMFAC 2017) set at 2017. A second modeling run calculates GHG emissions at project buildout year levels of efficiency and includes project design features and/or mitigation measures to reduce GHG emissions.

For analysis of development projects using the Screening Tables, please refer to the process described below.

Screening Tables

The purpose of the Screening Tables is to provide guidance in measuring the reduction of GHG emissions attributable to certain design and construction measures incorporated into development projects. The analysis, methodology, and significance determination (thresholds) are based upon the County of Riverside CAP Update, which includes GHG emission inventory updates; the 2020, 2030, and 2050 emission reduction targets; and the reduction measures to reach the targets. The methodology for the development and application of the Screening Tables is set forth in Appendix D, attached hereto.

Instructions for Project Application

The Screening Tables assign points for each option incorporated into a project as mitigation or a project design feature (collectively referred to as "feature"). The point values correspond to the minimum emissions reduction expected from each feature. The menu of features allows maximum flexibility and options for how development projects can implement the GHG reduction measures. Projects that garner at least 100 points will be consistent with the reduction quantities anticipated in the County's CAP Update. Consistent with CEQA Guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.

Those projects that do not garner 100 points using the Screening Tables will need to provide additional analysis to determine the significance of GHG emissions. Nothing in this guidance shall be construed as limiting the County's authority to adopt a statement of overriding consideration for projects that require the preparation of an EIR due to significant GHG impacts. The following tables provide a menu of performance standards/options related to GHG mitigation measures and design features that can be

used to demonstrate consistency with the implementation measures and GHG reduction quantities in the CAP Update.

Mixed-use projects provide additional opportunities to reduce emissions by combining complementary land uses in a manner that can reduce vehicle trips. Mixed-use projects also have the potential to complement energy-efficient infrastructure in a way that reduces emissions. For mixed-use projects, both Table 1 and Table 2 should be filled out, but the points should be proportionally identical to the proportioning of the mix of uses. For example, a mixed-use project that is 50 percent commercial uses and 50 percent residential uses will show ½ point for each assigned point value in Table 1 and Table 2, and the points will be added from both tables. Mixed-use projects that garner at least 100 points will be consistent with the reduction quantities in the County's CAP Update and would be considered less than significant for GHG emissions.

Table 1: Screening Table for GHG Implementation Measures for Residential Development

Feature	Description	Assigned Point Values	Project Points
Reduction Measure R2-EE5: Exceed Energy Efficiency Standards in New Residential Units			
EE5.A Building Envelope			
EE5.A.1 Insulation	• 2016 Title 24 Requirements (walls R-13, roof/attic R-30) • Modestly Enhanced Insulation (walls R-15, roof/attic R-38) • Enhanced Insulation (rigid wall insulation R-13, roof/attic R-38) • Greatly Enhanced Insulation (spray foam wall insulated walls R-18 or higher, roof/attic R-38 or higher)	0 points 7 points 9 points 11 points	
EE5.A.2 Windows	• 2016 Title 24 Windows (0.57 U-factor, 0.4 solar heat gain coefficient [SHGC]) • Modestly Enhanced Window (0.4 U-Factor, 0.32 SHGC) • Enhanced Window (0.32 U-Factor, 0.25 SHGC) • Greatly Enhanced Window (0.28 or less U-Factor, 0.22 or less SHGC)	0 points 3 points 4 points 5 points	
EE5.A.3 Cool Roofs	• Modest Cool Roof (CRRC Rated 0.15 aged solar reflectance, 0.75 thermal emittance) • Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance) • Greatly Enhanced Cool Roof (CRRC Rated 0.35 aged solar reflectance, 0.75 thermal emittance)	6 points 7 points 8 points	
EE5.A.4 Air Infiltration	Minimizing leaks in the building envelope is as important as the insulation properties of the building. Insulation does not work effectively if there is excess air leakage. • Air barrier applied to exterior walls, caulking, and visual inspection such as the HERS Verified Quality Insulation Installation (QII or equivalent) • Blower Door HERS Verified Envelope Leakage or equivalent	6 points 5 points	
EE5.A.5 Thermal Storage of Building	Thermal storage is a design characteristic that helps keep a constant temperature in the building. Common thermal storage devices include strategically placed water filled columns, water storage tanks, and thick masonry walls. • Modest Thermal Mass (10% of floor or 10% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood, or other insulating materials) • Enhanced Thermal Mass (20% of floor or 20% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood, or other insulating materials)	1 points 2 points	

Feature	Description	Assigned Point Values	Project Points
EE5.B Indoor Space Efficiencies			
EE5.B.1 Heating/ Cooling Distribution System	• Minimum Duct Insulation (R-4.2 required) • Modest Duct insulation (R-6) • Enhanced Duct Insulation (R-8) • Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	0 points 4 points 5 points 7 points	
EE5.B.2 Space Heating/ Cooling Equipment	• 2016 Title 24 Minimum HVAC Efficiency (SEER 13/75% AFUE or 7.7 HSPF) • Improved Efficiency HVAC (SEER 14/78% AFUE or 8 HSPF) • High Efficiency HVAC (SEER 15/80% AFUE or 8.5 HSPF) • Very High Efficiency HVAC (SEER 16/82% AFUE or 9 HSPF)	0 points 2 points 4 points 5 points	
EE5.B.3 Water Heaters	• 2016 Title 24 Minimum Efficiency (0.57 Energy Factor) • Improved Efficiency Water Heater (0.675 Energy Factor) • High Efficiency Water Heater (0.72 Energy Factor) • Very High Efficiency Water Heater (0.92 Energy Factor) • Solar Pre-heat System (0.2 Net Solar Fraction) • Enhanced Solar Pre-heat System (0.35 Net Solar Fraction)	0 points 7 points 9 points 11 points 2 points 5 points	
EE5.B.4 Daylighting	Daylighting is the ability of each room within the building to provide outside light during the day reducing the need for artificial lighting during daylight hours. • All peripheral rooms within the living space have at least one window (required) • All rooms within the living space have daylight (through use of windows, solar tubes, skylights, etc.) • All rooms daylighted	 0 points 1 point 1 point	
EE5.B.5 Artificial Lighting	• Efficient Lights (25% of in-unit fixtures considered high efficacy. High efficiency is defined as 40 lumens/watt for 15 watt or less fixtures; 50 lumens/watt for 15-40 watt fixtures, 60 lumens/watt for fixtures >40watt) • High Efficiency Lights (50% of in-unit fixtures are high efficiency) • Very High Efficiency Lights (100% of in-unit fixtures are high efficiency)	5 points 6 points 7 points	
EE5.B.6 Appliances	• Energy Star Refrigerator (new) • Energy Star Dishwasher (new) • Energy Star Washing Machine (new)	1 point 1 point 1 point	
EE5.C Miscellaneous Residential Building Efficiencies			
EE5.C.1 Building Placement	North/south alignment of building or other building placement such that the orientation of the buildings optimizes natural heating, cooling, and lighting.	3 points	
EE5.C2 Shading	At least 90% of south-facing glazing will be shaded by vegetation or overhangs at noon on June 21st.	2 points	
EE5.C3 Energy Star Homes	EPA Energy Star for Homes (version 3 or above)	15 points	
EE5.C.4 Independent Energy Efficiency Calculations	Provide point values based upon energy efficiency modeling of the project. Note that engineering data will be required documenting the energy efficiency and point values based upon the proven efficiency beyond Title 24 Energy Efficiency Standards.	TBD	
EE5.C.5 Other	This allows innovation by the applicant to provide design features that increase the energy efficiency of the project not provided in the table. Note that engineering data will be required documenting the energy efficiency of innovative designs and point values given based upon the proven efficiency beyond Title 24 Energy Efficiency Standards.	TBD	

Feature	Description	Assigned Point Values	Project Points
EE5.C.6 Existing Residential Retrofits	The applicant may wish to provide energy efficiency retrofit projects to existing residential dwelling units to further the point value of their project. Retrofitting existing residential dwelling units within the unincorporated County is a key reduction measure that is needed to reach the reduction goal. The potential for an applicant to take advantage of this program will be decided on a case-by-case basis and shall have the approval of the Riverside County Planning Department. The decision to allow applicants the ability to participate in this program will be evaluated based upon, but not limited to, the following: • Will the energy efficiency retrofit project benefit low income or disadvantaged residents? • Does the energy efficiency retrofit project provide co-benefits important to the County? • Point value will be determined based upon engineering and design criteria of the energy efficiency retrofit project.	TBD	
Reduction Measure R2-CE1: Clean Energy			
CE1.A Residential Renewable Energy Generation			
CE1.A.1 Photovoltaic	Solar Photovoltaic panels installed on individual homes or in collective neighborhood arrangements such that the total power provided augments: • 30 percent of the power needs of the project • 40 percent of the power needs of the project • 50 percent of the power needs of the project • 60 percent of the power needs of the project • 70 percent of the power needs of the project • 80 percent of the power needs of the project • 90 percent of the power needs of the project • 100 percent of the power needs of the project	 9 points 12 points 17 points 20 points 23 points 25 points 28 points 31 points	
CE1.A.2 Wind Turbines	Some areas of the County lend themselves to wind turbine applications. Analysis of the areas' capability to support wind turbines should be evaluated prior to choosing this feature. Individual wind turbines at homes or collective neighborhood arrangements of wind turbines such that the total power provided augments: • 30 percent of the power needs of the project • 40 percent of the power needs of the project • 50 percent of the power needs of the project • 60 percent of the power needs of the project • 70 percent of the power needs of the project • 80 percent of the power needs of the project • 90 percent of the power needs of the project • 100 percent of the power needs of the project	 9 points 12 points 17 points 21 points 23 points 25 points 28 points 31 points	
CE1.A.3 Off-site Renewable Energy Project	The applicant may submit a proposal to supply an off-site renewable energy project such as renewable energy retrofits of existing homes. These off-site renewable energy retrofit project proposals will be determined on a case-by-case basis and shall be accompanied by a detailed plan that documents the quantity of renewable energy the proposal will generate. Point values will be determined based upon the energy generated by the proposal.	TBD	
CE1.A.4 Other Renewable Energy Generation	The applicant may have innovative designs or unique site circumstances (such as geothermal) that allow the project to generate electricity from renewable energy not provided in the table. The ability to supply other renewable energy and the point values allowed will be decided based upon engineering data documenting the ability to generate electricity.	TBD	

Feature	Description	Assigned Point Values	Project Points
Reduction Measure R2-W2: Exceed Water Efficiency Standards			
W2.A Residential Irrigation and Landscaping			
W2.A.1 Water Efficient Landscaping	• Limit conventional turf to < 25% of required landscape area • Limit conventional turf to < 50% of required landscape area • No conventional turf (warm season turf to < 50% of required landscape area and/or low water using plants are allowed) • Only California Native Plants that requires no irrigation or some supplemental irrigation	0 points 2 points 4 points 5 points	
W2.A.2 Water Efficient irrigation systems	• Low precipitation spray heads < .75”/hr or drip irrigation • Weather based irrigation control systems or moisture sensors (demonstrate 20% reduced water use)	1 point 2 points	
W2.A.3 Storm water Reuse Systems	Innovative on-site stormwater collection, filtration, and reuse systems are being developed that provide supplemental irrigation water and provide vector control. These systems can greatly reduce the irrigation needs of a project. Point values for these types of systems will be determined based upon design and engineering data documenting the water savings.	TBD	
W2.B Residential Potable Water			
W2.B.1 Showers	Water Efficient Showerheads (2.0 gpm)	2 points	
W2.B.2 Toilets	Water Efficient Toilets (1.5 gpm)	2 points	
W2.B.3 Faucets	Water Efficient faucets (1.28 gpm)	2 points	
W2.B.4 Dishwasher	Water Efficient Dishwasher (6 gallons per cycle or less)	1 point	
W2.B.5 Washing Machine	Water Efficient Washing Machine (Water factor <5.5)	1 point	
W2.B.6 WaterSense	EPA WaterSense Certification	7 points	
W2.C Increase Residential Reclaimed Water Use			
W2.C.1 Recycled Water	5% of the total project’s water use comes from recycled/reclaimed water	5 points	
Reduction Measure R2-T1: Alternative Transportation Options			
T1.A Increase Residential Density			
T1.A.1 Residential Density	Designing the project with increased densities, where allowed by the General Plan and/or Zoning Ordinance, reduces GHG emissions associated with traffic in several ways. Increased densities affect the distance people travel and provide greater options for the modes of travel they choose. This strategy also provides a foundation for implementation of many other strategies which would benefit from increased densities. • 1 point is allowed for each 10% increase in density beyond 7 units/acre, up to 500% (50 points)	1–50 points	

Feature	Description	Assigned Point Values	Project Points
T1.B Mixed-Use Development			
T1.B.1 Mixed-Use	Mixes of land uses that complement one another in a way that reduces the need for vehicle trips can greatly reduce GHG emissions. The point value of mixed-use projects will be determined based upon a Transportation Impact Analysis (TIA) demonstrating trip reductions and/or reductions in vehicle miles traveled. Suggested ranges: • Diversity of land uses complementing each other (2–28 points) • Increased destination accessibility other than transit (1–18 points) • Increased Transit Accessibility (1–25 points) • Infill location that reduces vehicle trips or VMT beyond the measures described above (points TBD based on traffic data).	TBD	
T1.B.2 Residential Near Local Retail (Residential only Projects)	Having residential developments within walking and biking distances of local retail helps to reduce vehicle trips and/or vehicle miles traveled. The point value of residential projects in close proximity to local retail will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled (VMT) The suburban project will have at least three of the following on site and/or off site within ¼-mile: Residential Development, Retail Development, Park, Open Space, or Office. The mixed-use development should encourage walking and other non-auto modes of transport from residential to office/commercial locations (and vice versa). The project should minimize the need for external trips by including services/facilities for daycare, banking/ATM, restaurants, vehicle refueling, and shopping.	1–16 points	
T1.C Traffic Flow Management Improvements			
T1.C.1 Signal Synchronization	Techniques for improving traffic flow include: traffic signal coordination to reduce delay, incident management to increase response time to breakdowns and collisions, Intelligent Transportation Systems (ITS) to provide real-time information regarding road conditions and directions, and speed management to reduce high free-flow speeds. • Signal synchronization • Traffic signals connected to existing ITS	 1 point/signal 3 points/signal	
T1.D Increase Public Transit			
T1.D.1 Public Transit Access	The point value of a projects ability to increase public transit use will be determined based upon a Transportation Impact Analysis (TIA) demonstrating decreased use of private vehicles and increased use of public transportation. • Increased transit accessibility (1–15 points)	TBD	
Reduction Measure R2-T2: Adopt and Implement a Bicycle Master Plan to Expand Bike Routes around the County			
T2.A.1 Sidewalks	• Provide sidewalks on one side of the street (required) • Provide sidewalks on both sides of the street • Provide pedestrian linkage between residential and commercial uses within 1 mile	0 points 1 point 3 points	
T2.A.2 Bicycle paths	• Provide bicycle paths within project boundaries • Provide bicycle path linkages between residential and other land uses • Provide bicycle path linkages between residential and transit	TBD 2 points 5 points	

Feature	Description	Assigned Point Values	Project Points
Reduction Measure R2-T4: Electrify the Fleet			
T4.A.1 Electric Vehicle Recharging	• Provide circuit and capacity in garages of residential units for use by an electric vehicle. Charging stations are for on-road electric vehicles legally able to drive on all roadways including Interstate Highways and freeways. • Install electric vehicle charging stations for each residential unit included in the project. Projects that include charging stations for fewer than all units shall receive points on a proportional basis.	1 point 8 points	
T4.A.2 Neighborhood Electric Vehicle (NEV) Infrastructure	NEVs are electric vehicles usually built to have a top speed of 25 miles per hour, and a maximum loaded weight of 3,000 pounds. • Provide NEV safe routes within project site. • Provide NEV safe routes between the project site and other land uses.	4 points 5 points	
Reduction Measure R2-S1: Reduce Waste to Landfills			
S1.A.1 Recycling	County initiated recycling program diverting 100% of waste requires coordination in neighborhoods to realize this goal. The following recycling features will help the County fulfill this goal: • Provide green waste composting bins at each residential unit • Multi-family residential projects that provide dedicated recycling bins separated by types of recyclables combined with instructions/education program explaining how to use the bins and the importance or recycling	4 points 3 points	
Other GHG Reduction Feature Implementation			
O.A.1 Other GHG Emissions Reduction Features	This allows innovation by the applicant to provide residential design features for the GHG emissions from construction and/or operation of the project not provided in the table. Note that engineering data will be required documenting the GHG reduction amount and point values given based upon emission reductions calculations using approved models, methods, and protocols.	TBD	
Total Points Earned by Residential Project:			

Table 2: Screening Table for GHG Implementation Measures for Commercial Development and Public Facilities

Feature	Description	Assigned Point Values	Project Points
Reduction Measure R2-EE10: Exceed Energy Efficiency Standards in New Commercial Units			
EE10.A Building Envelope			
EE10.A.1 Insulation	• 2017 Title 24 Requirements (walls R-13; roof/attic R-30) • Modestly Enhanced Insulation (walls R-13, roof/attic R-38) • Enhanced Insulation (rigid wall insulation R-13, roof/attic R-38) • Greatly Enhanced Insulation (spray foam insulated walls R-15 or higher, roof/attic R-38 or higher)	0 points 9 points 11 points 12 points	
EE10.A.2 Windows	• 2016 Title 24 Windows (0.57 U-factor, 0.4 SHGC) • Modestly Enhanced Window Insulation (0.4 U-factor, 0.32 SHGC) • Enhanced Window Insulation (0.32 U-factor, 0.25 SHGC) • Greatly Enhanced Window Insulation (0.28 or less U-factor, 0.22 or less SHGC)	0 points 4 points 5 points 7 points	
EE10.A.3 Cool Roofs	• Modest Cool Roof (CRRC Rated 0.15 aged solar reflectance, 0.75 thermal emittance) • Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance) • Greatly Enhanced Cool Roof (CRRC Rated 0.35 aged solar reflectance, 0.75 thermal emittance)	7 points 8 points 10 points	
EE10.A.4 Air Infiltration	Minimizing leaks in the building envelope is as important as the insulation properties of the building. Insulation does not work effectively if there is excess air leakage. • Air barrier applied to exterior walls, calking, and visual inspection such as the HERS Verified Quality Insulation Installation (QII or equivalent) • Blower Door HERS Verified Envelope Leakage or equivalent	7 points 6 points	
EE10.A.5 Thermal Storage of Building	Thermal storage is a design characteristic that helps keep a constant temperature in the building. Common thermal storage devices include strategically placed water filled columns, water storage tanks, and thick masonry walls. • Modest Thermal Mass (10% of floor or 10% of walls 12” or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood, or other insulating materials) • Enhanced Thermal Mass (20% of floor or 20% of walls 12” or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood, or other insulating materials) • Enhanced Thermal Mass (80% of floor or 80% of walls 12” or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood, or other insulating materials)	2 points 4 points 14 points	

Feature	Description	Assigned Point Values	Project Points
EE10.B Indoor Space Efficiencies			
EE10.B.1 Heating/ Cooling Distribution System	• Minimum Duct Insulation (R-4.2 required) • Modest Duct insulation (R-6) • Enhanced Duct Insulation (R-8) • Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	0 points 5 points 6 points 8 points	
EE10.B.2 Space Heating/ Cooling Equipment	• 2016 Title 24 Minimum HVAC Efficiency (EER 13/75% AFUE or 7.7 HSPF) • Improved Efficiency HVAC (EER 14/78% AFUE or 8 HSPF) • High Efficiency HVAC (EER 15/80% AFUE or 8.5 HSPF) • Very High Efficiency HVAC (EER 16/82% AFUE or 9 HSPF)	0 points 4 points 5 points 7 points	
EE10.B.3 Commercial Heat Recovery Systems	Heat recovery strategies employed with commercial laundry, cooking equipment, and other commercial heat sources for reuse in HVAC air intake or other appropriate heat recovery technology. Point values for these types of systems will be determined based upon design and engineering data documenting the energy savings.	TBD	
EE10.B.4 Water Heaters	• 2016 Title 24 Minimum Efficiency (0.57 Energy Factor) • Improved Efficiency Water Heater (0.675 Energy Factor) • High Efficiency Water Heater (0.72 Energy Factor) • Very High Efficiency Water Heater (0.92 Energy Factor) • Solar Pre-heat System (0.2 Net Solar Fraction) • Enhanced Solar Pre-heat System (0.35 Net Solar Fraction)	0 points 8 points 10 points 11 points 2 points 5 points	
EE10.B.5 Daylighting	Daylighting is the ability of each room within the building to provide outside light during the day reducing the need for artificial lighting during daylight hours. • All peripheral rooms within building have at least one window or skylight • All rooms within building have daylight (through use of windows, solar tubes, skylights, etc.) • All rooms daylighted	 0 points 1 point 1 point	
EE10.B.6 Artificial Lighting	• Efficient Lights (25% of in-unit fixtures considered high efficiency. High efficiency is defined as 40 lumens/watt for 15 watt or less fixtures; 50 lumens/watt for 15-40 watt fixtures, 60 lumens/watt for fixtures >40watt) • High Efficiency Lights (50% of in-unit fixtures are high efficiency) • Very High Efficiency Lights (100% of in-unit fixtures are high efficiency)	5 points 7 points 8 points	
EE10.B.7 Appliances	• Energy Star Commercial Refrigerator (new) • Energy Star Commercial Dishwasher (new) • Energy Star Commercial Clothes Washer	2 points 2 points 2 points	
EE10.C Miscellaneous Commercial Building Efficiencies			
EE10.C.1 Building Placement	North/south alignment of building or other building placement such that the orientation of the buildings optimizes conditions for natural heating, cooling, and lighting.	4 points	
EE10.C.2 Shading	At least 90% of south-facing glazing will be shaded by vegetation or overhangs at noon on Jun 21st.	6 points	
EE10.C.3 Other	This allows innovation by the applicant to provide design features that increase the energy efficiency of the project not provided in the table. Note that engineering data will be required documenting the energy efficiency of innovative designs and point values given based upon the proven efficiency beyond Title 24 Energy Efficiency Standards.	TBD	

Feature	Description	Assigned Point Values	Project Points
EE10.C.4 Existing Commercial Buildings Retrofits	The applicant may wish to provide energy efficiency retrofit projects to existing commercial buildings to further the point value of their project. Retrofitting existing commercial buildings within the unincorporated County is a key reduction measure that is needed to reach the reduction goal. The potential for an applicant to take advantage of this program will be decided on a case-by-case basis and shall have the approval of the Riverside County Planning Department. The decision to allow applicants to participate in this program will be evaluated based upon, but not limited to, the following: • Will the energy efficiency retrofit project benefit low income or disadvantaged communities? • Does the energy efficiency retrofit project provide co-benefits important to the County? • Point value will be determined based upon engineering and design criteria of the energy efficiency retrofit project.	TBD	
Reduction Measure R2-CE1: Clean Energy			
CE1.B Commercial/Industrial Renewable Energy Generation			
CE1.B.1 Photovoltaic	Solar Photovoltaic panels installed on commercial buildings or in collective arrangements within a commercial development such that the total power provided augments: • 30 percent of the power needs of the project • 40 percent of the power needs of the project • 50 percent of the power needs of the project • 60 percent of the power needs of the project • 70 percent of the power needs of the project • 80 percent of the power needs of the project • 90 percent of the power needs of the project • 100 percent of the power needs of the project	 8 points 12 points 16 points 19 points 23 points 26 points 30 points 34 points	
CE1.B.2 Wind Turbines	Some areas of the County lend themselves to wind turbine applications. Analysis of the areas capability to support wind turbines should be evaluated prior to choosing this feature. Wind turbines as part of the commercial development such that the total power provided augments: • 30 percent of the power needs of the project • 40 percent of the power needs of the project • 50 percent of the power needs of the project • 60 percent of the power needs of the project • 70 percent of the power needs of the project • 80 percent of the power needs of the project • 90 percent of the power needs of the project • 100 percent of the power needs of the project	 8 points 12 points 16 points 19 points 23 points 26 points 30 points 34 points	
CE1.B.3 Off-site Renewable Energy Project	The applicant may submit a proposal to supply an off-site renewable energy project such as renewable energy retrofits of existing residential or existing commercial/industrial. These off-site renewable energy retrofit project proposals will be determined on a case-by-case basis accompanied by a detailed plan documenting the quantity of renewable energy the proposal will generate. Point values will be based upon the energy generated by the proposal.	TBD	

Feature	Description	Assigned Point Values	Project Points
CE1.A.4 Other Renewable Energy Generation	The applicant may have innovative designs or unique site circumstances (such as geothermal) that allow the project to generate electricity from renewable energy not provided in the table. The ability to supply other renewable energy and the point values allowed will be decided based upon engineering data documenting the ability to generate electricity.	TBD	
Reduction Measure R2-W2: Exceed Water Efficiency Standards			
W2.D Irrigation and Landscaping			
W2.D.1 Water Efficient Landscaping	• Eliminate conventional turf from landscaping • Only moderate water using plants • Only low water using plants • Only California Native landscape that requires no or only supplemental irrigation	0 points 2 points 3 points 5 points	
W2.D.2 Water Efficient Irrigation Systems	• Low precipitation spray heads< .75”/hr or drip irrigation • Weather based irrigation control systems combined with drip irrigation (demonstrate 20% reduced water use)	1 point 3 points	
W2.D.3 Stormwater Reuse Systems	Innovative on-site stormwater collection, filtration, and reuse systems are being developed that provide supplemental irrigation water and provide vector control. These systems can greatly reduce the irrigation needs of a project. Point values for these types of systems will be determined based upon design and engineering data documenting the water savings.	TBD	
W2.E Potable Water			
W2.E.1 Showers	Water Efficient Showerheads (2.0 gpm)	2 points	
W2.E.2 Toilets	• Water Efficient Toilets/Urinals (1.5 gpm) • Waterless Urinals (note that commercial buildings having both waterless urinals and high efficiency toilets will have a combined point value of 6 points)	3 points 3 points	
W2.E.3 Faucets	Water Efficient faucets (1.28 gpm)	2 points	
W2.E.4 Commercial Dishwashers	Water Efficient dishwashers (20% water savings)	2 points	
W2.E.5 Commercial Laundry Washers	• Water Efficient laundry (15% water savings) • High Efficiency laundry Equipment that captures and reuses rinse water (30% water savings)	2 points 4 points	
W2.E.6 Commercial Water Operations Program	Establish an operational program to reduce water loss from pools, water features, etc., by covering pools, adjusting fountain operational hours, and using water treatment to reduce draw down and replacement of water. Point values for these types of plans will be determined based upon design and engineering data documenting the water savings.	TBD	
W2.F Increase Commercial/Industrial Reclaimed Water Use			
W2.F.1 Recycled Water	Graywater (purple pipe) irrigation system on site	5 points	

Feature	Description	Assigned Point Values	Project Points
Reduction Measure R2-T3: Ride-Sharing and Bike-to-Work Programs within Businesses			
T3.A.1 Alternative Scheduling	Encouraging telecommuting and alternative work schedules reduces the number of commute trips and therefore VMT traveled by employees. Alternative work schedules could take the form of staggered starting times, flexible schedules, or compressed work weeks. • Provide flexibility in scheduling such that at least 30% of employees participate in 9/80 work week, 4-day/40-hour work week, or telecommuting 1.5 days/week.	5 points	
T3.A.2 Car/Vanpools	• Car/vanpool program • Car/vanpool program with preferred parking • Car/vanpool with guaranteed ride home program • Subsidized employee incentive car/vanpool program *Note: combine all applicable points for total value*	1 point 2 points 3 points 5 points	
T3.A.3 Employee Bicycle/ Pedestrian Programs	• Complete sidewalk to residential within ½ mile • Complete bike path to residential within 3 miles • Bike lockers and secure racks • Showers and changing facilities • Subsidized employee walk/bike program *Note: combine all applicable points for total value*	1 point 1 point 1 point 2 points 3 points	
T3.A.4 Shuttle/Transit Programs	• Local transit within ¼ mile • Light rail transit within ½ mile • Shuttle service to light rail transit station • Guaranteed ride home program • Subsidized Transit passes *Note: combine all applicable points for total value*	1 point 3 points 5 points 1 points 2 points	
T3.A.5 Commute Trip Reduction	Employer based Commute Trip Reduction (CTR). CTRs apply to commercial, offices, or industrial projects that include a reduction of vehicle trip or VMT goal using a variety of employee commutes trip reduction methods. The point value will be determined based upon a TIA that demonstrates the trip/VMT reductions. Suggested point ranges: • Incentive based CTR Programs (1–8 points) • Mandatory CTR programs (5–20 points)	TBD	
T3.A.6 Other Trip Reduction Measures	Point values for other trip or VMT reduction measures not listed above may be calculated based on a TIA and/or other traffic data supporting the trip and/or VMT reductions.	TBD	
Reduction Measure R2-T1: Alternative Transportation Options			
T1.E Mixed-Use Development			
T1.E.1 Mixed-Use	Mixes of land uses that complement one another in a way that reduces the need for vehicle trips can greatly reduce GHG emissions. The point value of mixed-use projects will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled.	TBD	
T1.E.2 Local Retail Near Residential (Commercial only Projects)	Having residential developments within walking and biking distance of local retail helps to reduce vehicle trips and/or vehicle miles traveled. The point value of residential projects in close proximity to local retail will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled.	TBD	

Feature	Description	Assigned Point Values	Project Points
T1.F Preferential Parking			
T1.F.1 Parking	• Provide reserved preferential parking spaces for car-share, carpool, and ultra-low or zero emission vehicles. • Provide larger parking spaces that can accommodate vans used for ride-sharing programs and reserve them for vanpools and include adequate passenger waiting/loading areas.	1 point 1 point	
T1.G Signal Synchronization and Intelligent Traffic Systems			
T1.G.1 Signal Improvements	Techniques for improving traffic flow include: traffic signal coordination to reduce delay, incident management to increase response time to breakdowns and collisions, Intelligent Transportation Systems (ITS) to provide real-time information regarding road conditions and directions, and speed management to reduce high free-flow speeds. • Synchronize signals along arterials used by project. • Connect signals along arterials to existing ITS.	 1 point/signal 3 points/signal	
T1.H Increase Public Transit			
T1.H.1 Public Transit	The point value of a projects ability to increase public transit use will be determined based upon a Transportation Impact Analysis (TIA) demonstrating decreased use of private vehicles and increased use of public transportation. • Increased transit accessibility (1-15 points)	TBD	
Reduction Measure R2-T2: Adopt and Implement a Bicycle Master Plan to Expand Bike Routes around the County			
T2.B.1 Sidewalks	• Provide sidewalks on one side of the street (required) • Provide sidewalks on both sides of the street • Provide pedestrian linkage between commercial and residential land uses within 1 mile	0 points 1 point 3 points	
T2.B.2 Bicycle Paths	• Provide bicycle paths within project boundaries • Provide bicycle path linkages between commercial and other land uses • Provide bicycle path linkages between commercial and transit	1 point 2 points 5 points	
Reduction Measure R2-T4: Electrify the Fleet			
T4.B.1 Electric Vehicle Recharging	• Provide circuit and capacity in garages/parking areas for installation of electric vehicle charging stations. • Install electric vehicle charging stations in garages/parking areas	2 points/area 8 points/station	
T4.B.2 Neighborhood Electric Vehicle (NEV) Infrastructure	NEVs are electric vehicles usually built to have a top speed of 25 miles per hour, and a maximum loaded weight of 3,000 pounds. • Provide NEV safe routes within the project site. • Provide NEV safe routes between the project site and other land uses.	 3 points 5 points	
Reduction Measure R2-S1: Reduce Waste to Landfills			
S1.B.1 Recycling	County initiated recycling program diverting 80% of waste requires coordination with commercial development to realize this goal. The following recycling features will help the County fulfill this goal: • Provide separated recycling bins within each commercial building/floor and provide large external recycling collection bins at central location for collection truck pick-up • Provide commercial/industrial recycling programs that fulfills an on-site goal of 80% diversion of solid waste	 2 points 5 points	

Feature	Description	Assigned Point Values	Project Points
Other GHG Reduction Feature Implementation			
O.B.1 Other GHG Emissions Reduction Features	This allows innovation by the applicant to provide commercial design features that the GHG emissions from construction and/or operation of the project not provided in the table. Note that engineering data will be required documenting the GHG reduction amount and point values given based upon emission reductions calculations using approved models, methods, and protocols.	TBD	
Total Points Earned by Commercial/Industrial Project:			

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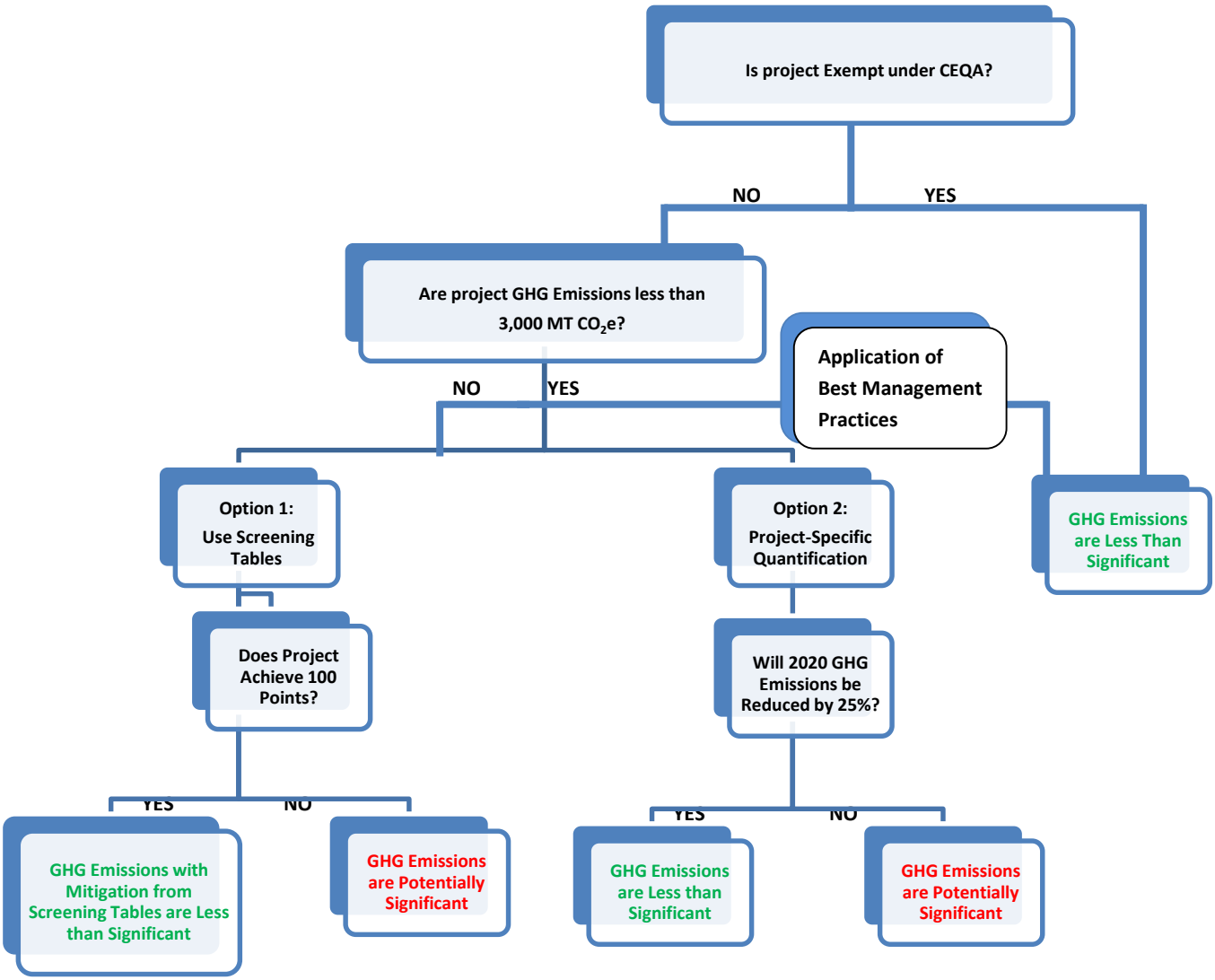
APPENDIX A: GHG DEVELOPMENT REVIEW PROCESS FLOW CHART DIAGRAM

Approach to Implementation of GHG Development Review



APPENDIX B: TRANSIT PRIORITY PROJECT AND SUSTAINABLE COMMUNITY PROJECT CHECKLIST

COUNTY OF RIVERSIDE TRANSIT PRIORITY PROJECT CHECKLIST

The following checklist will assist in determining if your project qualifies as a Transit Priority Project (TPP) and a Sustainable Community Project (SCP) as defined in PRC 21155(a), (b), and PRC 21152.

Yes	No	Is the project:	
☐	☐	1.	Located within ½ mile of an existing or future Metrolink Station?
☐	☐	2.	At least 50% residential use, based upon total square footage, and non-residential use within the project between 26% and 50% of total square footage with FAR of not less than 0.75?
☐	☐	3.	At or above a minimum net density of at least 20 dwelling units per acre?
☐	☐	4.	Is your project consistent with the general land use designations in the SCP (if you answered Yes to questions 1 through 3, then answer yes to this one)?

If you answered **Yes** to questions 1 through 4 then your project is a Transit Priority Project (TPP) as defined by PRC Section 21155(b). Continue with the next list of environmental questions:

Yes	No	Does the project:	
☐	☐	5.	Contain sites on the Cortese List?
☐	☐	6.	Site contain any hazardous substances, contaminated soil, or hazardous material?
☐	☐	7.	Site include historical resources?
☐	☐	8.	Have an unusually high risk of fire or explosion from material stored or used at properties within ¼ mile of the project site?
☐	☐	9.	Site currently include areas developed as Open Space (parks, habitat, etc.)?

Continue with the next list of land use questions below:

Yes	No		
☐	☐	10.	Does the project design have all the buildings at least 15% more efficient than Title 24 energy standards and uses 25% or less water than average households?
☐	☐	11.	Is the project site eight acres or less in size?
☐	☐	12.	The project does not include any single level of a building exceeding 75 TSF?
☐	☐	13.	The project does not conflict with nearby industrial uses?
☐	☐	14.	The project will sell at least 20% of housing to families of moderate income, or 10% of housing will be rented to families of low income, or at least 5% of housing will be rented to families of very low income, or the project provides open space equal or greater than 5 acres per 1,000 residents, or the developer will pay in-lieu fees sufficient to result in the development of affordable housing meeting one of the criteria described above?

Determining Eligibility based upon the answers:

Full CEQA Exemption for Sustainable Community Projects (SCPs)

If you answered **Yes** to all the TPP questions 1 through 4, **No** to all the environmental questions 5 through 9, and **Yes** to all the land use questions 10 through 14, then your project is an SCP and is eligible for a full CEQA Exemption under SB 375.

Transit Priority Projects (TPP)

If you answered **Yes** to all the TPP questions 1 through 4, but did not qualify as an SCP then your project is a TPP. Your TPP needs to incorporate all appropriate mitigation measures required by an applicable prior CEQA document (such as an adopted EIR for a Specific Plan) for your project location. If your TPP meets these two criteria then your TPP does not need to analyze the following impacts in the Sustainable Communities Environmental Assessment (SCEA) or CEQA analysis:

- Growth-inducing impacts,
- Regional transportation impacts, and
- GHG emissions related to passenger cars and light-duty trucks.

The impacts listed above are considered less than significant because the project is a TPP and the SCEA or CEQA document should reference PRC Section 21155.2(c)

Other Residential and Mixed-Use Projects

If you answered Yes to question 4, but did not qualify as an SCP or TPP, your project may not need to analyze some of the impacts in the CEQA analysis if your project is a **residential project or mixed-use project with 75%** of the total building square footage of the project is residential units. In addition, your project needs to incorporate all appropriate mitigation measures required by an applicable prior CEQA document (such as an adopted EIR for a Specific Plan) for your project location. If your project meets these criteria, then the CEQA analysis of your project does not need to analyze the following impacts:

- Growth-inducing impacts,
- Regional transportation impacts, and
- GHG emissions related to passenger cars and light-duty trucks.

The impacts listed above are considered less than significant because the project meets the criteria in PRC Section 21155.2(c)

APPENDIX C:
LAND USE DEVELOPMENT TABLES

Table C-A: Sample Project Sizes by Land Use Category that are below 3,000 MT CO_2e

Project Type	Project Size that Generates 3,000 Metric Tons of CO_2e
Single Family Residential (Single Family Detached)	80 units
Apartments/Condominiums/Townhouse	120 units
Retirement Community (Senior Housing Age 50 or older)	150 units
General Commercial/Retail/Office (refrigeration not to exceed 10% of total square footage)	160,000 square feet
Supermarket/Grocery/Discount Club (refrigeration exceed 10% of total square footage)	36,000 square feet
Restaurants (sit down)	8,200 square feet
Fast-Food Restaurants (Fast Food with or without /drive thru)	5,300 square feet
Gas Station	7,200 square feet
Industrial	53,000 square feet
Wireless Communication Towers	2,400 kw
Passive Park	200 acres
Active Park	60 acres

Note: Based upon statistical analysis of projects run in the CalEEMod model. Definitions are provided below in Table C-B.

Table C-B: Sample Project Sizes by Land Use Category that are below 3,000 MT CO_2e Definitions

Single Family Residential
Apartments/Condominiums/Townhouse Apartments High Rise: High-rise apartments are units located in rental buildings that have more than 10 levels and most likely have one or more elevators. Apartments Low Rise: Low-rise apartments are units located in rental buildings that have 1-2 levels. Apartments Mid Rise: Mid-rise apartments in rental buildings that have between 3 and 10 levels. Condo/Townhouse: These are ownership units that have at least one other owned unit within the same building structure.
Retirement Community Senior Housing (age 50 or older) These communities provide multiple elements of senior adult living. Housing options may include various combinations of senior adult housing single-family and/or multi-family, in support of assisted living, and skilled nursing care aimed at allowing the residents to live in one community as their medical needs change.
General Commercial/Retail/Office (refrigeration not to exceed 10% of total square footage) Home Improvement Super Store, Auto Care Center, Electronic Superstore, Hardware store, Pharmacy/Drugstore with & without drive thru, General Office Building, Bank with & without drive thru, Gov. Civic Center, Gov. Office Building, Medical Office, Office Park, Health Club, and Strip Mall (small strip shopping centers contain a variety of retail shops and specialize in quality apparel, hard goods and services such as real estate offices, dance studios, florists, and small restaurants) or Convenience Store not to exceed 5,000 square feet.
Supermarket/Grocery/Discount Club (refrigeration exceeds 10% of total square footage) Supermarkets: free-standing retail stores selling a complete assortment of food: food preparation and wrapping materials; and household, cleaning items. Supermarkets may also contain the following products and services: ATMs, automobile supplies, bakeries, books and magazines, dry cleaning, floral arrangements, greeting cards, limited-service banks, photo centers, pharmacies and video rental areas. Discount Club: a discount or warehouse store where shoppers pay a membership fee in order to take advantage of discounted prices on a wide variety of items such as food, clothing, tires, and appliances. Many items are sold in large quantities or in bulk.
Restaurants (sit down) Full-service eating establishments with typical turnover rates of at least one hour or longer. Patrons commonly wait to be seated, are served by a waiter, order from menus and pay for meals after they eat.

Fast-Food Restaurants (with or without drive thru)
Gas Station Gas Station includes the building square footage and excludes the canopy. Gas/Service Stations Projects that include “One building” with two to three ancillary uses: Fast Food with drive thru, Convenience Market 24-hour.
Industrial Warehouse with or without refrigeration, storage, distribution, manufacturing, research and development with exception to those uses that require Title 5 Permit from the AQMD (i.e., paint booths).
Wireless Communication Towers Cell Towers-freestanding
Passive Park Amenities include tot lots, picnic tables, and non-programmed open space.
Active Park Amenities include one of the following: game fields lighted, pool facility, and community center (as per the Comprehensive Park and Recreation Master Plan for Old Model Colony).

APPENDIX D: METHODOLOGY FOR THE DEVELOPMENT AND APPLICATION OF THE SCREENING TABLES

METHODS SUMMARY

The point values in the Screening Tables were derived from the projected emissions reductions that each of the Reduction Measures within the Riverside County CAP Update would achieve. The total emission reductions offered by each measure are based on both changes in existing land use activities as well as how new development is designed and built. In order to correctly allocate the emission reductions within the Screening Tables, the amount of emission reductions afforded new development had to be segregated from the aggregate total in a manner that is described below. Once the process of segregating new development from the aggregate reduction totals was completed, the points were then proportioned by residential unit or square footage of commercial/industrial uses. This was accomplished by taking the predicted growth in households and commercial/industrial uses by the year 2030 and proportioning the appropriate measures reduction quantities for new development to the residential and commercial/industrial land use sectors within the Screening Tables. These calculations result in point values that are allocated by residential unit or commercial/industrial square footage (measured in 1,000 square feet). Because of this outcome, the size of the project is not relevant to the Screening Tables. Regardless of size, each project needs to garner 100 points to demonstrate consistency with the CAP Update. Efficiency, not size of the project is critical. The following emission factors can be used in determining the amount of emissions reduced per point in the Screening Tables:

The respective calculated emission values are in metric tons of carbon dioxide equivalents (MT CO_2e)

For Residential Projects:

0.0389 MT CO_2e per Point per Residential Unit

For Commercial and Industrial Projects:

0.0322 MT CO_2e per Point per 1,000 Square Feet of Gross Commercial/Industrial Building Area

Note that the Screening Tables and point values are best used for typical development projects processed by the County. Examples of typical development projects include residential subdivisions, multi-family residential apartments, condominiums and townhouses, retail commercial, big box retail, office buildings, business parks, and typical warehousing. Mixed-use projects can use the Screening Tables following the instructions. Transit-oriented development (TOD), and infill projects are able to use the Screening Tables; however, the Screening Table points are likely to underestimate total emission reductions afforded these types of projects. Note that the Screening Tables include the opportunity to custom develop points (using the formula above) in order to account for the predicted reductions in vehicle trips and vehicle miles traveled within a project-specific traffic study and GHG analysis. TOD and infill projects can be more accurately assessed and points allocated using this method.

However, more unusual types of industrial projects, such as cement manufacturing, metal foundries, refrigerant manufacturing, electric generating stations, and oil refineries, cannot use the Screening Tables because the emission sources for those types of uses were not contemplated in the CAP Update.

DEVELOPMENT OF THE POINT VALUES

The first step in developing the point system is the need to determine the total reductions afforded the CAP Update. Figure D-1 below shows the total emission reductions achieved by the CAP Update. In total, 1,667,460 MT CO_2e would be reduced by the County's local measures as a result of the CAP Update by 2030. This amount includes reductions afforded existing building retrofits and other changes to activities associated with existing land uses, as well as reductions associated with new development.

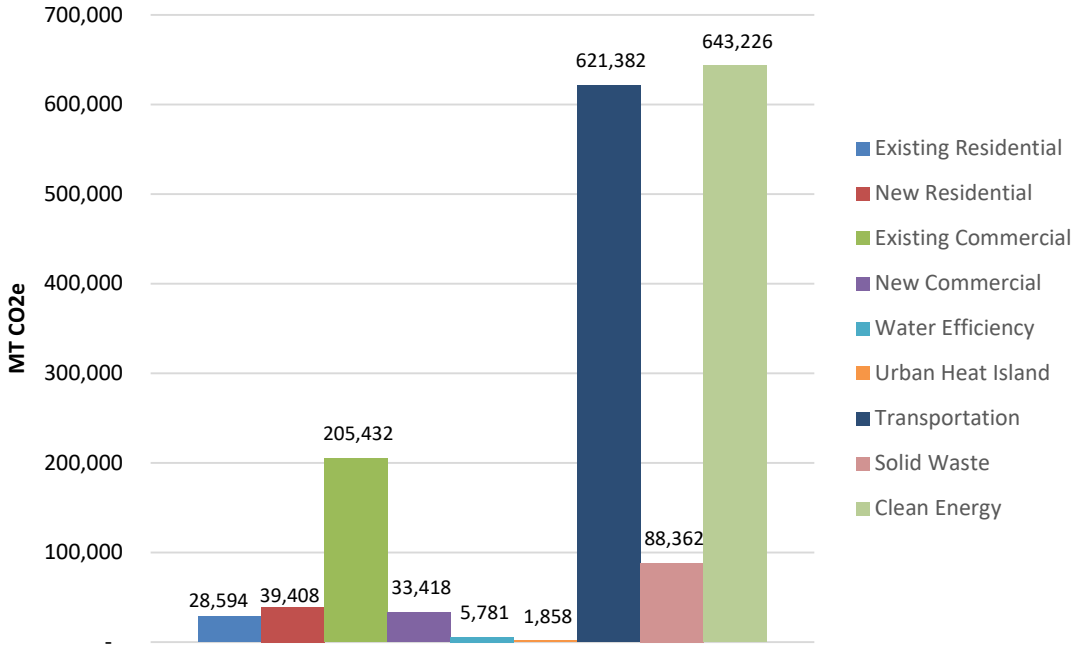


Figure D-1: GHG Emission Reductions by Sector in 2030

The next step is to segregate the amount of emissions that would be reduced within new development from the County strategies total.

Table D-A summarizes the reduction in emissions afforded new development from the reduction measures. Table D-A shows 752,217 MT CO_2e being reduced from new development as a result of the County strategies. Within the 752,217 MT CO_2e of new development reductions afforded County strategies, 439,023 MT CO_2e of emissions reduced is accomplished through new commercial and industrial projects, and 313,194 MT CO_2e of emissions reduced is accomplished through new residential projects.

The next step in allocating point values is to determine the number of new homes and commercial buildings that are anticipated by year 2030. The County predicts that 80,491 new residential units will be needed by 2030 to accommodate the population growth by 2030. A total of approximately 136,414,585 square feet of new commercial and industrial buildings within the unincorporated County area is needed

Table D-A: GHG Reductions from New Development

Reduction Number	Reduced Emissions (MT CO_2e)		
	Reduction Measure Name	Commercial/ Industrial	Residential
R2-EE5	Exceed Energy Efficiency Standards in New Residential Units		39,408
R2-EE10	Exceed Energy Efficiency Standards in New Commercial Units	33,418	
R2-W1	Water Efficiency through Enhanced Implementation of Senate Bill X7-7	1,689	1,140
R2-W2	Exceed Water Efficiency Standards	34	23
R2-L1	Tree Planting for Shading and Energy Saving	4	3
R2-L2	Light Reflecting Surfaces for Energy Saving	550	371
R2-T1	Alternative Transportation Options	48,273	32,584
R2-T2	Adopt and Implement a Bicycle Master Plan to Expand Bike Routes around the County	666	449
R2-T3	Ride-Sharing and Bike-to-Work Programs within Businesses	54,507	36,793
R2-T4	Electrify the Fleet	81,791	55,210
R2-S1	Reduce Waste to Landfills	26,341	17,780
R2-CE1	Clean Energy	10,196	6,883
R2-CE3	Community Choice Aggregation Program	181,553	122,549
Total Reductions for New Development		**439,023**	**313,194**

Source: Compiled by LSA (March 2019).
County = County of Riverside
GHG = greenhouse gases
MT CO_2e = metric tons of carbon dioxide equivalents

to accommodate anticipated job growth. This estimate is based on the relationship between past growth in employment and the average growth in commercial/industrial building area for Riverside County.

Dividing the 313,194 MT CO_2e reductions of emissions afforded the reduction measures for new residential development by the anticipated 80,491 new residential units that will be built yields 3.89 MT CO_2e per residential unit that needs to be reduced to fulfill the anticipated reductions of the CAP Update. That amount equals 100 points, producing the following for the point values:

0.0389 MT CO_2e per Point per Residential Unit

A similar process was used to derive the point value for new commercial/Industrial development. Because commercial/industrial land uses are typically described in thousand square feet of building space, the point value was calculated as follows:

0.0322 MT CO_2e per Point per 1,000 Square Feet of Gross Commercial/Industrial Building Area

RIVERSIDE COUNTY CLIMATE ACTION PLAN UPDATE 2019
COUNTY OF RIVERSIDE

ADDENDUM TO THE RIVERSIDE COUNTY GENERAL PLAN ENVIRONMENTAL IMPACT REPORT No. 521

October 9, 2019

State Clearinghouse No. 200904105

Lead Agency:

County of Riverside
Riverside County Planning Department
4080 Lemon Street, 12th Floor
Riverside, California 92502

Prepared by:

LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507

RIVERSIDE COUNTY CLIMATE ACTION PLAN UPDATE 2019

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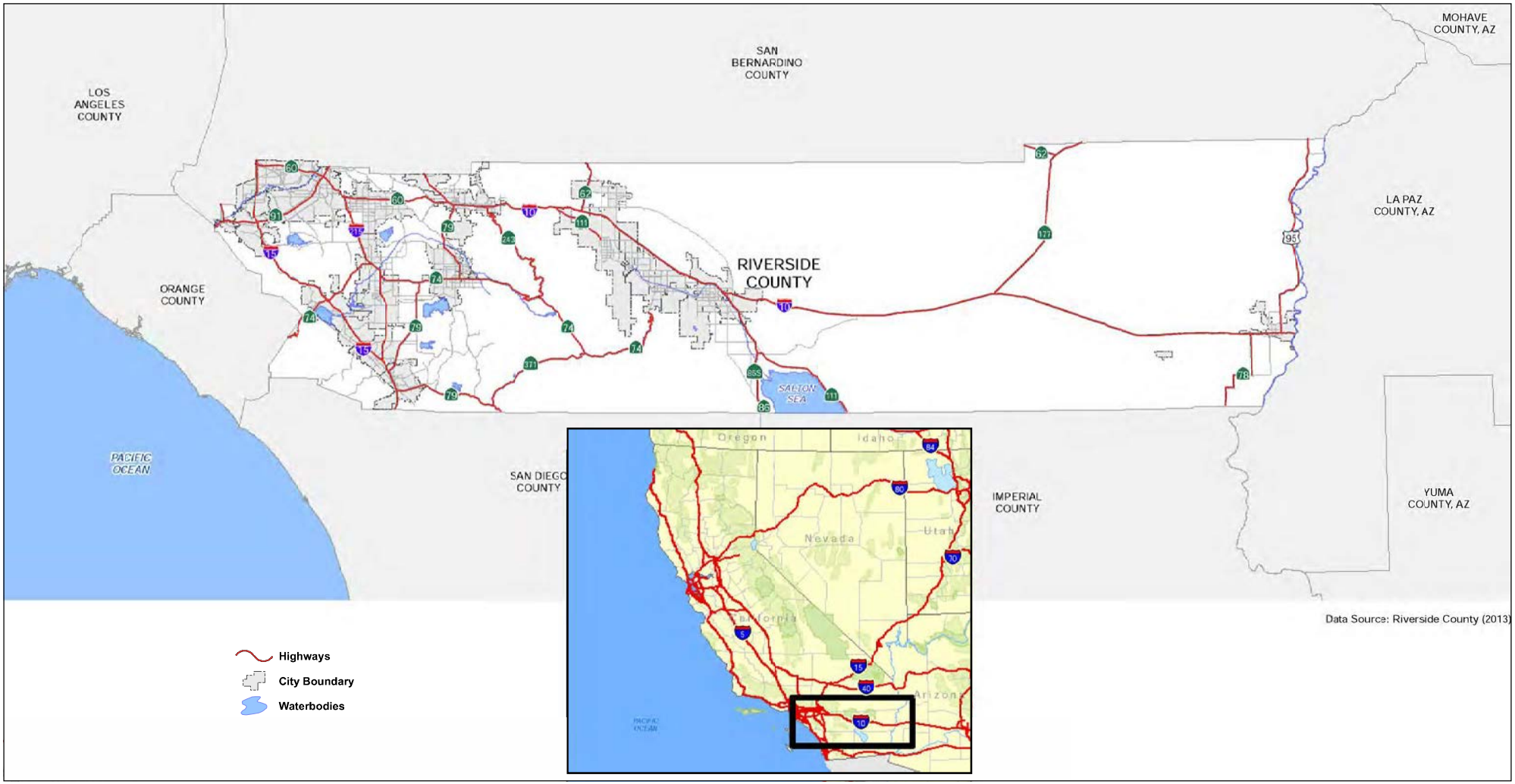
SECTION 1.0 INTRODUCTION

1.1 SUMMARY

Project Title:	Riverside County Climate Action Plan Update 2019 Project General Plan Amendment No. GPA 960
Lead Agency Name and Address:	County of Riverside Transportation and Land Use Agency (TLMA), Planning Department 4080 Lemon Street, 12th Floor Riverside, California 92502
Contact Person and Phone Number:	Phayvanh Nanthavongdouangsy, Principal Planner, (951) 955-6573
Project Location:	Throughout County of Riverside (see Figure 1)
Project Sponsor's Name and Address:	County of Riverside Transportation and Land Use Agency (TLMA) Planning Department 4080 Lemon Street, 12th Floor Riverside, California 92502
General Plan Designation:	Multiple (no change)
Zoning Designation:	Multiple (no change)

1.2 BACKGROUND

In 2015, the County of Riverside (County) completed a comprehensive update of its General Plan and certified an Environmental Impact Report No. 521 (2015 General Plan Amendment EIR), State Clearinghouse (SCH) No. 200904105. The County's General Plan update included a Sustainability and Global Environmental Stewardship vision culminating in the 2015 County of Riverside Climate Action Plan (2015 CAP); this is referred to as the Approved Project. The 2015 CAP established the County's sustainability and conservation measures based on an unincorporated Riverside County baseline inventory of greenhouse gas (GHG) emissions from 2008 and developed a year 2020 GHG emissions reduction target of 15 percent below 2008 baseline levels in accordance with the State reduction goals in Assembly Bill (AB) 32. The emissions categories included in the 2008 baseline GHG inventory are transportation, energy (electricity and natural gas), area sources, purchased water, solid waste, and agriculture.



LSA

FIGURE 1

0 12.5 25
MILES

SOURCE: Riverside County Planning Department

I:\COR1801\G\Regional_Project_Location.cdr (10/1/2019)

Riverside County Climate Action Plan Update 2019

Regional and Project Location

In 2016, Petitioners the Sierra Club, Center for Biological Diversity, and San Bernardino Audubon Society challenged particular aspects of the 2015 CAP related to commitments to solar, electric vehicles (EV), energy efficient traffic signals, and future updates of the CAP. In 2017, the County and the Petitioners entered into a Settlement Agreement[1] with commitments to solar, EV chargers, LED traffic signals, and periodic updates that enhance the CAP goals and maintain the County's Land Use authority. In accordance with the Settlement Agreement, the County amended the 2015 CAP in July 2018 to include provisions for onsite renewable energy in the reduction measures and updated CAP Appendix F screening tables.

The County is updating the CAP (2019 CAP Update) to integrate its past and current efforts with future efforts to reduce Greenhouse Gas (GHG) emissions and promote sustainability in its operations and growth. To that end, the 2019 CAP Update considers the previous GHG reduction targets identified in the 2015 CAP and proposes new targets that are consistent with updates in State climate change regulations in order to meet the requirements of Senate Bill (SB) 32. The CAP Update also takes into consideration the Partial Settlement Agreement, which includes specific considerations for EV charging stations, on-site renewable energy generation, and high efficiency traffic signal lights, as well as a requirement for the County to update the GHG inventory every four years, review the effectiveness of specific measures in the CAP, and revise associated point values in the screening tables according to available evidence. If measures included in the previous CAP are found to be ineffective, they would be removed or revised in the subsequent CAP Update pursuant to the Partial Settlement Agreement.

It is important to note the 2019 CAP Update is not a plan to develop specific projects. Rather, the 2019 CAP Update establishes a framework under which future projects will be designed for the purposes of reducing GHG emissions. Although the 2019 CAP Update is designed as a stand-alone GHG policy document, it would be utilized as a companion document to the County General Plan to provide a more comprehensive and detailed framework for land-based policy decisions to reduce GHG emissions from existing and future development. Any future projects proposed pursuant to the 2019 CAP Update would be developed in accordance with General Plan Policies for energy conservation while maximizing efficient use of resources, maintaining a high quality of life, enhancing job opportunities, promoting sustainability, and facilitating access to transportation facilities.

The 2019 CAP Update includes an update to the County's GHG inventory for the year 2017 and sets a target to reduce communitywide GHG emissions by 15 percent from 2008 baseline levels by 2020, 49 percent by 2030, and 83 percent by 2050.[2] GHG reduction measures prescribed in the 2019 CAP Update build upon those adopted under the County's 2015 CAP to ensure that the County meets the reduction targets established pursuant to SB 32. The proposed 2019 CAP Update, or Riverside County

[1] Partial Settlement Agreement, 2017. Petitioners: Sierra Club, Center for Biological Diversity, San Bernardino Audubon Society and Respondents: County of Riverside and Riverside County Board of Supervisors.

[2] State goals pursuant to Senate Bill 32 are to achieve 1990 levels of emissions by 2020 (15 percent below 2008 baseline levels), 40 percent below 1990 levels of emissions by 2030 (49 percent below 2008 baseline levels) and 80 percent below 1990 levels of emissions by 2050 (83 percent below 2008 baseline levels).

Climate Action Plan Update Project, constitutes the 2019 CAP Update analyzed in this Addendum.

1.3 BASIS FOR AN ADDENDUM

The proposed changes set forth in the 2019 CAP Update are summarized in Section 2.0. Prior to approval of subsequent actions that constitute a "project" under the California Environmental Quality Act (CEQA), such as the 2019 CAP Update, the County is required to determine whether the environmental effects of such actions are within the scope of prior environmental analysis, or whether additional environmental analysis is required. That decision is influenced by whether the subsequent actions result in new significant impacts or increase the severity of previously identified significant impacts.

CEQA requires that the proposed 2019 CAP Update be reviewed to determine the environmental effects that would result if the project is approved and implemented. California Public Resources Code Section 21166 and *CEQA Guidelines* (Title 14 of the California Code of Regulations) Sections 15162 and 15164 set forth the criteria for determining whether a subsequent EIR, subsequent negative declaration, addendum, or no further documentation be prepared in support of further agency action on the project. Pursuant to *CEQA Guidelines* Section 15162:

> *(a) When an EIR has been certified or negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:*
>
> > *(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;*
> >
> > *(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or*
> >
> > *(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:*
> >
> > > *(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;*
> > >
> > > *(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;*

> *(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or*
>
> *(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.*
>
> *(b) If changes to a project or its circumstances occur or new information becomes available after adoption of a negative declaration, the lead agency shall prepare a subsequent EIR if required under subdivision (a). Otherwise, the lead agency shall determine whether to prepare a subsequent negative declaration, and addendum, or no further documentation.*

In determining whether an Addendum is the appropriate document to analyze the proposed 2019 CAP Update, *CEQA Guidelines* Section 15164 (Addendum to an EIR or Negative Declaration) states:

> *a) The lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.*
>
> *b) An addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred.*
>
> *c) An addendum need not be circulated for public review but can be included in or attached to the final EIR or adopted negative declaration.*
>
> *d) The decision-making body shall consider the addendum with the final EIR or adopted negative declaration prior to making a decision on the project.*
>
> *e) A brief explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162 should be included in an addendum to an EIR, the lead agency's required findings on the project, or elsewhere in the record. The explanation must be supported by substantial evidence.*

The County has evaluated the potential environmental impacts of the proposed 2019 CAP Update as set forth below in Section 4.0. The County, acting as the Lead Agency, has determined that none of the CEQA conditions listed above applies. An Addendum to the prior environmental documentation (2015 General Plan Amendment EIR No. 521, SCH No. 200904105) is appropriate for the proposed 2019 CAP Update, and an Addendum is appropriate for compliance with CEQA as described in the *CEQA Guidelines*. An Addendum does not need to be circulated for public review, but rather

can be attached to the prior environmental documentation [*CEQA Guidelines* §15164(c)]. Prior to initiating the 2019 CAP Update, the County will consider this Addendum together with the previously certified EIR (2015 General Plan Amendment EIR No. 521, SCH No. 200904105) and will make a decision regarding the 2019 CAP Update [*CEQA Guidelines* §15164(d)].

SECTION 2.0 2019 CAP UPDATE PROJECT DESCRIPTION

2.1 LOCATION AND EXISTING USES

The 2019 CAP Update is an update to the County's 2015 CAP for implementation of updated GHG reduction measures throughout the unincorporated portions of Riverside County. No change to the County's existing land uses and zoning are proposed under the 2019 CAP Update.

2.2 PROJECT CHARACTERISTICS

The 2019 CAP Update updates the previous GHG reduction targets identified in the 2015 CAP (i.e., Approved Project) in accordance with State policies in order to meet the requirements of SB 32. Whereas the Approved Project established a year 2020 GHG emissions reduction target of 15 percent below 2008 baseline levels in accordance with the State reduction goals in AB 32, the proposed 2019 CAP Update establishes a target to reduce communitywide GHG emissions by 15 percent from 2008 levels by 2020, 49 percent by 2030, and 83 percent by 2050 in accordance with SB 32.[3] The 2019 CAP Update incorporates the State's GHG reduction measures (R1 Measures) that were included in the 2015 CAP and designed to be implemented statewide.[4] Additionally, the 2019 CAP Update builds upon the countywide GHG reduction measures (R2 and R3 Measures)[5] adopted under the 2015 CAP and proposes new and enhanced measures in order to achieve the updated reduction targets established pursuant to SB 32. Table A compares the 2015 CAP and 2019 CAP Update R1, R2, and R3 Measures as organized by source category (i.e., Transportation, Energy Efficiency, Clean Energy, Advanced Measures, Water, and Solid Waste).

Table A: 2019 CAP Update and 2015 CAP GHG Reduction Measures Comparison

2019 CAP Update	2015 CAP
Transportation [T]	
R2-T1: Alternative Transportation Options • All 2015 CAP measures. • **Reduced parking in transit-serving areas.**	R1-T1: Assembly Bill 1493: Pavley I. R1-T2: Assembly Bill 1493: Pavley II. R1-T3: EO S-1-07 (Low Carbon Fuel Standard). R2-T2: Increased Residential Density. R2-T3: Mixed Use Development. R2-T6: Provide a Comprehensive System of

[3] The post-2030 reduction target identified in the 2019 CAP Update may need adjustments based on State updates and guidance when the State sets new reduction goals as continuing technological change occurs in the fields of energy efficiency, alternative energy generation, vehicles, fuels, methane capture, and other areas. Riverside County would have implemented the first two phases of the 2019 CAP Update by 2030 and would have a better understanding of the effectiveness and efficiency of the CAP's reduction strategies to which adjustments could be considered toward achieving the current 2050 GHG reduction target. The County will then be able to take the local, regional, State, and federal context into account and may consider updating the GHG reduction targets for the period between 2030 and 2050. Note: Per the Partial Settlement Agreement, the County has to reconsider the CAP every four years.

[4] R1 Measures include periodically updated Title 24 Standards, Renewable Portfolio Standards, and Low Carbon Fuel Standards and are accounted for in the Adjusted Business-As-Usual (ABAU) forecasts.

[5] R2 Measures are countywide measures that can be quantified. R3 Measures are countywide measures that support other R2 Measures (such as educational programs or regional coordination), but that are not quantified.

Table A: 2019 CAP Update and 2015 CAP GHG Reduction Measures Comparison

2019 CAP Update	2015 CAP
	Facilities for Non-Motorized Transportation. R2-T9: Increase Public Transit. R3-T1: Regional Land Use & Transportation Coordination.
Energy Efficiency [EE] (Residential)	
R2-EE1: Energy Efficiency Training, Education, and Recognition in the Residential Sector. • All 2015 CAP measures.	R1-E1: California Building Code Title 24. R3-E1: Energy Efficient Development and Renewable Energy Deployment. Facilitation and Streamlining. R3-E2: Energy Efficiency Training and Public Education.
R2-EE2: Increase Community Participation in Existing Energy Efficiency Programs. • All 2015 CAP measures.	R3-E4: Cross-Jurisdictional Coordination.
R2-EE3: Home Energy Evaluations.	Not Applicable.
R2-EE4: Residential Home Energy Renovations. • All 2015 CAP measures. • **Upgrade online permitting to include renovations.**	R1-E4: Electricity Energy Efficiency (AB 32). R1-E5: Natural Gas Energy Efficiency (AB 32). R2-E3: Residential Retrofit Implementation Program. R2-E4: Residential Renewable Energy Retrofits.
R2-EE5: Exceed Energy Efficiency Standards in New Residential Units. • All 2015 CAP measures. • **Upgrade online permitting to include new construction energy efficiency programs.**	R2-E1: Residential Energy Efficiency Program. R2-E2: Residential Renewable Energy Program.
Energy Efficiency [EE] (Non-Residential)	
R2-EE6: Energy Efficiency Training, Education, and Recognition in Commercial Sector. • All 2015 CAP measures.	R1-E1: California Building Code Title 24. R3-E1: Energy Efficient Development and Renewable Energy Deployment Facilitation and Streamlining. R3-E2: Energy Efficiency Training and Public Education.
R2-EE7: Increase Business Participation in Existing Energy Efficiency Programs. • All 2015 CAP measures.	R3-E4: Cross-Jurisdictional Coordination.
R2-EE8: Non-Residential Building Energy Audits.	Not Applicable.
R2-EE9: Non-Residential Building Retrofits. • All 2015 CAP measures. • **Upgrade online permitting to include retrofits.**	R1-E4: Electricity Energy Efficiency (AB 32). R1-E5: Natural Gas Energy Efficiency (AB 32). R2-E7: Commercial/Industrial Energy Efficiency and Renewable Energy Retrofits.
R2-EE10: Energy Efficiency Enhancement of Existing and New Infrastructure.	R2-E8: Induction Streetlight Retrofits.

Table A: 2019 CAP Update and 2015 CAP GHG Reduction Measures Comparison

2019 CAP Update	2015 CAP
• All 2015 CAP measures.	
R2-EE11: Exceed Energy Efficiency Standards in New Commercial Units. • All 2015 CAP measures. • **Upgrade online permitting to include new construction energy efficiency programs.**	R2-E5: Commercial Energy Efficiency Program. R2-E6: Construction Commercial/Industrial Renewable Energy Program.
Clean Energy [CE]	
R2-CE1: Increase Clean Energy Use. • All 2015 CAP measures. • **Require solar panel installation on new residential and commercial buildings.** • **Require energy storage system installation as feasible. .**	R1-E6 Increased Combined Heat and Power (AB 32). R3-E3: Energy Efficiency and Solar Energy Financing.
R2-CE2: Community Choice Aggregation Program.	Not Applicable.
Advanced [L]	
R2-L1: Tree Planting for Shading and Energy Saving. • All 2015 CAP measures.	R3-L1: Expand County Tree Planting.
R2-L2 Light-Reflecting Surfaces for Energy Saving. • All 2015 CAP measures.	R3-L2: Heat Island Plan.
Water [W]	
R2-W1: Water Efficiency through Enhanced Implementation of Senate Bill X7-7. • All 2015 CAP measures.	R2-W1: Water Use Reduction Initiative.
R2-W2: Exceed Water Efficiency Standards. • All 2015 CAP measures. • **Promote rainwater harvesting rebates and demonstrations.**	R2-W1: Water Use Reduction Initiative. R2-W2: Increase Reclaimed Water Use.
Solid Waste [S]	
R2-S1: Reduce Waste to Landfills. • All 2015 CAP measures.	R1-S1: Solid Waste Measures. R2-S1: County Diversion Program. R2-S2: Construction Diversion Program. R3-S2: Waste Education Program. R3-S3: On-Site Diversion and Conversion at County Landfills.

Sources: County of Riverside Climate Action Plan. Riverside County Planning Department. 2015.
County of Riverside Climate Action Plan Update. Riverside County Planning Department. 2019.

- R1 Measures include periodically updated Title 24 Standards, Renewable Portfolio Standards, and Low Carbon Fuel Standards and are accounted for in the Adjusted Business-As-Usual (ABAU) forecasts.
- R2 Measures are countywide measures that can be quantified.
- R3 Measures are countywide measures that support other R2 Measures (such as educational programs or regional coordination), but that are not quantified.
- **Bold** indicates new 2019 CAP Update measure previously not prescribed in the 2015 CAP.

As stated previously, the 2019 CAP Update builds upon the countywide GHG reduction measures (R2 and R3 Measures) adopted under the 2015 CAP and proposes new and enhanced measures in order to achieve the updated reduction targets established pursuant to SB 32. Accordingly, implementation of the updated countywide GHG reduction measures (R2 and R3 Measures) associated with the 2019 CAP Update is the primary focus of this Addendum.

2.3 REGULATORY REQUIREMENTS, PERMITS, AND APPROVALS

The following discretionary approvals from the County will be required for this project:

- Addendum to the previously certified EIR (2015 General Plan Amendment EIR No. 521, SCH No. 200904105) pursuant to *CEQA Guidelines* Sections 15162 and 15164.
- Adoption of the 2019 CAP Update.

IMPORTANT NOTE: In the following analysis, each environmental topic will be evaluated by first describing the impacts of the 2015 General Plan Amendment EIR No. 521, SCH No. 200904105 ("*Approved Project Analysis*") and then an analysis of the proposed changes to the project ("*2019 CAP Update Analysis*").

SECTION 3.0 ENVIRONMENTAL DETERMINATION

3.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Greenhouse Gas Emissions	☐ Population and Housing
☐ Agriculture Resources	☐ Hazards/Hazardous Materials	☐ Public Services
☐ Air Quality	☐ Hydrology/Water Quality	☐ Recreation
☐ Biological Resources	☐ Land Use and Planning	☐ Transportation/Circulation
☐ Cultural Resources	☐ Mineral Resources	☐ Utilities and Service Systems
☐ Geology and Soils	☐ Noise	☐ Mandatory Findings of Significance

3.2 DETERMINATION

On the basis of this initial evaluation:

I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

I find that although the project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. ☐

I find that the project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

I find that the project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ☐

I find that although the project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required. ☒

Signature	Date
Printed Name	County of Riverside Agency

SECTION 4.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION

4.1 LAND USE AND PLANNING

Would the project:

a)	Physically divide an established community?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.1.a) Approved Project Analysis. Future development associated with the 2015 General Plan Amendment has the potential to increase urban uses in Riverside County. However, the changes that would occur are not anticipated to physically divide established communities. State regulations such as planning and zoning codes and the Subdivision Map Act (CGC Section 66410, *et seq.*) dictate how and where development can and cannot occur. Additionally, General Plan Policies LU 1.5, LU 3.1, LU 5.4, LU 7.6, LU 9.1, LU 9.4, LU 21.4, LU 25.2, C 3.17, C 4.6, C 4.8, C 6.3, C 7.3, C 7.6, C 8.7, C 15.3, C 15.4, OS 17.1, OS 17.2, OS 17.3, and OS 18.1 would reduce land use impacts to established communities resulting from division. Implementation of these regulations and policies would protect established communities, prevent disturbance or division, and would ensure associated impacts to established communities remain *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. The proposed 2019 CAP Update does not include any site-specific designs or proposals, nor does it grant any entitlements for development that would have the potential to physically divide an existing community. As indicated in Table A, the 2019 CAP Update would be a policy document that promotes development and redevelopment of underutilized parcels and incorporates measures for enhancing alternative transportation and transit-oriented design features to increase community access to public transit and other forms of alternative transportation (Measure R2-T1). Implementation of General Plan policies would ensure impacts from physical division of established communities would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation measures were identified in the 2015 General Plan Amendment EIR and no new mitigation measures are required for the 2019 CAP Update with regard to physical division of established communities.

b)	Conflict with any applicable land use plan, policy or regulation or agency with jurisdiction over the project (including, but not limited to, the general plan) adopted for the purpose of avoiding or mitigating an environmental effect?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.1.b) Approved Project Analysis. Through the process of updating the County General Plan, its implementation would better align with various agency plans to foster orderly development of land uses compatible with surrounding uses. For example, the State Aeronautics Act requires the County to ensure consistency between applicable Airport Land Use Plans (ALUPs) and all discretionary development proposals. Pursuant to County Ordinance No. 448—Airport Approaches Zoning and Ordinance No. 576—Regulating County Airports, implementation of the General Plan would ensure enhanced coordination between future projects in the County and the ALUPs for the Flabob, Blythe, and Riverside Municipal Airports. Furthermore, compliance with General Plan Policies LU 1.8, 5.4, 15.2, 15.8, 31.1 and 31.2, as well as OS 17.1, 17.2, 17.3, and 18.1 would further ensure compatibility among land uses throughout the County.

As indicated in Section 4.7, implementation of the General Plan would be consistent with the Western Riverside County and Coachella Valley Multiple Species Habitat Conservation Plans, as well as others. Additionally, development and implementation of the 2015 CAP in accordance with the General Plan would ensure compliance with State regulations (e.g., AB 32) designed to reduce GHG emissions. Through compliance with regulatory ordinances and General Plan Policies, impacts related to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project would be a *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. Discretionary projects in the County must be developed consistent with the County General Plan and all other applicable land use plans, such as the ALUPs and Western Riverside County and Coachella Valley Multiple Species Habitat Conservation Plans with or without development and implementation of the 2019 CAP Update. Although the 2019 CAP Update is designed as a stand-alone GHG policy document, it would be utilized as a companion document to the County General Plan to provide a more comprehensive and detailed framework for land use-based policy decisions to reduce GHG emissions from existing and future development. Any future projects proposed pursuant to the 2019 CAP Update would be developed in accordance with General Plan policies for land use compatibility and to maximize efficient use of resources, maintain a high quality of life, enhance job opportunities, promote sustainability, and facilitate access to transportation facilities. Therefore, the 2019 CAP Update would be consistent with the General Plan. In the same manner as the Approved Project, impacts to land use plans, policies, or regulations of agencies with jurisdiction of the project from implementation of the 2019 CAP Update would be *less-than-significant,* and no mitigation is required.

c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.1.c) Approved Project Analysis. The Riverside County General Plan does not include changes that would affect the Habitat Conservation Plans (HCPs) or Natural Community Conservation Plans (NCCPs) within Riverside County. Future development and General Plan

implementation would be required to conform to all HCP requirements and develop mitigation for any biological effects before construction of projects. Therefore, the Riverside County General Plan would not conflict with any applicable HCP or NCCP. Impacts would be *less-than-significant* and no mitigation was required.

2019 CAP Update Analysis. All discretionary projects in the County must be developed consistent with the County General Plan and all other applicable land use plans, such as the ALUPs and Western Riverside County and Coachella Valley Multiple Species Habitat Conservation Plans with or without development and implementation of the 2019 CAP Update. In the same manner as the Approved Project, the 2019 CAP Update will be subject to existing regulations, as well as applicable policies outlined in the County's General Plan to ensure future development consistent with applicable HCPs and NCCPs. Therefore, impacts related to conflicts with HCPs or NCCPs from implementation of the 2019 CAP Update would be the same as those for the Approved Project (i.e., *less-than-significant*) and no mitigation is required.

4.2 POPULATION AND HOUSING

Would the project:

a)	Induce substantial population growth in an area, either directly (e.g. by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.2.a) Approved Project Analysis. The 2015 General Plan Amendment EIR indicates buildout of the 2015 General Plan Amendment would result in reduction in population growth, housing, and jobs both compared to the original General Plan and existing regional plans, including Southern California Association of Government's (SCAG) Regional Transportation Plan (RTP). The land use changes associated with the Approved Project would limit and slightly reduce the development capacity of the County, yielding 1.4 percent less population growth than previously projected. The dwelling units would decrease by 2 percent and jobs would be reduced by 5.6 percent, which would indirectly limit population growth. Compliance with existing General Plan Policies LU 5.1, 5.2, 8.1, and 9.4, C 1.1, 1.4, 1.5, 2.4, 3.16, and 7.9 would further reduce or avoid impacts associated with the implementation of Approved Project. Therefore impacts would be *less-than-significant* and no mitigation was required.

2019 CAP Update Analysis. Although the 2019 CAP Update is designed as a stand-alone GHG policy document, it would be utilized as a companion document to the County General Plan to provide a more comprehensive and detailed framework for land use-based policy decisions to reduce GHG emissions from existing and future development. Any future projects proposed pursuant to the 2019 CAP Update would be developed in accordance with General Plan Policies LU 5.1, 5.2, 8.1, and 9.4, C 1.1, 1.4, 1.5, 2.4, 3.16, and 7.9 and for energy conservation while maximizing efficient use of resources, maintaining a high quality of life, enhancing job opportunities, promoting sustainability, and facilitating access to

transportation facilities. Moreover, the 2019 CAP Update does not include any site-specific designs or proposals, nor does it propose to grant any entitlements for development that would have a direct effect on population or employment in the County. Accordingly, direct and indirect effects related to population growth and growth inducement from implementation of the 2015 General Plan Amendment would occur with or without incorporation of the 2019 CAP Update, and impacts from the proposed 2019 CAP Update would be the same as the Approved Project (i.e., *less-than-significant*). No mitigation is required.

b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.2.b) Approved Project Analysis. The 2015 General Plan Amendment EIR indicates buildout of the 2015 General Plan Amendment would alter housing capacity and may affect future development through redevelopment of existing uses, particularly in rural and agricultural areas, as well as on underutilized urban and suburban parcels. Countywide, the buildout capacity of the General Plan would accommodate more dwelling units than needed on a demographic level, but its implementation would neither displace substantial numbers of existing housing units or people nor necessitate construction of replacement housing elsewhere because new development would predominantly occur on vacant or sparsely developed land. Compliance with General Plan Policies LU 8.1 and 9.4, and C 2.4 and 7.9 would further reduce or avoid impacts associated with the Approved Project. Therefore, impacts would be *less-than-significant*, and no mitigation was required.

2019 CAP Update Analysis. Consistent with the Approved Project, future development that would implement GHG reduction measures of the 2019 CAP Update would not displace substantial numbers of existing housing units or people, nor would it necessitate construction of replacement housing elsewhere. Compliance with General Plan Policies LU 8.1 and 9.4, and C 2.4 and 7.9 would further reduce or avoid impacts associated with implementation of the 2019 CAP Update.

Since the 2019 CAP Update does not include any site-specific designs or proposals, or grant any entitlements for development that would have a direct effect on population or employment in the County, direct and indirect effects related to displacement of housing or people from implementation of the 2015 General Plan Amendment would occur with or without incorporation of the 2019 CAP Update. Therefore, impacts associated with the proposed 2019 CAP Update would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation is required.

c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.2.c) Approved Project Analysis. The 2015 General Plan Amendment EIR indicates that General Plan buildout could result in redevelopment of existing uses, particularly in rural areas (e.g., agricultural lands and large-lot rural residential areas) and on underutilized urban and suburban parcels. However, none of the areas proposed for land use changes contain substantial numbers of existing homes whose loss would displace substantial numbers of residents. Further, compliance with General Plan Policies LU 8.1 and 9.4, and C 2.4 and 7.9 would further reduce or avoid significant impacts associated with the Approved Project. Therefore, impacts would be *less-than-significant*, and no mitigation was required.

2019 CAP Update Analysis. Consistent with the Approved Project, future development that would implement GHG reduction measures of the 2019 CAP Update would not displace substantial numbers of people nor necessitate construction of replacement housing elsewhere. Compliance with General Plan Policies LU 8.1 and 9.4, and C 2.4 and 7.9 would further reduce or avoid impacts associated with implementation of the 2019 CAP Update.

Since the 2019 CAP Update does not include any site-specific designs or proposals, or grant any entitlements for development that would have a direct effect on population or employment in the County, direct and indirect effects related to displacement of housing or people from implementation of the 2015 General Plan Amendment would occur with or without incorporation of the 2019 CAP Update. Therefore, impacts associated with the proposed 2019 CAP Update would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation is required.

4.3 AESTHETICS

Would the project:

a)	Have a substantial adverse effect on a scenic vista?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.3.a) Approved Project Analysis. Scenic vistas throughout the County generally include publicly accessible views of open space areas, including water bodies, ridgelines, mountain-tops, skylines and other natural features. Although development within the County as facilitated under the 2015 General Plan Amendment EIR could obstruct views of scenic

vistas, compliance with existing regulations (e.g., the County's Zoning Code, Caltrans Scenic Highway Program, and the County's General Plan) would maintain and enhance scenic vistas in and around the County. This requirement is codified in existing Mitigation Measure 4.4.1A of the 2015 General Plan Amendment EIR.

A small subset of parcels and policy items arising from the 2015 General Plan Amendment is likely to require additional measures to protect scenic vistas as part of any future development proposals. Accordingly, Mitigation Measure 4.4.1A is supplemented with Mitigation Measure 4.4.A-N1 to ensure adequate legal and physical access, as well as adequate and accessible circulation facilities, is provisioned for future projects to meet the demand of proposed land uses. Through implementation of Mitigation Measures 4.4.1A and 4.4.A-N1, new development would be subject to restrictions designed to preserve the character of the County's natural open space, considerations for the maintenance of specific view corridors, and standards for hillside development and building heights in order to prevent inappropriate development in scenic areas. Therefore, impacts on scenic vistas would be *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. The proposed 2019 CAP Update does not include any site-specific designs or proposals, nor does it propose to grant any entitlements for development that would have the potential to degrade the aesthetic quality of the environment or adversely affect visual resources within the County. As indicated in Table A, the 2019 CAP Update would be a policy document that promotes development and redevelopment of underutilized parcels and incorporates alternative transportation and transit-oriented design features to enhance the usage of alternative transportation including public transit (Measure R2-T1). However, select strategies and measures proposed in the 2019 CAP Update (refer to Table A) designed to aid future projects in reducing the County's GHG emissions could result in changes to community aesthetics. For example, requiring solar panels on new residential and commercial buildings (2019 CAP Update Measure R2-CE1) could potentially alter scenic views from homes or businesses located behind the rooftop panels. It could also result in energy-efficiency retrofits in existing residential, commercial, and municipal buildings (2019 CAP Update Measures R2-EE4 and R2-EE9) that would potentially alter scenic views throughout the County. However, details of the potential construction activities are unknown, and future development projects will need to comply with CEQA. Furthermore, implementation of solar panels and energy-efficiency retrofits is not expected to be obtrusive so as to significantly affect views from viewsheds located uphill or behind the rooftop panels.

Installation of solar panels is conditioned by the Solar Rights Act,[6] which prohibits homeowners associations (HOAs) and local Governments from broadly banning solar energy systems for aesthetic reasons, whether through an explicit ban or through onerous architectural restrictions that greatly reduce the performance of solar energy systems or increase their costs. Additionally, implementation of Mitigation Measure 4.4.1A would ensure applicable retrofits would be subject to development review to conserve scenic vistas in accordance with County Design Guidelines.

[6] California Civil Code Sections 714 and 714.1, California Civil Code Section 801, California Civil Code Section 801.5, California Government Code Section 65850.5, California Health and Safety Code Section 17959.1, California Government Code Section 66475.3 and California Government Code Section 66473.1.

Pursuant to Mitigation Measure 4.4.1A, any future discretionary projects that would implement the GHG reduction measures outlined in the 2019 CAP Update would be subject to all applicable State and County regulations, requirements, and General Plan Policies, as well as subject to further CEQA analysis of project- and site-specific impacts, which would occur with or without implementation of the 2019 CAP Update. For parcels at which a project could potentially result in a major visible effect to an existing viewshed or significant aesthetic feature, implementation of Mitigation Measure 4.4.A-N1 would ensure adequate legal and physical access, as well as adequate and accessible circulation facilities, to meet the demand of proposed land uses while preventing inappropriate development in scenic areas. Implementation of Mitigation Measures 4.4.1A and 4.4.A-N1, as well as the County's zoning regulations, standard development conditions, and design guidelines, address site and structure design. Pursuant to the Solar Rights Act and Mitigation Measures 4.4.1A and 4.4.A-N1 of the 2015 General Plan Amendment EIR, implementation of the 2019 CAP Update would not have a significant impact on scenic vistas. Therefore, in the same manner as the Approved Project, impacts to scenic vistas from implementation of the 2019 CAP Update would be reduced to *less-than-significant with mitigation incorporated.*

b)	Substantially damage trees, rock outcroppings, and historic buildings within a State scenic highway?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.3.b) Approved Project Analysis. Scenic resources throughout the County generally include individual trees or boulders, outcroppings, undisturbed natural areas (e.g., riparian areas, and oak woodlands), open space, view corridors associated with designated scenic routes, and points of historic or cultural significance. Additionally, scenic resources can comprise the built environment such as windmills, architecturally unique or historic structures, agricultural areas (e.g., vineyards and citrus groves), and other human-made features.

Future discretionary projects would be required to be consistent with the County's Ordinances pertaining to land use, road improvements, design guidelines, and tree preservation; County General Plan Policies OS 9.3, OS 9.4, LU 4.5, and C 20.1 for the preservation of historic buildings and trees/vegetation; and the California Scenic Highway Program. Accordingly, Mitigation Measure 4.4.1A would apply to future discretionary projects along scenic highways not only on vacant properties where scenic resources typically remain undisturbed or minimally altered, but also on developed parcels where historic buildings and scenic structures could be subject to impact from development. Compliance with applicable regulatory ordinances, General Plan Policies, and Mitigation Measure 4.4.1A would ensure development facilitated under the 2015 General Plan Amendment would not adversely affect scenic resources along State scenic highways. Therefore, impacts would be *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. As codified in Mitigation Measure 4.4.1A, all future discretionary projects that would implement 2019 CAP Update GHG reduction measures would be subject to County's Ordinances pertaining to land use, road improvements, design guidelines, and tree preservation; County General Plan Policies OS 9.3, OS 9.4, LU 4.5, and C 20.1 for the preservation of historical buildings and trees/vegetation; and the California Scenic Highway Program. Furthermore, project-level proposals would be subject to site-specific CEQA analysis of project-specific impacts. Accordingly, Mitigation Measure 4.4.1A would apply to future discretionary projects implementing the 2019 CAP Update along scenic highways not only on vacant properties whereat scenic resources typically remain undisturbed or minimally altered, but also on developed parcels whereat historic buildings and scenic structures could be subject to impact from development. Compliance with applicable regulatory ordinances, General Plan Policies, and Mitigation Measure 4.4.1A would ensure implementation of the 2019 CAP Update would not adversely affect scenic resources along State scenic highways. Therefore, in the same manner as the Approved Project, impacts to scenic resources within a State Scenic Highway from implementation of the 2019 CAP Update would be reduced to *less-than-significant with mitigation incorporated.*

c)	Substantially degrade the existing visual character or aesthetic quality of a site and its surroundings?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.3.c) Approved Project Analysis. The County's overall visual character is a mix of urban, suburban, and rural land uses, as large undeveloped parcels are distributed throughout the planning area and contribute to open views toward the surrounding mountains and hillsides. Implementation of the 2015 General Plan Amendment would convert open space and agricultural lands into urban landscapes. It is expected that the character of new development facilitated under the 2015 General Plan Amendment would be similar to the existing urban landscape. Nevertheless, a substantial change in the character of the landscape would occur when open space, agricultural, and vacant land is developed into urban land uses.

Although development within the planning area is expected to result in a substantial change in the character of the landscape, compliance with existing regulations (e.g., the County's Zoning Ordinance and Caltrans Scenic Highway Program), as well as implementation of the applicable policies outlined in the County's General Plan would maintain and enhance the quality of the visual character throughout the County. This requirement is codified in existing Mitigation Measure 4.4.1A of the 2015 General Plan Amendment EIR. A small subset of parcels and policy items arising from 2015 General Plan Amendment is likely to require additional measures to protect scenic vistas as part of any future development proposals. Accordingly, Mitigation Measure 4.4.1A is supplemented with Mitigation Measure 4.4.A-N1 to ensure adequate legal and physical access, as well as adequate and accessible circulation facilities are provisioned for future projects to meet the demand of proposed land uses. Through implementation of Mitigation Measures 4.4.1A and 4.4.A-N1, new

development would be subject to restrictions designed to preserve the character of the County's natural open space, considerations for the maintenance of specific view corridors, and standards for hillside development and building heights in order to prevent inappropriate development in scenic areas. Therefore, impacts on visual character and aesthetic quality would be *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. In the same manner as the Approved Project, the 2019 CAP Update will be subject to existing regulations (e.g., the County's Zoning Ordinance and Caltrans Scenic Highway Program), as well as applicable policies outlined in the County's General Plan to maintain and enhance the quality of the visual character throughout the County as future development consistent with the 2019 CAP Update occurs.

As detailed in response to Checklist Question 4.1.a, the 2019 CAP Update would be a policy document that promotes development and redevelopment of underutilized parcels and incorporates alternative transportation and transit-oriented design features to enhance the usage of alternative transportation including public transit (Measure R2-T1). However, select strategies and measures proposed in the 2019 CAP Update (refer to Table A) designed to aid future projects in reducing the County's GHG emissions could result in changes to community aesthetics. For example, requiring solar panels on new residential and commercial buildings (2019 CAP Update Measure R2-CE1) and energy-efficiency retrofits in existing residential, commercial, and municipal buildings (2019 CAP Update Measures R2-EE4 and R2-EE9) throughout the County could potentially alter scenic views from homes or businesses located behind the rooftop panels. However, the placement of solar panels for residential use and energy-efficiency retrofits in existing residential, commercial, and municipal buildings is not expected to be obtrusive so as to significantly affect views from viewsheds located uphill or behind the rooftop panels.

Installation of solar panels is conditioned by the Solar Rights Act,[7] which prohibits homeowners associations (HOAs) and local Governments from broadly banning solar energy systems for aesthetic reasons, whether through an explicit ban or through onerous architectural restrictions that greatly reduce the performance of solar energy systems or increase their costs. Additionally, implementation of Mitigation Measure 4.4.1A would ensure applicable retrofits would be subject to development review to conserve visual resources in accordance with County Design Guidelines.

Pursuant to Mitigation Measure 4.4.1A, any future discretionary projects that would implement the GHG reduction measures outlined in the 2019 CAP Update would be subject to all applicable State and County regulations, requirements, and General Plan Policies, as well as subject to further CEQA analysis of project- and site-specific impacts, which would occur with or without implementation of the 2019 CAP Update. For parcels at which a project could potentially result in a major effect to visual character, implementation of Mitigation Measure 4.4.A-N1 would ensure adequate legal and physical access, as well as adequate and accessible circulation facilities, to meet the demand of proposed land uses while preventing inappropriate development in scenic areas. Implementation of Mitigation Measures 4.4.1A and 4.4.A-N1, as well as the County's zoning regulations, standard

[7] California Civil Code Sections 714 and 714.1, California Civil Code Section 801, California Civil Code Section 801.5, California Government Code Section 65850.5, California Health and Safety Code Section 17959.1, California Government Code Section 66475.3 and California Government Code Section 66473.1.

development conditions, and design guidelines, address site and structure design. Pursuant to the Solar Rights Act and Mitigation Measures 4.4.1A and 4.4.A-N1 of the 2015 General Plan Amendment EIR, implementation of the 2019 CAP Update would not have a significant impact on visual resources. Therefore, in the same manner as the Approved Project, impacts to visual character from the proposed 2019 CAP Update would be reduced to *less-than-significant with mitigation incorporated.*

d)	Create a new source of substantial light or glare, which would adversely affect daytime or nighttime views in the area?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.3.d) Approved Project Analysis. The County comprises a mix of urban, suburban, and rural land uses, as large undeveloped and agricultural parcels are distributed throughout the planning area. Rural land uses contain few major sources of substantial light and glare. However, the existing urban and suburban areas of the County already generate substantial light and glare that affect nighttime views in surrounding suburban and rural areas.

Implementation of the 2015 General Plan Amendment would increase existing levels of light and glare and extend areas affected by nighttime sky glow to include areas currently devoid of significant sources of light and/or glare. However, regulatory County Ordinances designed to implement standards for lighted signage, roadway lighting, light pollution from various land uses, outdoor lighting, and general design guidelines are implemented to reduce light pollution. Additionally, General Plan Policy LU 14.6 prohibits off-site outdoor advertising displays that are visible from designated and eligible scenic highways, and Policy LU 4.1 requires new developments to be located and designed to visually enhance and not degrade the character of the surrounding area through consideration of lighting and other impacts on surrounding properties. In conjunction with regulations and policies, the 2015 General Plan Amendment EIR adopted Mitigation Measures 4.4.2A through 4.4.2E to enforce lighting standards for various land uses (4.4.2A), roadways (4.4.2B), for exterior illumination (4.4.2C), and for the protection of the dark sky in consideration of operations at the Palomar Observatory (4.4.2D and 4.4.2E). Through compliance with regulatory ordinances, General Plan Polices, and Mitigation Measures 4.4.2A through 4.4.2E, impacts from new sources of substantial light or glare would be reduced to *less-than-significant with mitigation incorporated.*

2019 CAP Update Analysis. Implementation of the 2019 CAP Update would not result in the development of major light sources. Installation of cool roofs and cool pavement (light-reflecting surfaces pursuant to 2019 CAP Update Measure R2-L2) and solar panels on homes and businesses (2019 CAP Update Measure R2-CE1) are encouraged to reduce the urban heat island effect and the County's dependence on energy sources that produce GHGs. Cool roofs and cool pavement are built from materials with high thermal emittance and high solar reflectance—or albedo—to help reflect sunlight (and the associated energy) away from a building or roadway. The cool roofing and paving materials are lighter in color and more

reflective than traditional roofing and paving materials; however, their reflective properties do not produce substantial glare.

Solar panels can reflect sunlight when the sun is at an angle to the solar panel in relationship to the viewer. However, the reflectance would be temporary and not occur at night. Small-scale solar installments would not result in substantial sources of daytime glare. Thus, their placement and orientation on individual properties would not result in a substantial adverse effect on daytime or nighttime views in the area.

Large solar arrays may result in noticeable glare during the day that could affect neighboring land uses and/or motorists. Accordingly, the 2019 CAP Update would be required to incorporate County Ordinances for the implementation of standards for lighted signage, roadway lighting, light pollution from various land uses, outdoor lighting, and general design guidelines to reduce light pollution and glare. Additionally, General Plan Policy LU 4.1 requires new developments to be located and designed to visually enhance and not degrade the character of the surrounding area through consideration of lighting and other impacts on surrounding properties. In conjunction with County regulations and policies, the 2015 General Plan Amendment EIR's Mitigation Measures 4.4.2A through 4.4.2E would be incorporated to enforce lighting standards for various land uses (4.4.2A), roadways (4.4.2B), for exterior illumination (4.4.2C), and for the protection of the dark sky in consideration of operations at the Palomar Observatory (4.4.2D and 4.4.2E). Every discretionary project for which the County would be the lead agency would be subject to project- and site-specific CEQA review in the context of these ordinances, policies, and mitigation measures in order to ensure impacts from light and glare are considered and mitigated. Therefore, in the same manner as the Approved Project, impacts from new sources of substantial light or glare from implementation of the 2019 CAP Update would be reduced to *less-than-significant with mitigation incorporated.*

e)	Interfere with the nighttime use of the Palomar Astronomical Observatory, as protected through the Riverside County Ordinance No. 665?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.3.e) Approved Project Analysis. Implementation of the 2015 General Plan Amendment would increase existing levels of light and glare and extend areas affected by nighttime sky glow to include areas currently devoid of significant sources of light and/or glare. However, regulatory County Ordinances designed to implement standards for lighted signage, roadway lighting, light pollution from various land uses, outdoor lighting, and general design guidelines are implemented to reduce light pollution. Additionally, General Plan Policy LU 14.6 prohibits off-site outdoor advertising displays that are visible from designated and eligible scenic highways, and Policy LU 4.1 requires new developments to be located and designed to visually enhance and not degrade the character of the surrounding area through consideration of lighting and other impacts on surrounding properties. In conjunction with regulations and policies, the 2015 General Plan Amendment EIR adopted

Mitigation Measures 4.4.2A through 4.4.2E to enforce lighting standards for various land uses (4.4.2A), roadways (4.4.2B), for exterior illumination (4.4.2C), and for the protection of the dark sky in consideration of operations at the Palomar Observatory (4.4.2D and 4.4.2E). Through compliance with regulatory ordinances, General Plan Polices, and Mitigation Measures 4.4.2A through 4.4.2E, interference with the nighttime use of the Palomar Astronomical Observatory would be *less-than-significant with mitigation incorporated.*

2019 CAP Update Analysis. Implementation of the 2019 CAP Update would not result in the development of major light sources. Installation of cool roofs and cool pavement (light-reflecting surfaces pursuant to 2019 CAP Update Measure R2-L2) and solar panels on homes and businesses (2019 CAP Update Measure R2-CE1) can reflect sunlight when the sun is at an angle in relationship to the viewer. However, the reflectance would be temporary and not occur at night. Likewise, large solar arrays may result in noticeable glare during the day but would not reflect substantial light at night.

Similar to the Approved Project, the 2019 CAP Update would be required to incorporate County Ordinances for the implementation of standards for lighted signage, roadway lighting, light pollution from various land uses, outdoor lighting, and general design guidelines to reduce light pollution and glare. Additionally, General Plan Policy LU 4.1 requires new developments to be located and designed to visually enhance and not degrade the character of the surrounding area through consideration of lighting and other impacts on surrounding properties. In conjunction with County regulations and policies, the 2015 General Plan Amendment EIR's Mitigation Measures 4.4.2A through 4.4.2E shall be incorporated to enforce lighting standards for various land uses (4.4.2A), roadways (4.4.2B), for exterior illumination (4.4.2C), and for the protection of the dark sky in consideration of operations at the Palomar Observatory (4.4.2D and 4.4.2E). Every discretionary project for which the County would be the lead agency would be subject to project- and site-specific CEQA review in the context of these ordinances, policies, and mitigation measures in order to ensure interference with the nighttime use of the Palomar Astronomical Observatory would be considered and mitigated. Therefore, in the same manner as the Approved Project, interference with the nighttime use of the Palomar Astronomical Observatory from implementation of the 2019 CAP Update would be reduced to *less-than-significant with mitigation incorporated.*

4.4 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest protocols adopted by the California Air Resources Board.

Would the project:

a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Natural Resources Agency, to non-agricultural use?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.4.a) Approved Project Analysis. Implementation of the 2015 General Plan Amendment would result in conversion of approximately 32 acres of Prime Farmland and Farmland of Statewide Importance to non-agricultural uses, which is considered a negligible amount of land when considering the 187,800 acres of land under agricultural production countywide. Additionally, approximately 210 acres of Farmland of Local Importance would be converted to non-agricultural uses, while approximately 220 acres of lands, including existing fish farms (aquaculture), would be redesignated as agricultural land uses.

However, the amount of agricultural land currently designated as Prime, Unique, Statewide, and Locally Important Farmland (approximately 336,800 acres) far exceeds the amount of corresponding farmland (approximately 190,000 acres) designated by the General Plan and 2015 General Plan Amendment. Therefore, implementation of the 2015 General Plan Amendment will likely result in conversion of additional Prime, Unique, Statewide, and Locally Important Farmland to non-agricultural uses. Furthermore, growth facilitated under the 2015 General Plan Amendment would result in indirect impacts to farmland through conversion of agricultural uses to urban uses. Although the 2015 General Plan Amendment and 2015 General Plan Amendment EIR detail regulations and policies designed to establish agricultural preserves, collaboration between agencies, preservation incentives, the right to farm, and compatible land uses, impacts to farmland from implementation of the 2015 General Plan Amendment would remain *significant and unavoidable*.

2019 CAP Update Analysis. Although the Approved Project concluded impacts to farmland from implementation of the 2015 General Plan Amendment would remain significant and unavoidable, future development in accordance with the 2019 CAP Update does not change any of the land use designations of the Approved Project that would adversely affect farmland. Therefore, the 2019 CAP Update would not result in any new impacts previously not identified under the Approved Project. No mitigation is required.

b)	Conflict with existing agricultural zoning, agricultural use, or with land subject to a Williamson Act contract or land within a Riverside County Agricultural Preserve? Cause Development of non-agricultural uses within 300 feet of agriculturally zoned property? Or involve other changes in the existing environment which, due	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

to their location or nature, could result in conversion of Farmland to non-agricultural use?

4.4.b) Approved Project Analysis. As detailed in response to Checklist Question 4.4.a, land use and policy changes proposed by the 2015 General Plan Amendment could result in conflicts with existing agricultural zoning, agricultural uses, and lands subject to a Williamson Act contract if future development is proposed in proximity to agricultural uses, which could potentially result in urban uses within 300 feet of agriculturally zoned property. The Approved Project's growth could result in development that would convert agricultural lands to urban uses. Future development accommodated by the 2015 General Plan Amendment would likely result in significant conversion of agricultural lands to non-agricultural uses. Since no feasible mitigation is available to reduce this impact to a less-than-significant level, impacts would remain *significant and unavoidable.*

2019 CAP Update Analysis. Although the Approved Project concluded impacts to farmland from implementation of the 2015 General Plan Amendment would remain significant and unavoidable, future development in accordance with the 2019 CAP Update does not change any of the land use designations of the Approved Project that would adversely affect farmland. Therefore, the 2019 CAP Update would not result in any new impacts previously not identified under the Approved Project. No mitigation is required.

c)	Result in the loss of forest land or conversion of forest land to non-forest use? Conflict with existing zoning for, or cause rezoning of, forest land, timberland or timberland zoned Timberland Production? Or involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.4.c) Approved Project Analysis. The forest lands and commercial/industrial timber utilizations in Riverside County are quite limited. Implementation of the 2015 General Plan Amendment would not conflict with forest land zoning, timberland or Timberland Production Zones since they are non-existent in the County. In addition, the Woody Biomass Program operating on the basis of slash and overgrowth removal would not be adversely affected by the 2015 General Plan Amendment.

Future development through implementation of the 2015 General Plan Amendment could result in conversion of forest land to non-forest uses. Growth accommodated by the 2015 General Plan Amendment would indirectly result in additional development that would cause forest land conversion. However, due to the low densities of residential units allowed, it is possible that any timber or tree removal necessary for potential future single-family residential use of the sites with forestry resources could be accomplished under the 3-acre timber clearing exemptions. Therefore, direct impacts associated with these land use changes would be less than significant. To minimize direct or indirect impacts to forestry resources, County ordinances and General Plan policies designed to protect forest land resources, regulate removal of trees, require coordination between agencies, promote conservation and compliance with regulations, and establish natural edge buffers would be implemented to ensure impacts to forest land and timberland remain *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. Future development in accordance with the 2019 CAP Update does not change any of the land use designations of the Approved Project that would adversely affect forest land and timberland. Consistent with the Approved Project, impacts to forest land and timberland would be *less-than-significant* with the implementation of County ordinances and General Plan policies designed to protect forest land resources, regulate removal of trees, require coordination between agencies, promote conservation and compliance with regulations, and establish natural edge buffers. No mitigation is required.

4.5 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a)	Conflict with or obstruct implementation of the applicable air quality plan?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☐	☒

4.5.a) Approved Project Analysis. The 2015 General Plan Amendment EIR addressed consistency with the South Coast Air Quality Management District's (SCAQMD) 2007 Air Quality Management Plan (2007 AQMP) and Mojave Desert Air Quality Management District's (MDAQMD) guidelines. Consistency with the AQMP for the Basin means that a project would be consistent with the goals, objectives, and assumptions in the respective plan to achieve the federal and State air quality standards. For a project to be consistent with the AQMP adopted by the SCAQMD, the pollutants emitted from the project should not exceed the SCAQMD daily threshold or cause a significant impact on air quality, or the project must already have been included in the AQMP projections. For a project to be consistent with MDAQMD guidelines, a General Plan Amendment or similar land use plan change should not increase dwelling unit density, vehicle trips, or vehicle miles traveled.

The 2015 General Plan Amendment EIR concluded that with implementation of and compliance with regulatory programs, Riverside County ordinances, General Plan and General Plan Amendment policies, as well as General Plan Amendment EIR Mitigation Measures 4.7.A-N1 and 4.7.A-N2, air pollutant emissions from future development accommodated by 2015 General Plan Amendment would be reduced but still exceed regulatory thresholds. Exceedance of regulatory thresholds would conflict with the implementation of the applicable air quality plans. Implementation of 2015 CAP GHG reduction measures would provide additional reductions in criteria air pollutants; however, it would not reduce criteria pollutant impacts to below regulatory thresholds. The impact was determined to remain *significant and unavoidable*.

2019 CAP Update Analysis. The current regional air quality management plan is the Final 2016 AQMP adopted by the SCAQMD on March 10, 2017. The Final 2016 AQMP proposes policies and measures currently contemplated by responsible agencies to achieve federal and State standards for healthful air quality in the Basin and those portions of the Salton Sea Air Basin that are under SCAQMD's jurisdiction. The Basin is currently a federal and State nonattainment area for particulate matter less than 10 microns in size (PM_{10}), particulate matter less than 2.5 microns in size ($PM_{2.5}$), and ozone (O_3).

The proposed changes in the 2019 CAP Update include new and enhanced GHG reduction measures compared to 2015 CAP. The new and enhanced GHG reduction measures are expected to result in fewer vehicle miles traveled (VMT), higher energy efficiency, and

correspondingly more reductions in criteria pollutant emissions than originally anticipated in the 2015 General Plan Amendment EIR. However, it would not reduce criteria pollutant impacts to below regulatory thresholds.

Consistent with the Approved Project, the 2019 CAP Update would implement Mitigation Measures 4.7.A-N1 and 4.7.A-N2, as prescribed in the 2015 General Plan Amendment EIR, to ensure the implementation of GHG reduction measures and help reduce emissions of criteria pollutants from implementation of future development. Therefore, emissions resulting from implementation of the 2019 CAP Update would not themselves create any significant impact, as implementation of GHG reduction measures identified in the CAP Update would result in reduced impacts on air quality. However, impacts associated with implementation of 2019 CAP Update in conjunction with buildout of the County General Plan would remain *significant and unavoidable*.

b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☐	☒

4.5.b) Approved Project Analysis. Both short-term impacts caused by construction activities and long-term impacts caused by occupancy and operation of the Approved Project were analyzed in the 2015 General Plan Amendment EIR and are described below.

Short-Term Impacts

Implementation of the General Plan Amendment will result in development of new commercial, industrial, and residential land uses and infrastructure improvements, the construction of which would generate emissions of criteria air pollutants. Due to the programmatic nature of the General Plan Amendment, analysis of the Approved Project's criteria pollutant construction emissions generated through its implementation was determined to be speculative but expected to exceed SCAQMD and MDAQMD thresholds, and mitigation was identified.

Compliance with General Plan and General Plan Amendment Policies and EIR Mitigation Measures 4.6.B-N1, 4.6.B-N2, and 4.6.B-N3, as prescribed in the 2015 General Plan Amendment EIR, would help reduce emissions of criteria pollutants during construction of future projects facilitated through implementation of the General Plan Amendment. However, such emissions were determined to exceed SCAQMD and MDAQMD thresholds because construction-related emissions would be speculative and the rate of development cannot be anticipated. No additional feasible mitigation was identified and construction-related emissions generated through implementation of the General Plan Amendment would violate air quality standard or contribute substantially to existing or projected air quality violations. The impact was determined to remain *significant and unavoidable*.

Long-Term Impacts

Regional area and mobile-source emissions were modeled using the California Emissions Estimator Model (CalEEMod) and based on General Plan land use types and sizes, anticipated increases in trip generation, and default settings and parameters for the analysis period and planning area location. CalEEMod accounts for area-source emissions from the use of natural gas, fireplaces, and consumer products, as well as mobile-source vehicle trip emissions.

Due to the programmatic nature of the General Plan Amendment, analysis of criteria pollutant emissions generated through operation of projects facilitated through implementation of the General Plan Amendment would be speculative. SCAQMD and MDAQMD thresholds would be exceeded during long-term operation of future land uses consistent with the General Plan Amendment and mitigation was required.

Compliance with General Plan and General Plan Amendment Policies, adherence to SCAQMD and MDAQMD rules and regulations, and implementation of EIR Mitigation Measures 4.7.A-N1, 4.7.A-N2, 4.6.B-N4, and 4.6.B-N5 would help reduce emissions of criteria pollutants during operation of future projects facilitated through implementation of the General Plan Amendment. However, implementation of the General Plan Amendment would result in emissions of criteria pollutants in excess of SCAQMD and MDAQMD thresholds, which are designed to be applied to individual projects rather than programmatic activities such as the General Plan Amendment. Although *CEQA Guidelines* require the County to evaluate all future discretionary projects proposed under the General Plan Amendment for emissions of criteria pollutants against applicable SCAQMD and MDAQMD thresholds, no additional feasible mitigation was identified. The impact was determined to remain *significant and unavoidable*.

2019 CAP Update Analysis. Implementation of the 2019 CAP Update could result in construction of energy-generating facilities such as photovoltaic/solar arrays or installation of cool roofs that would be installed on rooftops of new or existing buildings. It could also result in energy-efficiency retrofits in existing residential, commercial, and municipal buildings throughout the County. These potential construction and retrofit activities would be undertaken per the 2019 CAP Update and be subject to CEQA compliance. However, the potential construction activities associated with the CAP Update as descried above are expected to be minor and unlikely to require use of large construction equipment. Therefore, air quality impacts associated with construction and retrofit activities undertaken as part of 2019 CAP Update would not be significant. However, impacts associated with construction-related emissions generated through implementation of the 2019 CAP Update in conjunction with buildout of the County General Plan would still remain *significant and unavoidable*.

The proposed changes in the 2019 CAP Update include new and enhanced GHG reduction measures compared to 2015 CAP. Implementation of the 2019 CAP Update would not add any new vehicle trips or otherwise increase VMT. Compared to the Approved Project, the 2019 CAP Update would further decrease VMT and the associated vehicle emissions from the 2014 General Plan Amendment, thereby improving air quality. The 2019 CAP Update implementation would further reduce reliance on traditional, more-polluting forms of energy by increasing use of cleaner, alternative energy sources. The change in energy sources

would reduce emissions associated with energy production. The 2019 CAP Update would further promote the renovation of existing structures with energy-efficiency retrofits and renewable energy. Therefore, the 2019 CAP Update is expected to result in more reductions in criteria pollutant emissions than originally anticipated in the certified 2015 General Plan Amendment EIR. However, it would not reduce impacts to regulatory thresholds.

In the same manner as the Approved Project, the 2019 CAP Update would be consistent with General Plan and General Plan Amendment Policies, SCAQMD and MDAQMD rules and regulations, and Mitigation Measures 4.6.B-N1, 4.6.B-N2, 4.6.B-N3, 4.6.B-N4, 4.6.B-N5, 4.7.A-N1, and 4.7.A-N2 to help reduce emissions of criteria pollutants from implementation of future development. Therefore, air quality impacts associated with 2019 CAP Update would not themselves be significant. However, air quality impacts associated with implementation of the 2019 CAP Update in conjunction with buildout of the County General Plan would remain *significant and unavoidable*.

c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or state ambient air quality standard?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☐	Reduced Impact ☒

4.5.c) Approved Project Analysis. As described in response to Checklist Question 4.5.a and 4.5.b above, General Plan and General Plan Amendment Policies, adherence to SCAQMD rules and regulations, and implementation of existing Mitigation Measures 4.5.1A, 4.5.1B, 4.5.1C, 4.6.B-N1, 4.6.B-N2, 4.6.B-N3, 4.7.A-N1, 4.7.A-N2, 4.6.B-N4 and 4.6.B-N5 would reduce construction and operation-related air quality impacts. However, even with these mitigation measures, future construction and operational emissions would likely exceed SCAQMD and MDAQMD thresholds. The impact was determined to be *significant and unavoidable*.

2019 CAP Update Analysis. The proposed changes in the 2019 CAP Update include new and enhanced GHG reduction measures compared to 2015 CAP, which are expected to result more reductions in criteria pollutant emissions than originally anticipated in the 2015 General Plan Amendment EIR. However, implementation of the 2019 CAP Update would not reduce cumulative impacts from General Plan buildout to below regulatory thresholds. The 2019 CAP Update would implement existing Mitigation Measures 4.5.1A, 4.5.1B, 4.5.1C, 4.6.B-N1, 4.6.B-N2, 4.6.B-N3, 4.7.A-N1, 4.7.A-N2, 4.6.B-N4 and 4.6.B-N5, as prescribed in the 2015 General Plan Amendment EIR, to ensure the implementation of GHG reduction measures and help reduce emissions of criteria pollutants from implementation of future development. Therefore, cumulative air quality impacts associated with the 2019 CAP Update would not themselves be significant. However, cumulative air quality impacts associated with implementation of the 2019 CAP Update in conjunction with buildout of the County General Plan would remain *significant and unavoidable*.

d)	Expose sensitive receptors to substantial pollutant concentrations?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☐	☒

4.5.d) Approved Project Analysis. As described in response to Checklist Question 4.5.a and 4.5.b above, the existing ordinances, policies and programs to implement and comply with SCAQMD and MDAQMD rules would reduce construction and operation-related impacts. However, the project would result in the future development of numerous projects each contributing incrementally to air pollutant emissions affecting sensitive receptors. Thus, it is possible that the project would result in cumulatively significant impacts to sensitive receptors, even if individual projects were each less than significant. Exposure of sensitive receptors to emissions of substantial concentrations of criteria air pollutants and precursors would be a significant impact and mitigation was identified.

Compliance with existing regulations, existing and new General Plan policies, and County ordinances would reduce operation-related impacts by reducing air pollutant emissions from stationary and mobile sources. Even with the implementation of Mitigation Measures 4.6.D-N1 and 4.6.D-N2, cumulative operational emissions resulting from future development would likely exceed both the SCAQMD and MDAQMD thresholds. The impact was determined to be *significant and unavoidable*.

2019 CAP Update Analysis. As described in response to Checklist Question 4.5.b above, the anticipated construction activities required for additional retrofits and renovations under the 2019 CAP Update would not involve large internal-combustion equipment that would contribute substantial air pollutant emissions that could affect sensitive receptors. Implementation of the 2019 CAP Update would not add any new vehicle trips or otherwise increase VMT. Compared to the Approved Project, the 2019 CAP Update would further decrease VMT and the associated vehicle emissions from the 2015 General Plan Amendment, thereby improving air quality. The 2019 CAP Update implementation would further reduce reliance on traditional, more-polluting forms of energy by increasing use of cleaner, alternative energy sources. The change in energy sources would reduce emissions associated with energy production. The 2019 CAP Update would further promote the renovation of existing structures with energy-efficiency retrofits and renewable energy. Therefore, the 2019 CAP Update would afford more reductions in criteria air pollutants and precursors and more reductions in impacts to sensitive receptors than the Approved Project. However, implementation of the 2019 CAP Update would not reduce pollutant impacts to sensitive receptors from General Plan buildout to below regulatory thresholds.

The 2019 CAP Update would be consistent with General Plan and General Plan Amendment Policies, SCAQMD and MDAQMD rules and regulations, and Mitigation Measures 4.6.D-N1 and 4.6.D-N2 to help reduce emissions of toxic air contaminants from implementation of future development. Therefore, pollutant impacts to sensitive receptors from implementation of the 2019 CAP Update would not themselves be significant. However,

pollutant impacts associated with implementation of the 2019 CAP Update in conjunction with buildout of the County General Plan would remain *significant and unavoidable*.

e)	Create objectionable odors affecting a substantial number of people?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.5.e) Approved Project Analysis. SCAQMD Rule 402 (Nuisance), Rule 410 (odors from transfer stations and material recovery stations) and Rule 1179 (Public owned treatment works operations) place conditions and compliance measures for odor emissions from the identified sources in order to reduce exposure to the surrounding area. Implementation of and compliance with the regulatory programs, General Plan policies as well as Mitigation Measures 4.6.E-N1, 4.6.E-N2 and 4.6.E-N3, would ensure that future development accommodated by General Plan Amendment would have *less-than-significant* odor impacts.

2019 CAP Update Analysis. The 2019 CAP Update does not propose strategies or measures that would directly or indirectly result in the creation of objectionable odors. Implementation of 2019 CAP Update strategies would include construction activities such as installation of renewable energy facilities (i.e., solar panels) and various energy retrofits (e.g., cool roofs, insulation, etc.), all of which would be subject to SCAQMD rules, County Ordinances, General Plan policies, and Mitigation Measures 4.6.E-N1, 4.6.E-N2 and 4.6.E-N3 to minimize objectionable odors. The 2019 CAP Update does not include projects such as landfills, airports, industrial facilities, agricultural uses, etc. known to generate objectionable odors. Therefore, implementation of the 2019 CAP Update would not create objectionable odors beyond those that would be anticipated under the Approved Project. Impacts would be the same as those identified for the Approved Project (i.e., *less-than-significant*).

4.6 GREENHOUSE GAS EMISSIONS

Would the project:

a)	Generate greenhouse gas emissions, either directly or indirectly, that in conjunction with other global greenhouse gas emissions may have a substantial adverse physical effect on the environment?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☒	☐	☐

4.6.a) Approved Project Analysis. The 2015 General Plan Amendment EIR indicated there was no statewide GHG emissions threshold used to determine potential GHG emissions impacts of a project. Senate Bill (SB) 32 requires the California Air Resources Board (CARB) to reduce statewide GHG emissions to 1990 levels by 2020. As part of this

legislation, CARB was required to prepare a "Scoping Plan" that demonstrates how the State will achieve this goal. The Scoping Plan was adopted in 2011, and in it, local governments were described as "essential partners" in meeting the statewide goal, recommending a GHG reduction level 15 percent below 2005–2008 levels, depending on when a full emissions inventory is available, by 2020. Accordingly, Executive Order S-3-05 establishes a more aggressive emissions reduction goal for the year 2050 of 80 percent below 1990 emissions levels. However, when analyzing long-range plans, such as general plans, the planning horizon will often surpass the 2020 timeframe for implementation of AB 32.

The 2015 General Plan Amendment EIR indicated that with the implementation of and compliance with the existing regulatory programs, County ordinances, General Plan policies, and Mitigation Measures 4.7.A-N1, 4.7.A-N2, and 4.7.A-N3, development authorized pursuant to the General Plan Amendment would generate GHG emissions of 6.03 million metric tons carbon dioxide equivalent (MMT CO_2e) per year. In addition, to ensure that GHG emissions continue on a downward trajectory, the County would commence planning for the post-2020 period starting at the approximate midway point between plan implementation and the reduction target and after development of key ordinances and implementation of cost-effective measures. The new plan would include a specific target for GHG reductions for 2035 and 2050. The targets would be consistent with broader State and federal reduction targets and with the scientific understanding of the needed reductions by 2050. The County would adopt the new plan by January 1, 2020.

Achievement of the 2050 reduction target (80 percent below 1990 levels of emissions by 2050) in Executive Order S-3-05 would require the State and the County to reduce emissions by approximately 95 percent below the 2008 baseline levels of GHG emissions by 2050 while also accommodating considerable population and economic growth within the unincorporated areas. It would require near carbon neutral energy and transportation by 2050. Carbon neutral (no emissions) energy would require significant changes to the electric generating system in the United States where renewable energy and energy storage supply nearly all the electricity in the system and transportation eliminates fossil fueled trucks and passenger vehicles. This future system of carbon neutral energy and transportation sectors was technologically infeasible at the time of the 2015 General Plan Amendment EIR. Therefore, the County provides Mitigation Measure 4.7.A-N3 that allows the County to work in sync with the State in providing post-2020 reductions and reduction targets. Mitigation Measure 4.7.A-N3 requires the County to update the CAP by January 1, 2020, and include in that updated CAP reduction targets for 2035 and 2050, and post-2020 reduction measures designed to achieve the reduction targets and keep the County on the emissions reduction path.

Because achievement of the 2050 reduction target in Executive Order S-3-05 is technologically infeasible to achieve, the 2015 General Plan Amendment EIR concluded that impacts on GHG emissions were considered *significant and unavoidable*.

2019 CAP Update Analysis. Since the adoption of 2015 CAP and 2015 General Plan Amendment EIR, on April 29, 2015, California Governor Jerry Brown announced through EO B-30-15 the GHG emissions target of reducing GHG emissions to 40 percent below 1990 levels by 2030. This emissions reduction target is an interim-year goal to make it possible to reach the ultimate goal of reducing emissions 80 percent under 1990 levels by 2050. The order directs CARB to provide a plan with specific regulations to reduce statewide sources of

GHG emissions. On January 20, 2017, CARB released the 2017 Scoping Plan Update. The 2017 Scoping Plan Update provides strategies for achieving the 2030 target established by EO B-30-15 and codified in SB 32. The 2017 Scoping Plan Update recommends local plan-level GHG emissions reduction goals.

The 2019 CAP Update focuses on the 2030 GHG emissions reduction target and provides a framework for long-term GHG emissions reductions toward the ultimate 2050 goal. Based on the 2019 CAP Update, GHG emissions in the County were 4,905,518 MT CO_2e in 2017, which was a 30 percent decrease from baseline (2008) emissions of 7,012,938 MT CO_2e. Unmitigated GHG emissions in the unincorporated portions of the County would total 5,158,305 MT CO_2e in 2020, a 5 percent increase over 2017 emissions, which would meet the 15 percent below baseline levels reduction target. By 2030, communitywide emissions are expected to increase to 30 percent over 2017 levels to 6,368,781 MT CO_2e. Consistent with EO B-30-15 and SB 32, the County has identified a 49 percent community reduction target below baseline emissions by 2030. By 2050, communitywide emissions are expected to increase to 130 percent over 2017 levels to 11,305,026 MT CO_2e. Consistent with AB 32, the County has identified an 83 percent community reduction target below baseline emissions by 2050.

By implementing existing State reduction programs (i.e., Renewable Portfolio Standard [RPS], updates to Title 24 Energy Efficiency Standards, and the implementation of the Low Carbon Fuel Standard [LCFS] and Clean Car Fuel Standard, commonly referred to as the Pavley Standard), the County is projected to reduce emissions to 4,861,256 MT CO_2e by 2020, which makes emissions in 2020 approximately 1 percent lower than 2017 levels, and to 4,102,109 MT CO_2e in 2030, which is 16 percent lower than 2017 levels. In the long-term, the existing State reduction programs would reduce GHG emissions to 4,175,146 MT CO_2e by 2050, which is 15 percent lower than 2017 levels.

Implementation of the GHG emissions reduction measures from the 2019 CAP Update is projected to result in a further emissions reduction of 1,667,460 MT CO_2e by 2030 and 3,612,416 MT CO_2e by 2050. Total adjusted community emissions, which include reductions from both the 2019 CAP Update measures and the State and local reduction programs, would be 2,434,649 MT CO_2e by 2030, which exceeds the 49 percent below 2008 levels reduction target of 3,576,598 MT CO_2e for 2030, and 562,730 MT CO_2e by 2050, which exceeds the 83 percent below 2008 levels reduction target of 1,192,199 MT CO_2e for 2050. Therefore, GHG emissions would meet the applicable AB 32, SB 32, and EO B-30-15 targets.

Proposed 2019 CAP Update measures would achieve these reductions by decreasing energy consumption in existing and new residential and commercial buildings, increasing water efficiency, increasing awareness of sustainability issues, reducing landfilled waste, promoting clean energy use, expanding sustainable transportation options, optimizing vehicular travel, and applying CEQA screening tables on new developments.

Consistent with Mitigation Measure 4.7.A-N3 in the 2015 General Plan Amendment EIR, the 2019 CAP Update serves as the post-2020 Climate Action Plan update and includes specific targets for GHG reductions for 2030 and 2050 consistent with broader State and federal reduction targets and with the scientific understanding of the needed reductions by 2050.

Consistent with the Partial Settlement Agreement,[8] the 2019 CAP Update includes specific considerations for EV charging stations, on-site renewable energy generation, and high efficiency traffic signal lights. Additionally, the 2019 CAP Update serves as an update to the County's GHG inventory in accordance with the Partial Settlement Agreement's four-year (quadrennial) inventory update requirement in order to review the effectiveness of specific measures in the CAP and revise associated point values in the screening tables according to available evidence. If measures included in the prior CAP are found to be ineffective, they are removed or revised in the subsequent CAP Update pursuant to the Partial Settlement Agreement.

Accordingly, the 2019 CAP Update incorporates Mitigation Measure 4.7.A-N3 of the 2015 General Plan Amendment, facilitates County monitoring of CAP reduction measures, and includes provisions for revisions and/or amendments to the CAP as needed based upon the results of monitoring to ensure achievement of the 2030 Reduction Target. Though compliance with the Partial Settlement Agreement's quadrennial GHG inventory update requirement, the CAP will ensure a post-2030 GHG reduction plan commensurate with concurrent technology, regulations, and baseline conditions to establish a specific target for GHG reductions for 2050. The target must be consistent with broader State and federal reduction targets including Executive Order S-3-05 and with the scientific understanding of the needed reductions by 2050. Through the process of updating the CAP every four years, GHG reduction measures will continue refinement to achieve the 2050 reduction target, and an updated monitoring system will ensure that the updated targets are achieved.

The 2019 CAP Update includes new and enhanced GHG reduction measures compared to 2015 CAP, which would further reduce GHG emissions within unincorporated portions of the County. Because quadrennial updates to the County CAP and refinement of GHG reduction measures are required in accordance with the Partial Settlement Agreement and Mitigation Measure 4.7.A-N3 prescribed in the 2015 General Plan EIR, implementation of the 2019 CAP Update would not generate new significant impacts or increase the severity of previously identified significant impacts. However, the 2050 reduction target could not be achieved until the State adopts a plan with regulations geared toward achieving 2050 emissions and the County adopts a subsequent CAP update designed to comply with those regulations. Therefore, GHG impacts from implementation of the 2019 CAP Update would be less severe than those identified for the Approved Project but still remain *significant and unavoidable*.

b)	Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☐	☒

[8] Partial Settlement Agreement, 2017. Petitioners: Sierra Club, Center for Biological Diversity, San Bernardino Audubon Society and Respondents: County of Riverside and Riverside County Board of Supervisors.

4.6.b) Approved Project Analysis. The 2015 General Plan Amendment EIR indicated that, with the implementation of and compliance with the existing regulatory programs, General Plan and General Plan Amendment policies, and 2015 CAP, as well as Mitigation Measures 4.7.A-N1 and 4.7.A-N2, development authorized pursuant to the General Plan Amendment would have less than significant impacts related to reducing GHG emissions to achieve the AB 32 and SB 375 reduction targets. However, implementation of and compliance with the existing regulatory programs, General Plan and General Plan Amendment policies, and the 2015 CAP, as well as new Mitigation Measures 4.7.A-N1 and 4.7.A-N2, would not achieve the 2050 goal in Executive Order S-3-05 and achievement of that goal was technologically infeasible at the time of the 2015 General Plan Amendment EIR. Mitigation Measure 4.7.A-N3 commits the County to developing a post-2020 CAP that demonstrates achievement of 2035 and 2050 reduction targets and that the post-2020 CAP is adopted by January 1, 2020. This allows time for the development of policies and technologies needed to achieve the 2050 goal and the County time to provide a post-2020 CAP in sync with the State goals and reductions.

Because achievement of the 2050 reduction target in Executive Order S-3-05 is technologically infeasible to achieve, the 2015 General Plan Amendment EIR concluded that impacts related to GHG emissions were *significant and unavoidable*.

2019 CAP Update Analysis. As described in response to Checklist Question 4.6.a above, consistent with Mitigation Measure 4.7.A-N3 in the 2015 General Plan Amendment EIR and the Partial Settlement Agreement, the 2019 CAP Update serves as the post-2020 Climate Action Plan update, facilitates County monitoring of CAP reduction measures, and includes provisions for revisions and/or amendments to the CAP as needed based upon the results of monitoring to ensure achievement of the 2030 Reduction Target. Though compliance with the Partial Settlement Agreement's quadrennial GHG inventory update requirement, the CAP will ensure a post-2030 GHG reduction plan commensurate with concurrent technology, regulations, and baseline conditions to establish a specific target for GHG reductions for 2050. The target must be consistent with broader State and federal reduction targets including Executive Order S-3-05 and with the scientific understanding of the needed reductions by 2050. Through the process of updating the CAP every four years, GHG reduction measures will continue refinement to achieve the 2050 reduction target, and an updated monitoring system will ensure that the updated targets are achieved.

The 2019 CAP Update includes new and enhanced GHG reduction measures compared to 2015 CAP, which would further reduce GHG emissions within the County and would not conflict with any applicable plans, policies, or regulations. Because quadrennial updates to the County CAP and refinement of GHG reduction measures are required in accordance with the Partial Settlement Agreement and Mitigation Measure 4.7.A-N3 prescribed in the 2015 General Plan EIR to achieve GHG reduction targets pursuant to SB 32, implementation of the 2019 CAP Update would not generate new significant impacts or increase the severity of previously identified significant impacts. However, the 2050 reduction target could not be achieved until the State adopts a plan with regulations geared toward achieving 2050 emissions and the County adopts a subsequent CAP update designed to comply with those regulations. Therefore, GHG impacts from implementation of the 2019 CAP Update would be less severe than those identified for the Approved Project but still remain *significant and unavoidable.*

4.7 BIOLOGICAL RESOURCES

Would the project:

a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.7.a) Approved Project Analysis. Implementation of the General Plan would increase developed uses in Riverside County, affecting riparian or other sensitive habitats in various areas. Western Riverside County has nine sensitive habitat types. Seven of the nine sensitive habitats, totaling approximately 7 percent of western Riverside County's sensitive habitat, have the potential to be affected by development. There are eight major natural communities within areas not subject to habitat conservation plans (the eastern third of the County), of which three have the potential to be impacted. Collectively, potential impacts could occur to grasslands, playas, riparian scrub, woodlands and forests, Riversidean alluvial fan sage scrub communities, and aquatic habitats (water) if development is not implemented in accordance with regulatory policies, General Plan Policies, and mitigation measures.

Compliance with existing regulatory policies, which include Sections 401, 402 and 404 of the Federal Clean Water Act, Section 1600 *et seq.* of the California Fish and Game Code, and the multiple-species habitat conservation plans for western Riverside County and the Coachella Valley, would reduce impacts to habitats from development. Additionally, General Plan policies (LU 7.7, 9.1, 9.2, C 20.9, OS 5.1, 5.2, 5.3, 5.5, 5.6, 6.1, 6.2, 9.3, 9.4, 17.1, 17.2, 18.1, 18.3, 18.4, and 20.2) and Mitigation Measures 4.8.A-N1 and 4.8.A-N2 require site-specific evaluations of future projects implemented under the General Plan. In accordance with these policies and mitigation measures, projects found to impact riparian habitats and sensitive natural communities must incorporate project- and site-specific mitigation measures to reduce impacts pursuant to CEQA. Through compliance with applicable regulatory policy, habitat conservation plans, General Plan Policies, and Mitigation Measures 4.8.A-N1 and 4.8.A-N2, impacts on riparian habitats and sensitive natural communities would be *less-than-significant with mitigation incorporated.*

2019 CAP Update Analysis. Discretionary projects in the County must be developed consistent with all applicable regulatory policies, habitat conservation plans (e.g., Western Riverside County and Coachella Valley Multiple Species Habitat Conservation Plans), General Plan policies, and mitigation measures designed to protect riparian habitats and sensitive natural communities with or without development and implementation of the 2019 CAP Update. Although the 2019 CAP Update is designed as a stand-alone GHG policy document, it would be utilized as a companion document to the County General Plan to provide a more comprehensive and detailed framework for land use-based policy decisions to reduce GHG emissions from existing and future development. Any future projects proposed pursuant to

the 2019 CAP Update would be developed in accordance with General Plan policies for habitat conservation while maximizing efficient use of resources, maintaining a high quality of life, enhancing job opportunities, promoting sustainability, and facilitating access to transportation facilities.

If future projects facilitated under the 2019 CAP Update occur on sites containing riparian habitats and sensitive natural communities, project- and site-specific assessments would be required in accordance with Mitigation Measures 4.8.A-N1 and 4.8.A-N2 to ensure appropriate project-level mitigation is implemented as necessary. Therefore, future development implemented in accordance with the 2019 CAP Update would have impacts similar to those (i.e., *less-than-significant with mitigation incorporated*) identified under the Approved Project regarding riparian habitats and sensitive natural communities.

b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.7.b) Approved Project Analysis. Implementation of the General Plan would increase developed uses in Riverside County, which could affect endangered, candidate, and/or special-status species protected under federal, State, and local laws. Grading and other land-disturbing activities from implementation of the General Plan would cause direct impacts to these species. Indirect impacts such as disturbed breeding, feeding, nesting, or foraging behaviors; loss of foraging habitat; loss of food sources; loss of burrows; and loss of nesting or roosting habitat would also occur due to construction.

The Federal and California Endangered Species Acts (FESA and CESA), Federal Clean Water Act (CWA), Migratory Bird Treaty Act (MBTA), California Fish and Game Code, Native Plant Protection Act, and the Natural Community Conservation Planning Act (Multiple Species Habitat Conservation Plans for western Riverside County, the Coachella Valley, and Stephens' kangaroo rat) are regulatory policies designed to protect candidate, sensitive, and special-status species.

There are 349 species in Riverside County of special or sensitive status under FESA, CESA, and/or California Native Plant Society (CNPS) designation. Species that are listed as endangered or threatened under FESA and species proposed or candidates for listing under CESA are also considered. Species that are covered by regional habitat conservation plans within Riverside County are also included. Of the 349 protected species, 146 species are addressed under the Multiple Species Habitat Conservation Plan for western Riverside County and 27 under the Multiple Species Habitat Conservation Plan for Coachella Valley. Through implementation of these plans, impacts to covered species would be less than significant.

Future projects would be required to be consistent with applicable federal, State, and local regulations, as well as General Plan Policies C 20.9, OS 5.1, 5.6, 6.2, 9.3, 9.4, 20.2, 5.3, 17.1, 17.2, 18.1, and 18.3. Additionally, Mitigation Measure 4.8.B-N1 requires site-specific evaluations of future projects implemented under the General Plan. With implementation of and compliance with applicable regulations, habitat conservation plans, General Plan Policies, and Mitigation Measure 4.8.B-N1, impacts to endangered, candidate, and/or special-status species would be *less-than-significant with mitigation incorporated.*

2019 CAP Update Analysis. Discretionary projects in the County must be developed consistent with all applicable regulatory policies, habitat conservation plans (e.g., Western Riverside County and Coachella Valley Multiple Species Habitat Conservation Plans), General Plan policies, and mitigation measures designed to protect endangered, candidate, and/or special-status species with or without development and implementation of the 2019 CAP Update. Although the 2019 CAP Update is designed as a stand-alone GHG policy document, it would be utilized as a companion document to the County General Plan to provide a more comprehensive and detailed framework for land-based policy decisions to reduce GHG emissions from existing and future development. Any future projects proposed pursuant to the 2019 CAP Update would be developed in accordance with General Plan policies for species protection while maximizing efficient use of resources, maintaining a high quality of life, enhancing job opportunities, promoting sustainability, and facilitating access to transportation facilities.

If future projects facilitated under the 2019 CAP Update occur on sites containing endangered, candidate, and/or special-status species, project- and site-specific assessments would be required in accordance with Mitigation Measure 4.8.B-N1 to ensure appropriate project-level mitigation is implemented as necessary. Therefore, future development implemented in accordance with the 2019 CAP Update would have impacts similar to those (i.e., *less-than-significant with mitigation incorporated*) identified under the Approved Project regarding endangered, candidate, and/or special status-species.

c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.7.c) Approved Project Analysis. Implementation of the General Plan would increase urban uses in Riverside County, affecting federally protected wetlands through removal, filling, and hydrological interruption. These effects can occur during construction activities such as clearing and grubbing, grading, paving, and building for new development, redevelopment and construction of roads, flood control projects, and other infrastructure.

Unincorporated areas of Riverside County comprise approximately 471,400 acres of wetlands. Implementation of the General Plan would affect approximately 5,000 acres of these wetlands through future development near or within the watershed of any of these

areas. Impacts to wetlands would be addressed through federal, State, and County regulations, Multiple Species Habitat Conservation Plans for western Riverside County and the Coachella Valley, General Plan Policies (LU 7.7, 9.1, 9.2, OS 5.1, 5.2, 5.5, 5.6, 6.1, 6.2, 17.1, 17.2, 18.1, 18.3, and 18.4), and Mitigation Measures 4.8.C-N1 and 4.8.C-N2. In accordance with these regulations, policies, and mitigation measures, project- and site-specific evaluations of riparian/riverine areas and federally-protected wetlands would be required and appropriate mitigation prescribed (up to and including permitting pursuant to Sections 404 and 401 of the CWA and Section 1600 et seq. of the California Fish and Game Code) where impacts would be determined to be significant. Compliance with the CWA, California Fish and Game Code Sections 1600 through 1603, Multiple Species Habitat Conservation Plans for western Riverside County and the Coachella Valley, General Plan policies, and Mitigation Measures 4.8.C-N1 and 4.8.C-N2 would reduce impacts to riparian/ riverine areas and federally-protected wetlands to *less-than-significant with mitigation incorporated.*

2019 CAP Update Analysis. Discretionary projects in the County must be developed consistent with all applicable regulatory policies, habitat conservation plans (e.g., Western Riverside County and Coachella Valley Multiple Species Habitat Conservation Plans), General Plan policies, and mitigation measures designed to protect riparian/riverine areas and federally-protected wetlands with or without development and implementation of the 2019 CAP Update. Although the 2019 CAP Update is designed as a stand-alone GHG policy document, it would be utilized as a companion document to the County General Plan to provide a more comprehensive and detailed framework for land-based policy decisions to reduce GHG emissions from existing and future development. Any future projects proposed pursuant to the 2019 CAP Update would be developed in accordance with General Plan Policies for riparian/riverine/wetlands protection while maximizing efficient use of resources, maintaining a high quality of life, enhancing job opportunities, promoting sustainability, and facilitating access to transportation facilities.

If future projects facilitated under the 2019 CAP Update occur on sites containing riparian/ riverine areas and federally-protected wetlands, project- and site-specific assessments would be required in accordance with Mitigation Measures 4.8.C-N1 and 4.8.C-N2 to ensure appropriate project-level mitigation is implemented as necessary up to and including permitting pursuant to Sections 404 and 401 of the CWA and Section 1600 et seq. of the California Fish and Game Code. Therefore, future development implemented in accordance with the 2019 CAP Update would have impacts similar to those (i.e., *less-than-significant with mitigation incorporated*) identified under the Approved Project regarding riparian/ riverine areas and federally-protected wetlands.

d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.7.d) Approved Project Analysis. Implementation of the General Plan would increase urban uses in the County, affecting the movement and migration of wildlife species, as well as wildlife corridors and the use of native wildlife nursery sites. Impacts to wildlife movement and migration would be mitigated with corridors and linkages established through project-specific compliance with Multiple Species Habitat Conservation Plans for western Riverside County, Coachella Valley, and the Stephens' kangaroo rat. Within the conservation plan areas, development would result in lower densities, so no significant interference with wildlife movement, corridors, or nursery sites would occur in areas not subject to habitat conservation plans.

The Western Riverside County Multiple Species Habitat Conservation Plan includes 20 core areas and 10 noncontiguous habitat blocks linked together by 19 linkages and 29 constrained linkages. Development within these areas has the potential for direct and indirect impacts. Direct impacts to wildlife corridors occur from blockage of linkages that affects movement and results in loss of visual continuity within a linkage or corridor. Programs are in place within both Multiple Species Habitat Conservation Plans (for Western Riverside County and the Coachella Valley) that prevent adverse effects on wildlife movement and corridors. With the conservation measures incorporated for corridors, the two conservation plans ensure protection so that future development within the County would not substantially interfere with wildlife movement or corridors.

Direct impacts to nursery sites would include removal of habitat to accommodate land development and infrastructure. Indirect impacts may result from noise, lighting, and changes in drainage patterns, introduction of pests or domestic animals, and other edge effects. The Multiple Species Habitat Conservation Plans for western Riverside County and the Coachella Valley are designed by State and federal permitting authorities to require adequate buffer zones and implementation of site design principles to minimize indirect impacts that could result from noise, lighting, and changes in drainage patterns, and/or introduction of pests or domestic animals.

Impacts to movement and migration of wildlife species, wildlife corridors, and the use of native wildlife nursery sites would be addressed through federal, State, and County regulations, Multiple Species Habitat Conservation Plans for western Riverside County and the Coachella Valley, General Plan policies, and Mitigation Measures 4.8.B-N1 and 4.8.D-N1. In accordance with these regulations, policies, and mitigation measures, project- and site-specific evaluations of movement and migration of wildlife species, wildlife corridors, and the use of native wildlife nursery sites would be required and appropriate mitigation prescribed where impacts would be determined to be significant. Compliance with the FESA,

MBTA, CESA, CWA, California Fish and Game Code Sections 1600 through 1603, Multiple Species Habitat Conservation Plans for western Riverside County, the Coachella Valley, and Stephens' kangaroo rat, General Plan Policies (LU 7.7, 9.1, 9.2, OS 5.1, 5.2, 5.5, 5.6, 6.1, 6.2, 17.1, 17.2, 18.1, 18.3 and 18.4), and Mitigation Measures 4.8.B-N1 and 4.8.D-N1 would reduce impacts to movement and migration of wildlife species, wildlife corridors, and the use of native wildlife nursery sites to *less-than-significant with mitigation incorporated.*

2019 CAP Update Analysis. Discretionary projects in the County must be developed consistent with all applicable regulatory policies, habitat conservation plans (e.g., Western Riverside County and Coachella Valley Multiple Species Habitat Conservation Plans), General Plan policies, and mitigation measures designed to protect movement and migration of wildlife species, wildlife corridors, and the use of native wildlife nursery sites with or without development and implementation of the 2019 CAP Update. Although the 2019 CAP Update is designed as a stand-alone GHG policy document, it would be utilized as a companion document to the County General Plan to provide a more comprehensive and detailed framework for land-based policy decisions to reduce GHG emissions from existing and future development. Any future projects proposed pursuant to the 2019 CAP Update would be developed in accordance with General Plan Policies for protection of wildlife migration, corridor, and nursery sites while maximizing efficient use of resources, maintaining a high quality of life, enhancing job opportunities, promoting sustainability, and facilitating access to transportation facilities.

If future projects facilitated under the 2019 CAP Update occur on sites containing wildlife migration, corridor, and nursery sites, project- and site-specific assessments would be required in accordance with Mitigation Measures 4.8.B-N1 and 4.8.D-N1 to ensure appropriate project-level mitigation is implemented as necessary up to and including provision of buffer zones and implementation of site design principles to minimize direct and indirect effects. Therefore, future development implemented in accordance with the 2019 CAP Update would have impacts similar to those (i.e., *less-than-significant with mitigation incorporated*) identified under the Approved Project regarding wildlife migration, corridor, and nursery sites.

e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.7.e) Approved Project Analysis. Implementation of the General Plan would increase urban uses in Riverside County. There is a potential for development to conflict with local policies protecting biological resources, such as Riverside County's Oak Tree Management Guidelines. Development could affect approximately 5,300 acres of oak woodlands. Impacts to oak trees would occur mainly within land administered by the Western Riverside County Multiple Species Habitat Conservation Plan, comprising approximately 8 percent of the total oak habitat within the County. Accordingly, the Riverside County's Oak Tree Management

Guidelines would be implemented within the oak resource areas. Additionally, Riverside County Ordinance No. 559, which regulates tree removal, would further ensure the preservation of Riverside County's timberlands. Compliance with the Riverside County Oak Tree Management Guidelines, Riverside County Ordinance No. 559, and General Plan Policies OS 9.3 and 9.4 would ensure conflicts with local policies or ordinances protecting biological resources would be *less-than-significant.* No mitigation is required.

2019 CAP Update Analysis. Discretionary projects in the County must be developed consistent with applicable habitat conservation plans (e.g., Western Riverside County and Coachella Valley Multiple Species Habitat Conservation Plans) designed to protect biological resources with or without development and implementation of the 2019 CAP Update. Although the 2019 CAP Update is designed as a stand-alone GHG policy document, it would be utilized as a companion document to the County General Plan to provide a more comprehensive and detailed framework for land-based policy decisions to reduce GHG emissions from existing and future development.

All future projects facilitated under the 2019 CAP Update would be subject to compliance with Riverside County's Oak Tree Management Guidelines and Ordinance No. 559 for the preservation of the County's timberlands on which projects would be conditioned for approval. Additionally, any future projects proposed pursuant to the 2019 CAP Update would be developed in accordance with the Western Riverside County and/or Coachella Valley Multiple Species Habitat Conservation Plans for protection of biological resources while maximizing efficient use of resources, maintaining a high quality of life, enhancing job opportunities, promoting sustainability, and facilitating access to transportation facilities. Therefore, future development implemented in accordance with the 2019 CAP Update would have impacts similar to those (i.e., *less-than-significant*) identified under the Approved Project regarding biological resources protected under local regulations. No mitigation was identified in the 2015 General Plan Amendment EIR, and no mitigation is required for the proposed 2019 CAP Update.

f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.7.f) Approved Project Analysis. Implementation of the General Plan would increase urban uses in areas covered by the Multiple Species Habitat Conservation Plans for western Riverside County, the Coachella Valley, and Stephens' kangaroo rat. These habitat conservation plans are part of Riverside County's General Plan Open Space and Conservation Element. Policies within the General Plan (i.e., C 20.9, OS 5.1, 5.3, 5.6, 6.2, 9.3, 9.4, 17.1, 17.2, 18.1, 18.3, and 20.2) require consistency with habitat conservation plans to ensure no conflicts occur between proposed development and measures to protect biological resources. Implementation of the General Plan does not affect or make any changes to the County's habitat conservation plans or to how they are implemented.

Furthermore, compliance with the County's habitat conservation plans is mandatory through Riverside County-required conditions of approval for all discretionary projects. Therefore, development in accordance with the County General Plan inherently is consistent with the Multiple Species Habitat Conservation Plans for western Riverside County, the Coachella Valley, and Stephens' kangaroo rat. Impacts would be *less-than-significant* and no mitigation was required.

2019 CAP Update Analysis. All discretionary projects in the County must be developed consistent with the County General Plan and Multiple Species Habitat Conservation Plans for western Riverside County, Coachella Valley, and Stephens' kangaroo rat with or without development and implementation of the 2019 CAP Update. In the same manner as the Approved Project, the 2019 CAP Update will be subject to existing regulations, as well as applicable policies outlined in the County's General Plan to ensure future development consistent with applicable habitat conservation plans and natural community conservation plans. Compliance with the County's habitat conservation plans is mandatory through Riverside County-required conditions of approval for all discretionary projects. Therefore, impacts to conflicts with habitat conservation plans or natural community conservation plans from implementation of the 2019 CAP Update would be the same as those for the Approved Project (i.e., *less-than-significant*) and no mitigation is required.

4.8 CULTURAL RESOURCES

Would the project:

a)	Cause a substantial adverse change in the significance of historical resources as defined in CCR §15064.5?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.8.a) Approved Project Analysis. Buildout of the 2015 General Plan Amendment has the potential to affect four known historical resources as defined in §15064.5 of the *CEQA Guidelines*, as well as possibly several currently unknown historical resources throughout unincorporated portions of Riverside County. As future development in accordance with the 2015 General Plan Amendment occurs, projects would be subject to compliance with the National Historic Preservation Act (NHPA), Native American Graves Protection and Repatriation Act (NAGPRA), actions by the U.S. Army Corps of Engineers (Appendix C of Title 33 CFR Section 325), Traditional Tribal Cultural Places Act (Government Code Section 65352.3), Public Resources Code Section 5097, CEQA, and Riverside County Ordinance No. 578 – Historic Preservation Districts in order to ensure that substantial adverse changes in the significance of historical resources would be less than significant. Additionally, General Plan Policies OS 19.2 through 19.5 and LU 4.5 will require projects to undergo site and plan check review by the County Planning Department to ensure protection for sensitive historical resources through the development process of each project. Finally, Mitigation Measure 4.7.1B prescribes provisions for avoidance of cultural resources where feasible. Through adherence to federal, State, and local regulations, General Plan policies, and

Mitigation Measure 4.7.1B, impacts to historical resources from implementation of the 2015 General Plan Amendment would be reduced to *less-than-significant* levels.

2019 CAP Update Analysis. Consistent with the Approved Project, future development that would implement GHG reduction measures of the 2019 CAP Update could result in changes that affect historic structures or the historic character of neighborhoods or districts. Actions that could directly affect historical structures include energy retrofits (2019 CAP Update Measures R2-EE4 for residential and R2-EE9 and R2-EE11 for non-residential facilities) on existing historic structures and other buildings located within the setting and context of historic districts. Additionally, the required installation of solar panels on new residential and commercial buildings (2019 CAP Update Measure R2-CE1) could potentially alter the integrity of a historic building or district's setting, design, materials, workmanship, or other physical identity that conveys the values that render a cultural resource significant under CEQA. However, details of the potential construction activities are unknown and the *CEQA Guidelines* require a project that would have potentially adverse impacts on historical resources to conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties.

Future development projects that would implement the GHG reduction measures outlined in the 2019 CAP Update would require permits from the County, which would include a development review process to preserve the historic integrity of significant cultural resources in accordance with County Design Guidelines. This requirement is codified in General Plan Policies OS 19.2 through 19.5 and LU 4.5 and would ensure solar panels and energy retrofits prescribed under the 2019 CAP Update would be reviewed on a project- and site-specific basis in accordance with applicable federal, State, and local regulations, as well as Mitigation Measure 4.7.1B, to reduce impacts on historical resources. Therefore, impacts would be the same as those identified for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR §15064.5?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.8.b) Approved Project Analysis. Buildout of the 2015 General Plan Amendment has the potential to affect several known and unknown archaeological resources throughout unincorporated portions of Riverside County. As future development in accordance with the General Plan occurs, projects would be subject to compliance with the National Historic Preservation Act (NHPA), Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), actions by the U.S. Army Corps of Engineers (Appendix C of Title 33 CFR Section 325), Traditional Tribal Cultural Places Act (Government Code Section 65352.3), Public Resources Code Section 5097, CEQA, and Riverside County Ordinance No. 578 – Historic Preservation Districts in order to ensure that substantial adverse changes in the significance of archaeological resources would be less than significant. Additionally, General Plan Policies

OS 19.2 through 19.5 and LU 4.5 will require projects to undergo site and plan check review by the County Planning Department to ensure protection for sensitive archaeological resources through the development process of each project. Mitigation Measure 4.7.1B prescribes provisions for avoidance of cultural resources where feasible. Where avoidance is determined infeasible, Mitigation Measure 4.9.B-N1 is prescribed to ensure cultural resources are managed through consultation with Native American tribal (or other appropriate ethnic/cultural group) representative(s), the Riverside County Archaeologist, the Planning Director, and project applicant prior to commencement of further ground disturbance in the immediate vicinity. Through adherence to federal, State, and local regulations, General Plan policies, and Mitigation Measures 4.7.1B and 4.9.B-N1, impacts to archaeological resources from implementation of the 2015 General Plan Amendment would be reduced to *less-than-significant with mitigation incorporated* .

2019 CAP Update Analysis. Consistent with the Approved Project, future development that would implement GHG reduction measures of the 2019 CAP Update would result in ground-disturbing activities that could affect archaeological resources. However, the 2019 CAP Update does not propose project- or site-specific developments, so ground-disturbing activities of future development projects would occur with or without implementation of the 2019 CAP Update. Actions that could directly affect archaeological resources include grading, excavation, or other ground-disturbing activities.

Future development projects that would implement the GHG reduction measures outlined in the 2019 CAP Update would require permits from the County, which would include a development review process to consider archaeological resources that may be encountered during project construction. This requirement is codified in General Plan Policies OS 19.2 through 19.5 and LU 4.5 and would ensure unanticipated encounters with archaeological resources are managed pursuant to applicable federal, State, and local regulations, as well as Mitigation Measures 4.7.1B and 4.9.B-N1 on a project- and site-specific basis to reduce impacts on archaeological resources. Additionally, consultation with interested Native American tribes would be required pursuant to California Public Resources Code 21080.3.1 and 21080.3.2 for projects so defined under California Public Resources Code § 21065. Therefore, impacts would be the same as those identified for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.8.c) Approved Project Analysis. Implementation of the 2015 General Plan Amendment would not directly destroy a unique paleontological resource or site or unique geologic feature, but future development projects facilitated under the 2015 General Plan Amendment as proposed could result in ground-disturbing activities that affect paleontological resources or unique geologic features. Actions that could directly affect

paleontological resources or unique geologic features include grading, excavation, or other ground-disturbing activities.

As future development in accordance with the 2015 General Plan Amendment occurs, projects would be subject to compliance with the Paleontological Resources Preservation Act (PRPA), actions by the U.S. Army Corps of Engineers (Appendix C of Title 33 CFR Section 325), Public Resources Code Section 5097, and CEQA in order to ensure that impacts to unique paleontological resources and geological features would be less than significant. Additionally, General Plan Policies OS 19.6 through 19.9 will require projects to undergo site and plan check review by the County Planning Department to ensure protection for paleontological resources through the development process of each project. Through adherence to federal, State, and local regulations, and General Plan Policies, impacts to paleontological resources or unique geologic features from implementation of the General Plan would be *less-than-significant*. No mitigation is required.

2019 CAP Update Analysis. Consistent with the Approved Project, future development that would implement GHG reduction measures of the 2019 CAP Update would result in ground-disturbing activities that could affect paleontological resources. However, the 2019 CAP Update does not propose project- or site-specific developments, so ground-disturbing activities of future development projects would occur with or without implementation of the 2019 CAP Update. Actions that could directly affect paleontological resources include grading, excavation, or other ground-disturbing activities.

Future development projects that would implement the GHG reduction measures outlined in the 2019 CAP Update would require permits from the County, which would include a development review process to consider paleontological resources that may be encountered during project construction. This requirement is codified in General Plan Policies OS 19.6 through 19.9 and would ensure unanticipated encounters with paleontological resources are managed pursuant to applicable federal, State, and local regulations on a project- and site-specific basis to reduce impacts on paleontological resources. Therefore, impacts would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation measures were identified in the 2015 General Plan Amendment EIR and no new mitigation measures are required for the 2019 CAP Update regarding paleontological resources.

d)	Disturb any human remains, including those interred outside of formal cemeteries?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.8.d) Approved Project Analysis. The County is home to multiple Native American tribes, who had inhabited the area for many hundreds, if not thousands, of years. Development proposed under the County General Plan could result in major earthmoving

activities in previously undisturbed areas or in areas known to contain archaeological resources and possible human remains.

As future development in accordance with the 2015 General Plan Amendment occurs, projects would be subject to compliance with the NHPA, NAGPRA, actions by the U.S. Army Corps of Engineers (Appendix C of Title 33 CFR Section 325), Traditional Tribal Cultural Places Act (Government Code Section 65352.3), Public Resources Code Section 5097, CEQA, California Health and Safety Code Section 7050.5, and California Public Resources Code Section 5097.98 in order to ensure that any encounters with human remains and/or burial goods are managed with dignity and respect. Additionally, General Plan Policies OS 19.2 through 19.5 will require projects to undergo site and plan check review by the County Planning Department to ensure protection for burials and associated grave goods through the development process of each project. Mitigation Measure 4.7.1A requires compliance with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98 in order to ensure appropriate lineal descendants are engaged for the respectful and dignified handling of human remains and associated grave goods. Additionally, Mitigation Measure 4.7.1B prescribes provisions for avoidance of cultural resources where feasible. Through adherence to federal, State, and local regulations, General Plan policies, and Mitigation Measures 4.7.1A and 4.7.1B, impacts to human remains from implementation of the General Plan would be reduced to *less-than-significant with mitigation incorporated* .

2019 CAP Update Analysis. Consistent with the Approved Project, future development that would implement GHG reduction measures of the 2019 CAP Update would result in ground-disturbing activities that could affect human remains and associated grave goods. However, the 2019 CAP Update does not propose project- or site-specific developments, so ground-disturbing activities of future development projects would occur with or without implementation of the 2019 CAP Update. Actions that could directly affect human remains and associated grave goods include grading, excavation, or other ground-disturbing activities.

Future development projects that would implement the GHG reduction measures outlined in the 2019 CAP Update would require permits from the County, which would include a development review process to ensure protection for burials and associated grave goods that may be encountered during project construction. This requirement is codified in General Plan Policies OS 19.2 through 19.5 and would ensure unanticipated encounters with human remains are managed pursuant to applicable federal, State, and local regulations, as well as Mitigation Measures 4.7.1A and 4.7.1B on a project- and site-specific basis to reduce impacts on human remains. Therefore, impacts would be the same as those identified for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

4.9 ENERGY RESOURCES

Would the project:

a)	Require or result in substantial adverse physical impacts associated with the provision of new or physically altered utilities, such as electricity production or transmission facilities, the need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.9.a) Approved Project Analysis. Per the 2015 General Plan Amendment EIR, future land use and policy changes associated with 2015 General Plan Amendment buildout would result in less intense development than planned by the original General Plan. Therefore, the Approved Project would not result in an increased demand for electricity over current plans. The site-specific land use changes proposed under the Approved Project may introduce new development or intensify existing development on vacant or less developed lands, but the increase in demand for provision of utilities would be minimal and insignificant. The Approved Project would not trigger the need for new or altered facilities or result in any substantial impacts due to construction of new facilities.

Compliance with applicable State and County regulations (e.g., Compliance with Title 24 Energy Efficiency and other energy efficiency and conservation standards), energy conservation measures identified in the County's 2015 CAP, General Plan Policies OS 10.1, 10.2, 11.2, 11.3, 11.4, 12.1 through 12.4, and 16.1 through 16.13, AQ 4.2 through 4.4, 5.2 through 5.4, 20.10 through 20.12, 20.18 through 20.21, and 20.8, and Mitigation Measures 4.8.1A and 4.8.1B would reduce impacts to electricity resources and infrastructure arising out of increased energy demands to *less-than-significant with mitigation incorporated.*

2019 CAP Update Analysis. Consistent with the Approved Project, buildout of the 2015 General Plan Amendment with implementation of the 2019 CAP Update would have similar impacts associated with increased demands for electricity. The 2019 CAP Update identifies the GHG reduction measures related to energy efficiency. The R1 and R2 energy efficiency measures (refer to Table A) require project developers in both residential and commercial sectors to comply with the latest federal, State, and County energy efficiency and conservation regulations and standards. The R2 energy efficiency measures also provide strategies for reduction of energy consumption, as well as energy efficiency enhancements at the local level. Therefore, implementation of the 2019 CAP Update GHG reduction measures and compliance with relevant State and County regulations, General Plan Policies OS 10.1, 10.2, 11.2, 11.3, 11.4, 12.1 through 12.4 and 16.1 through 16.13, AQ 4.2 through 4.4, 5.2 through 5.4, 20.10 through 20.12, 20.18 through 20.21, and 20.8, and Mitigation Measures 4.8.1A and 4.8.1B would reduce impacts to electricity resources and infrastructure arising out of increased energy demands to *less-than-significant with mitigation*

incorporated. Therefore, impacts on demand and consumption of electricity, as well as on the infrastructure and facilities that supply the electricity, associated with the 2019 CAP Update would be the same as those identified for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

b)	Require or result in substantial adverse physical impacts associated with the provision of new or physically altered utilities, such as natural gas production or transmission facilities, the need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.9.b) Approved Project Analysis. Per the 2015 General Plan Amendment EIR, future land use and policy changes associated with 2015 General Plan Amendment buildout would result in less intense development than planned by the original General Plan. Therefore, the Approved Project would not result in an increased demand for natural gas over current plans. The site-specific land use changes proposed under the Approved Project may introduce new development or intensify existing development on vacant or less developed lands, but these demands would lead to minimal and insignificant increase in demand for natural gas supplies. The Approved Project would not trigger the need for new or altered facilities or result in any substantial impacts due to construction of new facilities.

Compliance with various State and County regulations (e.g., Compliance with Title 24 Energy Efficiency and other energy efficiency and conservation standards), energy conservation measures identified in the County's 2015 CAP, General Plan Policies OS 5.2 through 5.4, 12.1 through 12.4, 16.1, 16.2, 16.4 through 16.7, 16.10 through 16.12, AQ 4.2 through 4.4, 18.3 through 18.5, 20.11, 20.12, 20.21, and 20.28, and Mitigation Measures 4.8.1A and 4.8.1B would reduce impacts associated with demands and consumption of natural gas to *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Consistent with the Approved Project, buildout of the 2015 General Plan Amendment with the implementation of 2019 CAP Update would have similar impacts on demand for and consumption of natural gas, as well as on the infrastructure and facilities that supply the gas. The 2019 CAP Update identifies GHG Reduction Measures related to energy efficiency. The R1 and R2 energy efficiency measures (refer to Table A) require the project developers in both residential and commercial sectors to comply with the latest federal, State, and County energy efficiency and conservation regulations and standards. The R2 energy efficiency measures also provide local strategies for energy conservation. Therefore, implementation of the 2019 CAP Update GHG reduction measures and compliance with applicable State and County regulations, General Plan Policies OS 5.2 through 5.4, 12.1 through 12.4, 16.1, 16.2, 16.4 through 16.7, 16.10 through 16.12, AQ 4.2 through 4.4, 18.3 through 18.5, 20.11, 20.12, 20.21, and 20.28, and Mitigation Measures 4.8.1A and 4.8.1B would reduce impacts associated with demands and consumption of natural gas to *less-than-significant with mitigation incorporated.* Therefore, impacts arising

from increased demands of natural gas and services associated with the 2019 CAP Update would be the same as those identified for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

c)	Result in an inefficient, wasteful or unnecessary consumption of energy?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.9.c) Approved Project Analysis. Per the 2015 General Plan Amendment EIR, buildout of the 2015 General Plan Amendment would result in less intense future development, leading to no relative increase in energy demands. The Approved Project would comply with policies and programs directly targeting energy efficiency and conservation in order to reduce GHG emissions by roughly 30 percent. Implementation of these policies and measures would ensure development associated with 2015 General Plan Amendment buildout would be more energy efficient.

Compliance with applicable State and County regulations (e.g., Compliance with Title 24 Energy Efficiency and other energy efficiency and conservation standards), General Plan Policies OS 11.1 through 11.4, 12.1 through 12.4, 16.1 through 16.13, AQ 4.2 through 4.4, 5.2 through 5.4, 13.1, 18.3 through 18.5, 20.10 through 20.12, 20.18, 20.19, 20.21, 20.27, and 20.28, and Mitigation Measure 4.8.1B, which requires all development projects to implement current Title 24 Standards, would ensure impacts related to the usage of energy, energy efficiency, and energy conservation are reduced to *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Consistent with the Approved Project, buildout of the 2015 General Plan Amendment with the implementation of 2019 CAP Update would have similar, less than significant impacts related to the usage of energy, energy efficiency, and energy conservation. The 2019 CAP Update proposes R1 and R2 GHG reduction measures (refer to Table A), which require the project developers in both residential and commercial sectors to comply with the latest federal, State, and County energy efficiency and conservation regulations and standards. The R2 energy efficiency reduction measures also provide strategies for local energy efficiency and conservation enhancements. Therefore, implementation of the 2019 CAP Update GHG Reduction Measures and compliance with applicable State and County regulations, General Plan Policies OS 11.1 through 11.4, 12.1 through 12.4 and 16.1 through 16.13, AQ 4.2 through 4.4, 5.2 through 5.4, 13.1, 18.3 through 18.5, 20.10 through 20.12, 20.18, 20.19, 20.21, 20.27, and 20.28, and Mitigation Measure 4.8.1B, which requires all development projects to implement current Title 24 Standards, would ensure impacts related to the usage of energy, energy efficiency, and energy conservation associated with the 2019 CAP Update are the same as those identified for the Approved Project (i.e*., less-than-significant with mitigation incorporated*).

4.10 FLOOD AND DAM INUNDATION EFFORTS

Would the project:

a)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.10.a) Approved Project Analysis. The 2015 General Plan Amendment EIR indicates future development in accordance with the 2015 General Plan Amendment could introduce people, property, homes, public facilities, roads, and other infrastructure to areas of mapped 100-year floods and other delineated flood hazard areas. These areas are extensively regulated pursuant to the National Flood Insurance Act, National Flood Insurance Reform Act, Cobey-Alquist Floodplain Management Act, Federal Emergency Management Agency (FEMA) Floodplain Mapping Program, National Pollution Discharge Elimination System (NPDES), Riverside County Ordinance Nos. 458, 348, 457, and 659, General Plan Policies S 4.1, 4.2, 4.3, 4.4, 4.8, 4.9, 4.10, and 4.18, and Mitigation Measures 4.9.2A, 4.9.2B, 4.9.2C, and 4.9.2D. Compliance with these regulations and mitigation measures would aid in reducing flood hazard impacts and ensure that people and property would not be exposed to significant 100-year flood hazards. Through compliance with the above-listed regulations, General Plan policies, and mitigation measures, impacts from flood hazards from implementation of the General Plan would be *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Buildout of the 2015 General Plan Amendment with the implementation of 2019 CAP Update would have impacts similar to those identified for the Approved Project regarding exposure of people, property, homes, public facilities, roads, and other infrastructure to areas of mapped 100-year floods and other delineated flood hazard areas. Consistent with the Approved Project, compliance with applicable federal, State, and County regulations, and implementation of General Plan policies and Mitigation Measures 4.9.2A, 4.9.2B, 4.9.2C, and 4.9.2D would ensure that people and property would not be exposed to significant 100-year flood hazards. Therefore, impacts resulting from housing development within flood hazard areas associated with the 2019 CAP Update would be the same as those identified for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

b)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.10.b) Approved Project Analysis. The 2015 General Plan Amendment EIR indicates buildout of the 2015 General Plan Amendment would potentially result in development in 100-year flood hazard areas. Flooding may occur that could inundate and cause water damage to structures. Impacts related to flooding may include the loss of life and/or property; health and safety hazards; disruption of commerce, water, power, and telecommunications services; loss of agricultural lands; and infrastructure damage. Without compliance with regulations and requirements to prevent improper development, this impact could be potentially significant. The 2015 General Plan Amendment EIR finds that compliance with existing regulations, including National Flood Insurance Act and National Flood Insurance Reform Act, Riverside County Ordinance Nos. 458 and 461, General Plan Policies S 4.2 through 4.9 and 4.18, and Mitigation Measures 4.9.1A, 4.9.1B, 4.9.1C, and 4.9.1D would ensure proper development standards in flood hazard areas to reduce impacts to *less-than-significant* levels.

2019 CAP Update Analysis. Consistent with the Approved Project, buildout of the 2015 General Plan Amendment with the implementation of 2019 CAP Update may result in placement of structures within 100-year flood hazard areas, creating the potential for impeding or redirecting flood flows. As a result, people, structures, and property could be exposed to increased flooding risks. Consistent with the Approved Project, implementation of applicable federal, State, and County regulations, General Plan policies, and Mitigation Measures 4.9.1A, 4.9.1B, 4.9.1C, and 4.9.1D would ensure that development in accordance with the 2019 CAP Update would implement proper development standards in flood hazard areas to reduce impacts to less than significant levels. Therefore, impacts from impediment of flows resulting from development in accordance with the 2019 CAP Update within flood hazard areas would be the same as those identified for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

c)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.10.c) Approved Project Analysis. The 2015 General Plan Amendment EIR indicates buildout of the 2015 General Plan Amendment would potentially result in placement of structures, including residential properties, within dam inundation zones, alluvial fan

flooding zones, and other areas of potential flood hazard. Such development would be at greater risk of flood hazards should a dam, levee, debris basin, or other critical flood control structure fail. As a result, people, structures, and property could be exposed to increased flooding risks due to failure of flood control structures. The 2015 General Plan Amendment EIR further finds that compliance with relevant federal, State, and County regulations, including National Flood Insurance Act and National Flood Insurance Reform Act, Riverside County Ordinance Nos. 458, 348, 457, 659, and 461, and General Plan Policy S 4.2 would ensure potential impacts from levee or dam failure remain *less-than-significant.* No mitigation was required.

2019 CAP Update Analysis. Consistent with the Approved Project, buildout of the 2015 General Plan Amendment with the implementation of 2019 CAP Update may expose people or structures to significant risk or loss due to flooding, including flooding as a result of the failure of a levee or dam. Compliance with relevant federal, State, and County regulations and General Plan Policy S 4.2 would ensure adverse effects associated with dam inundation remain *less-than-significant*. No mitigation was identified in the 2015 General Plan Amendment EIR and no mitigation is required for the proposed 2019 CAP Update.

d)	Substantially alter the existing drainage pattern of a site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.10.d) Approved Project Analysis. The 2015 General Plan Amendment EIR indicates buildout of the 2015 General Plan Amendment would result in alteration of drainage patterns, streams, and river courses. There could also be increases in surface runoff through the introduction of impermeable surfaces (roofs, pavements, roads, etc.). This may cause hydrological changes that could expose people, structures, and property to increased flooding risks. Compliance with the CWA, NPDES Municipal Separate Storm Sewer System (MS4) permit, Riverside County Ordinance Nos. 457, 458, 461, and 754, and General Plan Policies S 4.4, 4.5, and 4.7 through 4.10 would ensure impacts associated with alteration of drainage patterns or substantial increases in surface runoff would remain *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. Consistent with the Approved Project, buildout of the 2015 General Plan Amendment with the implementation of 2019 CAP Update may result in alteration of drainage patterns or substantial increases in surface runoff, which may result in hydrological changes that could expose people, structures, and property to increased flooding risks. Consistent with the Approved Project, implementation of relevant federal, State, and County regulations and General Plan policies would ensure adverse effects associated with alteration of drainage patterns or substantial increases in surface runoff remain *less-than-significant*. No mitigation was identified in the 2015 General Plan Amendment EIR and no mitigation is required for the proposed 2019 CAP Update.

e)	Result in or expose people or structures to a significant risk of inundation due to seiche, tsunami or mudflow?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.10.e) Approved Project Analysis. The 2015 General Plan Amendment EIR indicates buildout of the 2015 General Plan Amendment in areas subject to seiche (a standing wave in a completely or partially enclosed body of water) can in certain circumstances result in inundation of areas located along shorelines of lakes or reservoirs, which could threaten people, structures, and property. Two waterbodies in Riverside County, Lake Perris and Lake Elsinore, may have the potential for seismically-induced seiches based on their morphology and hydrology. These lakes have been engineered to prevent seiche risks and are buffered by public lands and beaches along their shores, adding a further layer of protection from localized flooding. Setbacks and flood hazard regulations would be sufficient to protect against significant risks.

There are no tsunami risks in Riverside County due to its inland location. Mudflow or debris flow can occur in areas with steep slopes, particularly areas with loose soils and/or denuded of vegetation when exposed to large amounts of precipitation. Narrow canyons, arroyos and desert channels are also susceptible to flash floods, which can cause flooding damage directly or indirectly through mudflows. Human activity can also induce a slide, such as when soil becomes saturated from a broken water pipe or improper diversion of runoff from a developed area. The 2015 General Plan Amendment EIR finds that proper soil engineering, site design, and maintenance would reduce impacts from mudflows to less than significant levels.

Compliance with applicable federal, State, and County regulations, General Plan Policy S 4.5, and Mitigation Measures 4.9.1A, 4.9.1B, 4.9.1C, and 4.9.1D would reduce impacts from exposure of people or structures to a significant risk of inundation due to seiche, tsunami, or mudflow to *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Consistent with the Approved Project, buildout of the 2015 General Plan Amendment with the implementation of 2019 CAP Update may result in or expose people to seiche or mudflow risks. When addressed through proper soil engineering, site design, and maintenance, these risks would be reduced to *less-than-significant* levels. Consistent with the Approved Project, compliance with relevant regulations including NPDES, CWA, County Ordinances, General Plan Policy S 4.5, and Mitigation Measures 4.9.1A, 4.9.1B, 4.9.1C, and 4.9.1D would reduce impacts from exposure of people or structures to a significant risk of inundation due to seiche, tsunami, or mudflow from implementation of the 2019 CAP Update to *less-than-significant with mitigation incorporated*.

4.11 GEOLOGY AND SOILS

Would the project:

Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
a)	Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐
b)	Strong seismic ground shaking?	☐	☐	☒	☐
c)	Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
d)	Landslides?	☐	☐	☒	☐

4.11.a–d) Approved Project Analysis. Future development accommodated by the 2015 General Plan Amendment would incrementally increase rural, suburban, and urban uses in localized areas throughout the unincorporated portions of the County. Property loss, injury, or death may increase due to future development where it occurs on known or unknown fault zones within the unincorporated portions of Riverside County. These faults are the main factors related to seismic exposure of the regional planning area.

Future land uses consistent with the 2015 General Plan Amendment could expose people or structures to seismic and geological hazards. There are roughly 150,000 acres of "very high" and 123,500 acres of "high" liquefaction susceptibility within unincorporated portions of Riverside County as a whole. Moderately to steeply inclined slopes around mountainous areas, especially on loose soil, are highly susceptible to landslide activity. These landslide hazards have a high potential around select areas in the unincorporated portions of the County.

Future development consistent with the 2015 General Plan Amendment could expose people or new structures to hazards associated with fault rupture, strong seismic ground shaking, liquefaction, and possible landslides. However, General Plan policies include a variety of actions aimed at protecting people and structures from geologic hazards (Alquist-Priolo Earthquake Fault Zoning Act, Federal Emergency Management Agency, United States Hazards System, California Building Standards Codes, and the Riverside County Code). Implementation of General Plan policies requires compliance with existing State and local laws and regulations, as well as performance of State-licensed surveys of soil and geologic conditions in areas subject to seismic ground shaking, liquefaction, and landslide hazards, and mitigation for any potential hazards. Mitigation Measures 4.10.1A, 4.10.2A, 4.10.2B, 4.10.2C, 4.10.3A, and 4.10.3B would also ensure that significant impacts from seismic hazards, liquefaction, and landslides are avoided or reduced to less than significant levels.

Therefore, impacts related to fault rupture, strong seismic ground shaking, liquefaction, and possible landslides would be *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Consistent with the Approved Project, future development in accordance with the 2019 CAP Update could potentially expose people or structures to seismic hazards associated with fault rupture, strong seismic ground shaking, liquefaction, and landslides. Mitigation measures and General Plan policies requiring compliance with State and local laws and regulations related to geologic conditions from seismic ground shaking, liquefaction, and landslide hazards that apply to development in accordance with the 2015 General Plan Amendment also apply to development that would implement the reduction measures outlined in the 2019 CAP Update. Consistent with the Approved Project, impacts related to fault rupture, strong seismic ground shaking, liquefaction, and possible landslides from or to development that would implement the 2019 CAP Update would be the same as those identified for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

e)	Result in substantial soil erosion or the loss of topsoil?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.11.e) Approved Project Analysis. Exposure of soils from future development accommodated by the 2015 General Plan Amendment may cause soil erosion or the loss of topsoil. Erosion effects are also caused by wind, water, and human activities that remove vegetation. Several areas within the County are at risk of erosion due to wind and windblown sand. The 2015 General Plan Amendment EIR identified risk of wind erosion for approximately 21,700 acres at "very high" and 840,000 acres at "high," while a large portion of the unincorporated areas of the County is at "moderate" and "low" risk of wind erosion. General Plan policies include a variety of actions such as compliance with the National Pollution Discharge Elimination System (NPDES) program and Best Management Practices (BMPs) aimed at reducing soil erosion and loss of topsoil. General Plan Policies S 3.5, 3.6, 3.11, 3.13, and 3.14, as well as Mitigation Measures 4.10.8A, 4.10.9A, 4.10.9B, and 4.10.9C would further prevent significant impacts and reduce erosion effects to less than significant levels. Implementation of the regulations and General Plan policies would ensure that impacts related to soil erosion and loss of topsoil, including wind erosion, are reduced and mitigated to *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Consistent with the Approved Project, future development in accordance with the 2019 CAP Update could result in soil erosion or loss of topsoil. However, the 2019 CAP Update does not propose project- or site-specific developments, so ground-disturbing activities of future development projects that could cause soil erosion or loss of topsoil would occur with or without implementation of the 2019 CAP Update.

General Plan Policies that apply to development in accordance with the 2015 General Plan Amendment and require compliance with the NPDES and Mitigation Measures 4.10.8A, 4.10.9A, 4.10.9B, and 4.10.9C for potential soil erosion and loss of topsoil also would apply

to development that would implement the GHG reduction measures outlined in the 2019 CAP Update. Consistent with the Approved Project, impacts related to soil erosion and loss of topsoil, including wind erosion, from development that would implement the 2019 CAP Update would be the same as those identified for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

f)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.11.f) Approved Project Analysis. Future development accommodated by the 2015 General Plan Amendment could be subject to geologic unit that is unstable. Human activities increase the potential for persons and property to be subject to geologic instability through development that was improperly located or constructed. As a result, these actions have an increased potential for exposure to ground or soil failures such as landslides, liquefaction, and lateral spreading.

Compliance with State regulations and General Plan policies would avoid or reduce potential significant impacts resulting from future development on unstable geological units and soils. The California Building Standards Code addresses construction in areas subject to subsidence and lateral spreading. On unstable soils, geotechnical certification must occur for project approval to ensure that impacts from geological hazards are reduced to less than significant levels. General Plan Policies S 2.5, 2.6, 2.7, 3.1, 3.2, 3.3, 3.4, 3.5, 3.7, 3.8, 3.9, 3.10, and 7.7 and revised Policies S 2.1, 2.2, 2.3, and 2.4 would ensure future development is protected from unstable geology and soils such as landslides, lateral spreading, subsidence, liquefaction, and/or collapse. Compliance with State regulations and General Plan policies would ensure impacts related to future development on unstable soil remain *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. Consistent with the approved project, future development in accordance with the 2019 CAP Update could be subject to geological instability. However, the 2019 CAP Update does not propose project- or site-specific developments, so future development that could be located in proximity to unstable geological conditions would be subject to such risks with or without implementation of the 2019 CAP Update.

Implementation of General Plan Policies S 2.5, 2.6, 2.7, 3.1, 3.2, 3.3, 3.4, 3.5, 3.7, 3.8, 3.9, 3.10, and 7.7 and revised Policies S 2.1, 2.2, 2.3, and 2.4, including compliance with the California Building Standards Code, would apply to development implemented in accordance with the 2019 CAP Update. Consistent with the Approved Project, impacts related to geological instability from development that would implement the 2019 CAP Update would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation is required.

g)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.11.g) Approved Project Analysis. Expansive soil tends to contain clay particles prone to large volume changes (i.e., swelling and shrinkage) due to changes in water content. When swelling occurs, the change in volume applies heavy pressures on objects that are placed on them. Expansive soils are generally distributed around Riverside County and could be exposed in hillside areas as well as alluvial bases. Future development accommodated by the 2015 General Plan Amendment could potentially occur in areas associated with expansive soils, which would result in structural damage.

California Building Standards Code provisions are considered suitable for design at sites with expansive soils. Therefore, designs should include proper characterization of expansive soil hazards through soils investigations that incorporate compliance measures in accordance with the California Building Standards Code, as codified in Mitigation Measure 4.10.7A. Implementation of Mitigation Measure 4.10.7A would ensure that impacts associated with expansive soils are reduced to *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Consistent with the Approved Project, future development in accordance with the 2019 CAP Update could result in development on expansive soils. However, the 2019 CAP Update does not propose project- or site-specific developments, so future development that could be located on expansive soils would be subject to such risks with or without implementation of the 2019 CAP Update. Compliance with the California Building Standards Code and Mitigation Measure 4.10.7A would mitigate potential impacts from expansive soil to less than significant levels. Therefore, impacts would be the same as those identified for the Approved Project (*less-than-significant with mitigation incorporated*).

h)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for disposal of wastewater?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.11.h) Approved Project Analysis. Some Riverside County properties rely on septic systems or alternative wastewater disposal systems, and select future land uses envisioned in the 2015 General Plan Amendment could use septic systems for sewage disposal. Septic systems within the County must comply with the California Building Standards Code (CCR Title 24, Part 2). In order for a future project to incorporate a septic system in the project design, a geotechnical study for the site would be required to determine if the on-site soil conditions are appropriate for septic disposal.

Future developments proposing septic systems must meet the requirements of the Regional Water Quality Control Board Basin Plan, the Riverside County Department of Environmental Health's Technical Guidance Manual, and Riverside County ordinances. If these requirements cannot be met, a permit would not be issued for projects in areas where soils are not suitable for septic systems.

Implementation of existing federal, State, and local laws and regulations concerning septic permitting, including Riverside County Health Department septic permit requirements, would ensure program-level impacts related to septic suitability of soils would be *less-than-significant*. No mitigation is required.

2019 CAP Update Analysis. New septic tanks and alternative wastewater treatment disposal systems would not be allowed in unincorporated portions of the County except as permitted by law, in which case they would require a permit from the California State Water Board to construct and maintain. Regulations require compliance with water quality standards and preclude development lacking adequate utility capacity, including wastewater treatment. The County and the applicable wastewater providers would review individual developments to determine if sufficient sewer capacity exists to serve the specific development regardless if the development would implement the 2019 CAP Update. Therefore, impacts would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation measures were identified in the 2015 General Plan Amendment EIR and no new mitigation measures are required for the 2019 CAP Update with regard to soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

4.12 HAZARDS AND HAZARDOUS MATERIALS

Would the project:

a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.12.a) Approved Project Analysis. Every home, business, and industry uses or produces, to some extent, flammable, hazardous, or toxic materials. Some of the proposed Land Use Designation (LUD) changes in the 2015 General Plan Amendment would be from planned developed uses to open space. Potential impacts would be minimal for these areas, as they would not result in additional buildings, residents, or employees. However, the LUD changes that convert vacant or agricultural uses to developed use (residential, commercial, etc.) would result in a small increase in the potential for humans and developed facilities to be exposed to hazardous materials. Similar conditions would occur from proposed changes within Policy Areas and Overlays, additional trails, new roads, and the incidental rural commercial policy areas.

The 2015 General Plan Amendment would incrementally increase potential hazardous material impacts in this regard over existing conditions and those conditions anticipated under the approved General Plan. However, the use, storage, and manufacture of hazardous materials are highly regulated by the State and federal governments, as well as by the Riverside County Environmental Health Department (RCDEH) and fire departments. Compliance with the existing regulations including Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), Hazardous Waste Control Law (HWCL), CCR Title 22 and 26, County Ordinance No. 615, 651, 718, and 348, and General Plan Policies S. 7.3, S 6.1, S 7.1, and LU 7.9 would ensure that impacts related to the routine handling of hazardous materials associated with future development accommodated by 2015 General Plan Amendment would have a *less-than-significant* impact. No mitigation was required.

2019 CAP Update Analysis. Implementation of the 2019 CAP Update would not change the LUD or result in the routine transport, use, or disposal of hazardous materials. Construction activities associated with retrofit and renovation projects or new mixed-use or transit-oriented development projects that would be recommended by the 2019 CAP Update may require use of common but potentially hazardous construction materials, including vehicle fuels, paints, cleaning materials, and caustic construction compounds. If incorrectly transported, handled, or disposed of, these substances could pose a potential health risk to construction workers and to the general public. However, the transport and handling of these common, potentially hazardous materials would occur in accordance with California Occupational Safety and Health Administration (Cal OSHA) guidelines. Further, such materials would be disposed of in accordance with California Department of Toxic Substances Control (DTSC) and County regulations. Consistent with the Approved Project, the 2019 CAP Update would comply with the existing regulations, programs, and policies. Impacts would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation measures were identified in the 2015 General Plan Amendment EIR and no new mitigation measures are required for the 2019 CAP Update with regard to transport, use, storage, and disposal of hazardous materials. The 2019 CAP Update would have a *less-than-significant* impact.

b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.12.b) Approved Project Analysis. Future development accommodated by the 2015 General Plan Amendment would introduce various future land uses throughout the County, which may be affected by accidental releases of hazardous materials or hazardous wastes at some time. A hazardous material spill or release can pose a risk to life, health, or property. An incident can result in the evacuation of a few people, a section of a facility, or an entire neighborhood. There is also the potential for previously unknown hazardous materials contamination from historical use of a property, including currently vacant properties, being

released during future development activities (grading, remodeling, remediation, etc.). In case a release occurs, existing federal, State, and local policies and procedures require action from the applicable enforcement agency. It is unlikely that any such activities would be extensive and beyond the capacities of typical containment or safe remediation. Furthermore, such risks are no different than those for existing uses. Compliance would be required with the existing regulations, programs, and policies discussed above in Section 4.12.a, including federal laws such as Superfund Amendments and Reauthorization Act (SARA) addressing Superfund sites, RCRA and HMTA for hazardous waste disposal, tracking and transportation, OSHA, TSCA, and also the Federal Clean Air Act. Implementation of and compliance with CCR Titles 22, 26 and 27, as well as Riverside County Ordinances No. 615, 617, 651, 718, and 348 would ensure that impacts related to the accidental release of hazardous materials as a result of future development consistent with the 2015 General Plan Amendment would have a *less-than-significant* impact. No mitigation was required.

2019 CAP Update Analysis. Implementation of the 2019 CAP Update would likely result in the renovation of older residential and commercial structures within unincorporated portions of the County. Structures built prior to 1978 may include asbestos-containing materials (ACMs) and lead-based paint (LBP). If not properly handled, release of ACMs and LBP into the environment in large enough quantities could pose a threat to construction workers and public safety. However, demolition and construction activities involving hazardous materials removal are heavily regulated and construction workers must comply with applicable federal and State safety regulations.

Consistent with the Approved Project, the 2019 CAP Update would comply with the existing regulations, programs, and policies. Compliance with regulations would reduce the risk on the surrounding environment and worker health, and the impacts would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation measures were identified in the 2015 General Plan Amendment EIR and no new mitigation measures are required for the 2019 CAP Update with regard to upset and accident conditions involving the release of hazardous materials into the environment.

c)	Cause hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.12.c) Approved Project Analysis. Future development accommodated by the 2015 General Plan Amendment would introduce various developed land uses throughout the County that could be proximate to one or more existing or future schools. Therefore, there is a potential that schools could be affected by hazardous materials related to future development. However, federal, State, and local school district policies and procedures would be sufficient to minimize risks to school facilities, students, and faculty, as well as to the general public. Compliance with the existing regulations, programs, and policies, including CERCLA, RCRA, HMTA, HWCL and CCR Titles 22 and 26, as well as Ordinance No.

617, would ensure that hazardous material risks to schools from implementation of the 2015 General Plan Amendment would be *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. As discussed in response to Checklist Questions 4.12.a and 4.12.b, any future development projects that would implement 2019 CAP Update measures would be subject to federal, State, and local regulations regarding the use and disposal of hazardous materials and wastes. Therefore, indirect effects associated with the 2019 CAP Update, including sites within one-quarter mile of an existing or proposed school, would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation measures were identified in 2015 General Plan Amendment EIR and no new mitigation measures are required for the 2019 CAP Update with regard to hazardous materials within one-quarter mile of an existing or proposed school site.

d)	Be located on a site which is included on a list of hazardous materials compiled pursuant to California Government Code section 65962.5 and, as a result, would create a significant hazard to the public or the environment?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.12.d) Approved Project Analysis. The California Environmental Protection Agency (CalEPA) identifies sites within the planning area included on the Cortese List compiled pursuant to Government Code Section 65962.5. Past and/or current activities at these sites may have resulted in contamination of soil and groundwater. During construction and demolition of projects proposed under the 2015 General Plan Amendment, workers could come into contact with, and be exposed to, hazardous materials present in soil or groundwater. Further, the presence of contamination in soils or groundwater could create an environmental or health hazard if left in place.

The five hazardous materials sites on the Cortese List (March Air Reserve Base; Foster-Gardner, Lockheed Beaumont No. 2, Temecula Target #107, and Torney Hospital) are proximate to proposed trail segments proposed within the 2015 General Plan Amendment but not located directly within any proposed trail segment. Similar to the impacts identified and analyzed in response to Checklist Questions 4.12.a, 4.12.b, and 4.12.c, there is a potential that new or revised trail alignments or segments proposed under the 2015 General Plan Amendment could be affected by existing hazardous materials sites. However, existing federal, State, and local regulations and policies would reduce the risks. Compliance with the existing regulations and policies, including CERCLA, RCRA, HMTA, HWCL, and Titles 22 and 26, would ensure risk of development on or in proximity to sites included on a list compiled pursuant to California Government Code Section 65962.5 from implementation of the County General Plan would be *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. Consistent with the Approved Project, future development projects that would implement 2019 CAP Update measures could expose people to hazardous materials from sites included on a list compiled pursuant to California Government Code Section 65962.5, and hazardous materials could create an environmental or health hazard if left in place. However, any future development projects that would

implement 2019 CAP Update measures would be subject to environmental review, which would include determination of whether the proposed site is on the Cortese list and whether further evaluation or cleanup action is required or if the case has received regulatory closure and no further action is required. If located on a Cortese list site, the proposed project would be required to comply with applicable federal, State, and local regulations related to hazardous materials, which would ensure there would be minimal risk of significant hazard to the public or the environment. Therefore, this impact would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation measures were identified in the 2015 General Plan Amendment EIR and no new mitigation measures are required for the 2019 CAP Update with regard to sites included on the Cortese List pursuant to Government Code Section 65962.5.

e)	Result in a safety hazard for people residing or working in the project area within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.12.e) Approved Project Analysis. The 2015 General Plan Amendment includes a variety of specific LUD changes to land surrounding three airports: Flabob, Riverside Municipal, and Blythe Airports. These changes are designed to ensure any future development occurring in proximity to these airports is consistent with the applicable General Plan Airport Influence Area (AIA) and applicable Airport Land Use Plans (ALUPs). Such proposals are also reviewed by the Riverside County Airport Land Use Commission (ALUC) for consistency. Other areas in the AIA in the County are either already deemed consistent with ALUC plans or would require future consistency determinations (outside the scope of 2015 General Plan Amendment). In addition, future development accommodated by 2015 General Plan Amendment would introduce various land uses to locations across the County, including some that may be affected by activities at airport or air facilities, as well as accidents involving aircraft. The potential risk of death or injury from aircraft accidents could rise to unacceptable levels if land uses surrounding an airport introduce large numbers of residents to the area, allow businesses to introduce large numbers of workers, or permit buildings that are too tall or too close to primary air hazard zones (e.g., landing and takeoff areas at either end of a runway) or secondary air hazard zones (areas adjacent to a runway or directly under approach zones for landing or takeoff). The 2015 General Plan Amendment does not directly propose these sorts of land uses, and compliance with existing County Ordinance Nos. 448, 576, and 269, General Plan Policies LU 1.8, 15.1, 15.2, 15.7, 15.8, 15.9, and 31.2, and revised General Plan Policies LU 15.3, 15.4, 15.5, and 15.6 would ensure that impacts related to public airport and safety hazards as a result of future development accommodated by 2015 General Plan Amendment would be *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. Implementation of the 2019 CAP Update could result in construction of energy-generating facilities such as solar panels and photovoltaic arrays that would primarily be installed on rooftops of new or existing buildings. These energy-generating rooftop structures could introduce substantial new sources of glare and could

also increase the overall height of buildings, which may have an impact on existing airports. However, the ALUPs include review procedures and restrictions for projects located within AIAs. If any project under the 2019 CAP Update is determined to present a safety hazard from increased glare or height, appropriate mitigation measures would be required on a project level to reduce or avoid the safety hazard to the satisfaction of the Riverside County ALUC. Additionally, as described in response to Checklist Question 4.3.a, Mitigation Measure 4.4.1A shall be implemented for all discretionary projects under the 2019 CAP Update to ensure compliance with all applicable County regulations, requirements, and General Plan policies.

In addition to adherence to all local, regional, State, and federal regulations and compliance with the guidelines of the ALUPs, implementation of existing Mitigation Measure 4.4.1A would ensure impacts of glare from implementation of the 2019 CAP Update would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation measures were identified in the 2015 General Plan Amendment EIR, and no new mitigation measures are required for the 2019 CAP Update with regard to airport hazards.

f)	Result in a safety hazard for people residing or working in the project area for a project within the vicinity of a private airstrip or heliport?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.12.f) Approved Project Analysis. Please refer to response to Checklist Question 4.12.e.

2019 CAP Update Analysis. Please refer to response to Checklist Question 4.12.e.

g)	Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.12.g) Approved Project Analysis. Future development consistent with 2015 General Plan Amendment would introduce various land uses throughout the County and may require existing emergency response and evacuation plans to be updated, as inadequate infrastructure and access could result in the loss of life, property, and County resources. The 2015 General Plan Amendment does not directly propose any changes or updates to existing emergency response or evacuation plans; however, the 2015 General Plan Amendment would actually lessen the amount of future development allowed within unincorporated portions of the County compared to existing allowable development levels. Therefore, conflicts with existing emergency response and evacuation plans are not anticipated.

Future development projects would be required to be reviewed for adequate infrastructure and access as well as consistency with Riverside County emergency and evacuation plans in addition to many other environmental issues in order to ensure the safety of the County residents and the physical environment. Furthermore, various elements within the General Plan contain policies that relate to emergency response and evacuation plans, which would further reduce potential impacts of development on safety plans. Compliance with the existing regulations, including California Codes PRC Sections 4290-4299, GC Section 51178, California Emergency Services Act, Statewide Standardized Emergency Management System (SEMS), County regulations including Riverside County Fire Department Fire Protection Emergency Medical Services Strategic Master Plan, Ordinance No. 787, and existing and revised General Plan Policies S 5.12 and S 5.14, would ensure that impacts related to emergency response and evacuation plans as a result of future development accommodated by 2015 General Plan Amendment would be *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. The 2019 CAP Update would encourage more efficient land use and transit-oriented development compared to the 2015 CAP, so it is possible that future projects that implement the strategies of the 2019 CAP Update could require temporary road closures during their construction, which could adversely affect evacuation during an emergency event or emergency response. However, any closures would be short term and alternate routes would be provided as necessary. It is unlikely that these actions would significantly interfere with adopted emergency response or evacuation plans. Furthermore, all future projects would be subject to further CEQA analysis of project- and site-specific impacts. Consistent with the Approved Project, the 2019 CAP Update would comply with the existing regulations, programs, and policies. Impacts would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation measures were identified in the 2015 General Plan Amendment EIR and no new mitigation measures are required for the 2019 CAP Update with regard to an adopted emergency response plan or emergency evacuation plan.

h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.12.h) Approved Project Analysis. Future development accommodated by the 2015 General Plan Amendment would introduce various developed uses throughout the County that may be affected by fire or the potential risk of fire. The risk of death, injury, or property damage from fire may rise to unacceptable levels if select land uses are allowed in areas of high or unacceptable risk without proper planning or protection, or if roads are inadequate for fire access and evacuation.

Specifically, land use changes associated with 2015 General Plan Amendment would result in future development that encroaches into or intermingles with wildlands where fire hazard risks are high to very high. However, none of these proposed changes would result in

significant impacts related to wildland fires as long as new development is reviewed by the Riverside County Fire Department (RCFD) and California Department of Forestry and Fire Protection (CalFire) as appropriate, and "fire safe" design consistent with Riverside County requirements and the Uniform Fire Code are used to plan and construct property improvements.

There are proposed trail segments in all fire hazard zones, and many, if not most, in the flatter areas are in non-hazardous zones. Due to the nature of trails (e.g., temporary occupancy, lack of permanent infrastructure, and highly mobile users), there would be no adverse impacts that require mitigation for any of these locations. In addition, trails actually provide minor fire or fuel breaks and routes for firefighters to access areas subject to wildland fires. Therefore, these improvements may be beneficial in limiting wildland fire damage.

The locations for the proposed roads or road segments in very high or high fire hazard zones vary, and in the flatter unincorporated areas of the County, most are in non-hazardous zones. Due to the relatively fireproof nature of roads, there would be no adverse impacts that require mitigation for any of these locations. In addition, roads provide fire or fuel breaks and routes for firefighters to access areas with wildland fires. Therefore, these improvements would be beneficial to reducing wildland fire hazards.

There are proposed commercial land use designations in all fire hazard zones, which vary by slope and vegetation characteristics. Future development of these sites would not result in significant wildland fires risks as long as the new proposed development meets RCFD and CalFire standards, as applicable, and is constructed with "fire safe" design, consistent with the Fire Code.

Overall, implementation of existing regulations and policies, including standards for roadways and access, development siting, and ignition-resistant building materials would ensure that impacts related to wildland fire risks as a result of future development accommodated by 2015 General Plan Amendment would be *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. Any future development projects that would implement 2019 CAP Update measures and actions would be subject to all applicable County regulations and policies, as well as further CEQA analysis of project-specific impacts, which would occur with or without implementation of the 2019 CAP Update. Consistent with the Approved Project, the 2019 CAP Update would comply with the County's existing regulations, programs, and policies. Impacts related to wildland fire hazards would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation measures were identified in the 2015 General Plan Amendment EIR and no new mitigation measures are required for the 2019 CAP Update with regard to wildland fire hazards.

4.13 MINERAL RESOURCES

Would the project:

a)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.13.a) Approved Project Analysis. The 2015 General Plan Amendment EIR indicates the County does not contain any "locally important mineral resource recovery sites." Therefore, the Approved Project would not have an effect on this type of resource.

2019 CAP Update Analysis. Consistent with the Approved Project, implementation of the 2019 CAP Update as proposed under the 2019 CAP Update would not result in a loss of locally important mineral resources because no such resources are designated in the Riverside County General Plan. No mitigation measures were identified in the 2015 General Plan Amendment EIR and no new mitigation measures are required for the 2019 CAP Update with regard to locally important mineral resources.

b)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State of California?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.13.b) Approved Project Analysis. The 2015 General Plan Amendment EIR states land use and related policy changes would alter the potential range of development throughout the County. Direct impacts to State Mining and Geology Board (SMGB)-designated "regionally significant" land known to contain mineral resources and land designated MRZ-2 would be less than significant because residential development surrounding these areas precludes future mining activities on these lands, rendering them incompatible with mining activities. Additional areas, particularly in the easternmost third of the County, are known to contain regionally significant mineral resources with enough land to accommodate development of a non-mining nature without adversely affecting the total availability of economically viable mineral resources in the region. Although future development accommodated by the Approved Project could also directly affect mineral availability on previously unstudied lands designated MRZ-3 or MRZ-4, these lands remain unstudied for the presence and extent of important mineral resources. Therefore, their development as non-mining uses cannot result in impacts to any "known mineral resources."

Indirect impacts could also occur where MRZ-2 lands are used for inconsistent uses. These uses include residences, other uses and where development is adjacent to MRZ-2 sites that would be used for mining. Furthermore, incremental development facilitated through

implementation of the General Plan could result in cumulatively considerable loss of lands containing mineral resources that would otherwise contribute to meeting the region's projected demand. However, future development on MRZ-2 zones accommodated by the Approved Project are expected to occur over the course of at least 50 years and would be negligible when compared to the total amount of resources available regionally. To minimize direct and indirect impacts to mineral resources, several General Plan policies (LU 9.6, LU 9.7, LU 27.1, LU 27.2, LU 27.3, LU 27.4, LU 27.5, OS 14.1, OS 14.2, OS 14.3, OS 14.4, and OS 14.5) are implemented to ensure that future development would not cause an impact to mineral resources. These General Plan policies would ensure existing mines and future mineral extraction activities are carried out in a manner that does not harm the environment or adjacent sensitive uses and resources, prevent loss of potential mineral resources by protecting them from encroachment or preclusion by incompatible uses, ensure mineral resource conservation, and prevent loss of potential mineral resources by protecting them from encroachment or preclusion by incompatible uses through requirements for buffer zones, screening, etc.

Implementation of the above regulations and General Plan policies would ensure that impacts related to mining activities and mineral resources, regionally and statewide, are avoided or reduced to a *less-than-significant* level. No mitigation was required.

2019 CAP Update Analysis. Consistent with the Approved Project, the proposed 2019 CAP Update would not result in the loss of regionally important mineral resources because future development in accordance with the 2019 CAP Update does not change any of the General Plan land use designations of the Approved Project that would adversely affect compatibility of various land uses with mining activities.

With the implementation of the programs and policies of the County General Plan, impacts on known mineral resources, including mineral resource availability, under the proposed 2019 CAP Update would be the same as the Approved Project (i.e., *less-than-significant*). No mitigation measures were identified in the 2015 General Plan Amendment EIR and no new mitigation measures are required for the 2019 CAP Update with regard to regionally important mineral resources.

4.14 NOISE

Would the project:

a)	Generate or expose persons to noise levels in excess of standards established in the General Plan or noise ordinance, or applicable standards of other agencies?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☐	☒

4.14.a) Approved Project Analysis. Future development accommodated by the 2015 General Plan Amendment would incrementally increase rural, suburban, and urban uses in localized areas throughout the County. In some locations, this would result in the introduction of new noise-sensitive land uses into areas of existing excess noise or areas in

which County growth would eventually lead to excess noise levels. In addition, future development accommodated by the 2015 General Plan Amendment would contribute incrementally to increased traffic volumes on County roads, resulting in noise increases affecting sensitive land uses along existing and future roads. As a result, new development, particularly residential uses along and adjacent to major transit corridors, could be exposed to noise levels that exceed the County's noise standards. Existing sensitive uses would also be subject to these higher noise levels.

Compliance with the existing federal, State, and County regulations, including the Federal Noise Control Act of 1972, California Building Standards Code, California Noise Insulation Standards, Ordinance No. 847, existing General Plan Policies N 1.1, 1.2, 14.2, N 1.7, 2.2, 3.2, 3.5 4.4, 6.4, 9.3, 9.7, 11.5, LU 32.10, LU 15.1, 15.2, 16.9, 16.10, 29.6, 30.6, and 31.3, revised General Plan Policies N 7.3, LU 4.1, and OS 14.5, and Mitigation Measures 4.13.2A, 4.13.2B, 4.13.2C, 4.13.2D, 4.13.3A, 4.13.3B, and 4.13.3C, would ensure potentially adverse impacts related to noise generation and noise exposure associated with future new development accommodated by General Plan Amendment would be less than significant. Existing sensitive uses, particularly residences, however, would also be subject to project-related traffic noise increases. Many of the mitigation measures would not be feasible for reducing widespread noise exposure to existing uses, particularly from roadway noise or other noise generated outside of a new development site. Therefore, noise impact was determined to remain *significant and unavoidable*.

2019 CAP Update Analysis. The proposed changes in the 2019 CAP Update include new and enhanced GHG reduction measures compared to 2015 CAP. The 2019 CAP Update encourages mixed-use development, which would potentially locate sensitive receptors closer to traffic noise. However, mixed-use development would reduce vehicle miles traveled (VMT) and thus decrease traffic noise. In addition, implementation of the 2019 CAP Update would further reduce VMT, thus reducing total vehicular noise in the County. The 2019 CAP Update implementation would not add vehicle trips. Implementation of the GHG reduction measures of the 2019 CAP Update would augment existing County programs and policies with regard to transit-oriented development. Energy retrofits would likely reduce impacts from vehicular noise to occupants of the particular buildings, since increased insulation and double- or triple-paned windows also would act to buffer exterior noise levels. Therefore, noise impacts associated with the 2019 CAP Update would not themselves be significant. However, noise impacts associated with implementation of 2019 CAP Update in conjunction with buildout of the County General Plan would remain *significant and unavoidable*.

b)	Result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.14.b) Approved Project Analysis. Future development accommodated by the 2015 General Plan Amendment, and its associated infrastructure and support uses, would require construction activities that could cause temporary, short-term vibrations. These vibrations

would be disruptive if located near sensitive receptors. Also, future development of new vibration-sensitive land uses could occur within areas subject to existing sources of vibration (e.g., railroads).

Compliance with the existing and revised General Plan policies, including Policy N 16.1, 16.2, 16.3, and 15.2, and Mitigation Measure 4.15.B-N1 would ensure that potentially adverse impacts related to groundborne noise and vibration generation and exposure associated with future new development accommodated by General Plan Amendment would be less than significant. Existing sensitive uses would also be subject to potential project-related construction vibrations. In some cases, vibration levels would exist even with reduction measures incorporated, particularly for sensitive uses within 100 to 150 feet of the vibration source. In these cases, however, the temporary nature of the construction activity ensures that the vibration impacts, while possibly annoying, would not be significant. Therefore, impacts from vibration were determined to be *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Implementation of the 2019 CAP Update would not result in vibration-generating facilities. The 2019 CAP Update promotes the use of transit, but would not facilitate increased development of mass transit facilities. Construction vibration that could occur during energy-efficiency retrofit or installation of photovoltaic arrays would not be substantial. If these activities were to occur on or near fragile buildings, all appropriate measures would be required pursuant to Mitigation Measure 4.15.B-N1 as well as policies outlined in the General Plan to control vibration from sources adjacent to residential, institutional, and other sensitive receptors and ensure that future developments will be constructed to minimize interior and exterior noise/vibration levels. Renewable energy-generating structures such as solar arrays do not produce substantial vibration and would be located on rooftops of existing or new structures. If such facilities were to be proposed for fragile buildings or areas of sensitive receptors, appropriate mitigation or design revision would be required either through the County's design review or plan check process to ensure that the structures would not generate excessive groundborne vibration or noise during operation. Therefore, impacts would be the same as those identified for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

c)	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☐	☒

4.14.c) Approved Project Analysis. Refer to response to Checklist Question 4.14.a.

2019 CAP Update Analysis. Refer to response to Checklist Question 4.14.a.

d)	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.14.d) Approved Project Analysis. Future development accommodated by the 2015 General Plan Amendment would necessitate construction activities that could temporarily exceed applicable County standards at nearby noise-sensitive receptors. In many cases, the peak sound levels would be extremely brief and overall ambient noise levels would remain within acceptable limits. In addition, compliance with existing laws, regulatory programs, General Plan policies and mitigation measures, would also help reduce potential short-term noise impacts. However, in some cases, particularly where existing noise-sensitive land uses occur within 100 to 150 feet of certain construction activities (pile driving, demolition, etc.), it may not be possible to reduce construction noise levels to less than significant levels. In these locations, impacts may be significant if the construction-associated noise levels exceed regulatory limits and/or exceed "temporary" duration. In these cases, significant construction impacts would result that cannot be reduced to less than significant levels. Therefore, impacts were determined to remain *significant and unavoidable*.

2019 CAP Update Analysis. Potential construction activities from implementation of the 2019 CAP Update would include energy retrofits on existing residential and commercial buildings, and installation of renewable energy facilities such as photovoltaic arrays. These construction activities may result in temporary increases in noise; however, it is anticipated that such activities would not require large construction equipment that would result in substantial noise. Additionally, each specific development project would undergo evaluation through a site-specific noise study and be subject to mitigation measures if noise levels are found to exceed normally acceptable levels defined in the General Plan policies and standards. However, because it is not possible at the programmatic level to anticipate where development facilitated under the 2019 CAP Update would be proposed in proximity to noise-sensitive land uses, impacts from implementation of the 2019 CAP Update would be the same as those identified for the Approved Project (i.e., *significant and unavoidable*).

e)	Result in the exposure of people residing or working in the project area to excessive noise levels for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport, public use airport or private airport/private airstrip?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.14.e) Approved Project Analysis. Future development accommodated by the 2015 General Plan Amendment may result in the exposure of new noise-sensitive land uses to noise from operations at public and private airports, airstrips and helipads. Around larger public airports, noise levels can exceed acceptable standards (e.g., 60 dBA) in certain areas.

The Airport Land Use Compatibility Plan (ALUCP) adopted by the Riverside County Airport Land Use Commission (ALUC) addresses noise-related land use constraints for the various zones surrounding the County's airports. All future development proposed would be required to comply with applicable ALUC policies, as well as State and County regulations and policies, regarding site design and building construction to achieve acceptable interior and exterior noise exposure levels for habitable structures. Implementation of, and compliance with, the existing regulatory programs, including Federal Aviation Administration (FAA) Standards, California Noise Insulation Standards, Riverside County Airport Land Use Compatibility Plans, existing General Plan Policies N 7.1, 7.2, 7.3, 7.4, LU 1.8, 15.1, and 15.2, and Mitigation Measures 4.13.2A, 4.13.2B, 4.13.2C, and 4.13.2D, would ensure that adverse airport noise impacts on new development accommodated by General Plan Amendment would be *less-than-significant*. No mitigation was identified.

2019 CAP Update Analysis. The 2019 CAP Update would not include strategies associated with airports, and would not result in a significant impact on future air traffic operations. Therefore, airport noise impacts generated from implementation of the 2019 CAP Update would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation is required.

4.15 RECREATION

Would the project:

a)	Cause growth that increases the use of existing neighborhood parks, regional parks or other recreational facilities resulting in or accelerating substantial physical deterioration of the facility?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.15.a) Approved Project Analysis. Implementation of the County General Plan would increase population growth, which would increase the number of residents using existing neighborhoods, regional parks, and recreational facilities, such as trails and bikeways in local areas. Compliance with the Quimby Act and General Plan Policies OS 20.3, OS 20.5, OS 20.6, and LU 25.2 will ensure impacts from increased use of park and recreational activities from implementation of the County General Plan will be less than significant. Furthermore, the 2015 General Plan Amendment EIR does not indicate any increase in the use of recreational parks or facilities due to the implementation of the 2015 CAP. In this regard, *no impact* would occur and no mitigation was required.

2019 CAP Update Analysis. Consistent with the Approved Project, implementation of the 2019 CAP Update would not include any site-specific designs or proposals, grant any entitlements for development, or propose to change existing land use designations or zoning. Therefore, it would not change resident population or total jobs in the County or increase demand for parks and recreational facilities. Since implementation of the 2019 CAP Update would not result in physical deterioration of recreational facilities, no impact would occur. In the same manner as the Approved Project, *no impact* to recreational facilities would occur from implementation of the 2019 CAP Update and no mitigation is required.

b)	Trigger growth that results in the need for new or physically altered park or recreation facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.15.b) Approved Project Analysis. Please refer to response to Checklist Question 4.15.a. Population growth anticipated through implementation of the County General Plan could result in the need for new parks, trails, or other recreational facilities. Compliance with the Quimby Act and General Plan Policies OS 20.3, OS 20.5, OS 20.6, and LU 25.2 will ensure impacts from construction of new park and recreational facilities remain *less than significant.* No mitigation was required.

2019 CAP Update Analysis. Please refer to response to Checklist Question 4.15.a. Since implementation of the 2019 CAP Update would not change resident population or total jobs in the County or increase demand for parks and recreational facilities, the 2019 CAP Update would not result in construction or expansion of recreational facilities that might have an adverse physical effect on the environment. In the same manner as the Approved Project, *no impact* to recreational facilities would occur from implementation of the 2019 CAP Update, and no mitigation is required.

c)	Trigger the need for construction or expansion of recreational facilities or uses that would have a significant adverse physical effect on the environment due to their provision?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.15.c) Approved Project Analysis. Please refer to response to Checklist Question 4.15.b. Implementation of the County General Plan would increase population and therefore demand for parks and recreation facilities in the County. Compliance with General Plan Policy LU 9.2 requires new development, including any recreational facility construction, to comply with the Multipurpose Open Space Element of the General Plan, as well as federal and State regulations such as CEQA, NEPA, the Clean Air Act, and the Clean Water Act, in order to protect environmental resources and reduce impacts from the construction of recreational facilities to less than significant levels. Furthermore, the 2015 General Plan Amendment EIR does not indicate any trigger for construction of recreational parks or facilities due to the implementation of the 2015 CAP. In this regard, *no impact* would occur and no mitigation was required.

2019 CAP Update Analysis. As indicated in response to Checklist Question 4.15.b, implementation of the 2019 CAP Update would not change resident population or total jobs in the County or increase demand for parks and recreational facilities. Therefore, the 2019 CAP Update would not trigger construction or expansion of recreational facilities that might

have an adverse physical effect on the environment. In the same manner as the Approved Project, *no impact* to the environment from construction of recreational facilities would occur from implementation of the 2019 CAP Update and no mitigation is required.

4.16 PUBLIC FACILITIES

Would the project:

a)	Result in substantial adverse physical impacts associated with the provision of new or physically altered fire facilities? Or, would it result in the need for new or physically altered fire facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.16.a) Approved Project Analysis. According to the 2015 General Plan Amendment EIR, buildout of the 2015 General Plan Amendment would result in localized new development that would require additional fire response and emergency response services in specific areas. However, the demand would be small at the Area Plan level. Future development would trigger the need for 6.8 additional fire stations spread throughout Riverside County. Sufficient vacant land exists in the areas where new fire stations would be needed, so siting for new fire stations could be achieved in a manner that minimizes environmental impacts. The 2015 General Plan Amendment EIR finds that compliance with regulations and policies, including the California Building Standards Code, Riverside County Fire Department Fire Protection and Emergency Medical Services (EMS) Strategic Master Plan, County Ordinance Nos. 787 and 659 (mitigation fee), and General Plan Policies LU 5.1, 5.2, 7.8, and 10.1, S 5.1 through 5.9, and 5.11 through 5.21, would ensure impacts remain *less-than-significant.* No mitigation was required.

2019 CAP Update Analysis. Increases in demand for fire protection services would occur through buildout of the 2015 General Plan Amendment with or without development and implementation of the 2019 CAP Update. The 2019 CAP Update does not propose any changes in land use that could result in an understatement of anticipated fire protection services through 2015 General Plan Amendment buildout. Therefore, the proposed 2019 CAP Update would not result in any additional or more severe impacts than those associated with the Approved Project from increased demand for fire protection services.

Compliance with regulations and policies, including the California Building Standards Code, Riverside County Fire Department Fire Protection and Emergency Medical Services (EMS) Strategic Master Plan, County Ordinance Nos. 787 and 659 (mitigation fee), and General Plan Policies LU 5.1, 5.2, 7.8, and 10.1, S 5.1 through 5.9, and 5.11 through 5.21, would ensure fire protection impacts of the proposed 2019 CAP Update are the same as those for the Approved Project (i.e., *less-than-significant*). No mitigation was identified in the 2015

General Plan Amendment EIR and no mitigation is required for the proposed 2019 CAP Update.

b)	Result in substantial adverse physical impacts associated with the provision of new or physically altered law enforcement facilities? Or, would it result in the need for new or physically altered law enforcement facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any law enforcement services?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.16.b) Approved Project Analysis. According to the 2015 General Plan Amendment EIR, buildout of the 2015 General Plan Amendment would introduce additional people and property to the County, which would increase demand on law enforcement and emergency response services. The additional personnel (officers, supervisors, and support staff), equipment, and vehicles necessary to meet the increased demand could be accommodated at existing facilities through compliance with General Plan Policies LU 5.1, 5.2, and 10.1 and Mitigation Measures 4.15.2A, 4.15.2B, 4.15.2C, and 4.15.2D. Therefore, impacts from increased demand for law enforcement services through implementation of the 2015 General Plan Amendment would be reduced to *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Increases in demand for law enforcement services would occur through buildout of the 2015 General Plan Amendment with or without development and implementation of the 2019 CAP Update. Although the 2019 CAP Update encourages denser residential development through GHG reduction measure R2-T1 (refer to Table A), it does not propose any changes in land use that could result in an understatement of anticipated law enforcement services through 2015 General Plan Amendment buildout. Therefore, the proposed 2019 CAP Update would not result in any additional or more severe impacts than those associated with the Approved Project from increased demand for law enforcement services. Implementation of General Plan Policies LU 5.1, 5.2, and 10.1 and Mitigation Measures 4.15.2A, 4.15.2B, 4.15.2C, and 4.15.2D prescribed for the Approved Project would be required for the 2019 CAP Update to reduce impacts to *less-than-significant with mitigation incorporated*.

c-1)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.16.c-1) Approved Project Analysis. According to the 2015 General Plan Amendment EIR, buildout of the 2015 General Plan Amendment would increase the total amount of solid waste by roughly 9,000 tons per year over the next 50 years. This increase is based on the conservative State-mandated solid waste diversion rate of 50 percent (not the 75 percent) by 2020. Compared to existing and projected capacities at Riverside County landfills, this amount would incrementally increase the County fill rate by roughly 0.6 percent overall (even conservatively assuming no additional diversion or recycling reductions). In terms of actual changes from baseline conditions, this 0.6 percent increase due to project-related waste generation would occur in small increments throughout Riverside County over a roughly 50-year period.

According to projections, there would be sufficient landfill capacity to accommodate the project's future solid waste disposal needs. Compliance with federal, State, and County regulations, including California and Federal Resource Conservation and Recovery Rate (RCRA) requirements, Countywide Integrated Waste Management Plan (CIWMP), AB 341, Riverside County Waste Management Department's (RCWMD) Design Guidelines for Recyclables Collections and Loading Areas, and the County's Waste Recycling Plan, would reduce impacts from the anticipated increase in solid waste generation. Additionally, General Plan Policies LU 5.1, 5.2, and 31.2, as well as Mitigation Measures 4.15.3A through 4.15.3F would further reduce the already insignificant impacts. The 2015 General Plan Amendment EIR finds the anticipated increase in solid waste generation represents an insignificant incremental increase, so the impact on landfill capacity would be *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Consistent with the Approved Project, buildout of the 2015 General Plan Amendment with the implementation of 2019 CAP Update would have less than significant impacts associated with an increase in solid waste generation exceeding the capacity of regional landfills. The 2019 CAP Update incorporates GHG reduction measure R2-S1, which carries over the solid waste diversion programs first introduced in the 2015 CAP (refer to Table A) to reduce generation of solid waste. Accordingly, projects developed consistent with the 2019 CAP Update must incorporate solid waste reduction measures in their designs. Further, implementation of the 2019 CAP Update would be subject to the same regulatory compliance, General Plan Policies, and Mitigation Measures 4.15.3A through 4.15.3F prescribed for the Approved Project that would further reduce impacts. Therefore, impacts on landfill capacity associated with the 2019 CAP Update would be the same as those identified for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

c-2)	Impede or prevent compliance with federal, State, and local statutes and regulations related to solid wastes, including the Countywide Integrated Waste Management Plan (CIWMP)?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.16.c-2) Approved Project Analysis. According to the 2015 General Plan Amendment EIR, buildout of the 2015 General Plan Amendment would increase the residential and non-

residential rural, suburban, and urban uses in localized areas throughout the County. These increases, to some extent, would be offset by reductions in land use density in other parts of the County. Over the period of roughly 50 years, waste generation associated with General Plan buildout would increase incrementally throughout the County, and development of future land uses would be required to comply with all applicable federal, State, and local regulations and statutes related to solid waste. The Riverside Department of Environmental Health (RDEH) and RCWMD both have the responsibility for reviewing all development applications within unincorporated areas of Riverside County. Project conditions of approval are prescribed by these departments as deemed appropriate for implementation of and compliance with the various County solid waste regulations and programs, including the CIWMP.

Any future development under the General Plan would be required to comply with the CIWMP as part of standard project conditions of approval. Also, the General Plan does not propose any land use changes within existing or proposed Riverside County landfills. Compliance with applicable regulations, including California and federal RCRA requirements, CIWMP, the AB 341 target of diverting no less than 75 percent of solid waste from landfill disposal by 2020, RCWMD's Design Guidelines for Recyclables Collections and Loading Areas, and Waste Recycling Plan submission for each proposed building are required compliance measures as a matter of regulatory policy. Additionally, General Plan Policies LU 5.1, 5.2, and 31.2, as well as Mitigation Measures 4.15.3A through 4.15.3F would further ensure compliance with all applicable regulatory requirements for solid waste management. Therefore, the Approved Project's effects on compliance with federal, State and local statutes and regulations for solid waste management would be *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Consistent with the Approved Project, buildout of the 2015 General Plan Amendment with the implementation of 2019 CAP Update would occur in accordance with all applicable regulations, including the CIWMP, General Plan policies, and Mitigation Measures 4.15.3A through 4.15.3F designed to reduce solid waste. The 2019 CAP Update incorporates GHG reduction measure R2-S1, which carries over the solid waste diversion programs first introduced in the 2015 CAP (refer to Table A) to reduce generation of solid waste. Accordingly, projects developed consistent with the 2019 CAP Update must incorporate solid waste reduction measures in their designs. GHG reduction measure R2-S1 would further reduce the already insignificant impact associated with compliance with solid waste regulations. Therefore, impacts for the proposed 2019 CAP Update would be the same as those identified for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

d)	Result in substantial adverse physical impacts associated with the provision of new or physically altered schools? Or, would it result in the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

	objectives for any schools?

4.16.d) Approved Project Analysis. According to the 2015 General Plan Amendment EIR, buildout of the 2015 General Plan Amendment would increase student populations and demand on school services. The localized development increases would incrementally generate additional students, creating demand for additional school facilities, services, and personnel in specific areas, particularly within the Palm Springs School District, Palo Verde Unified School District, and Perris Union High School District.

None of the project-related population increases would trigger the need for new or improved facilities at other school districts, and the additional students generated over the next 50 years could readily be accommodated at existing facilities. For the three adversely affected districts (Palm Springs School District, Palo Verde Unified School District, and Perris Union High School District), however, compliance with existing regulations, including the Leroy F. Greene School Facilities Act (SB 50) and compliance with existing General Plan Policy LU 5.2 would provide full mitigation for the anticipated increase in demand. Through compliance with SB 50 and General Plan Policy LU 5.2, impacts to the environment from increased demand on school facilities would be *less-than-significant.* No mitigation was required.

2019 CAP Update Analysis. The 2019 CAP Update would not include any site-specific designs or proposals, grant any entitlements for development, or propose to change existing land use designations or zoning, so it would not change resident population or total jobs in the County. Demand for school services is based on service population, which is a total of resident population and jobs. Thus, the nature of the proposed 2019 CAP Update would not affect the demand for school services when compared to the Approved Project. Compliance with SB 50 and General Plan Policy LU 5.2 would be sufficient to ensure the impacts would be less than significant. Therefore, impacts of the proposed 2019 CAP Update are the same as those for the Approved Project (i.e., *less-than-significant*). No mitigation was identified in the 2015 General Plan Amendment EIR and no mitigation is required for the proposed 2019 CAP Update.

e)	Result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities? Or, would it result in the need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for any library services?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.16.e) Approved Project Analysis. According to the 2015 General Plan Amendment EIR, buildout of the 2015 General Plan Amendment would increase the County's population by roughly 13,000, which will be incrementally spread out throughout the County. This increase would require an estimated 6,500 additional square feet of library floor space and

roughly 35,500 additional volumes. The demand for the additional space and volumes, however, will be incremental and not uniform across the County, as some areas of the County will experience a population decrease while others will experience a population increase. The three areas covered by the Elsinore, Jurupa, and Palo Verde Valley Area Plans would need additional library services and volumes to continue to provide adequate levels of service within their respective communities.

Buildout of the General Plan would take approximately 50 years, which would provide ample time for long-range planning and provision of additional services as needs arise. According to the 2015 General Plan Amendment EIR, compliance with the Riverside County Ordinance No. 659, General Plan Policy LU 5.1, and Mitigation Measure 4.15.6A would reduce any impacts associated with the need for additional library services to *less-than-significant with mitigation incorporated.*

2019 CAP Update Analysis. The 2019 CAP Update would not include any site-specific designs or proposals, grant any entitlements for development, or propose to change existing land use designations or zoning, so it would not change resident population or total jobs in the County. Demand for library services is based on service population, which is a total of resident population and jobs. Thus, the nature of the proposed 2019 CAP Update would not affect the demand for library services when compared to the Approved Project. Compliance with Riverside County Ordinance No. 659, General Plan Policy LU 5.1, and Mitigation Measure 4.15.6A would reduce impacts associated with the need for additional library services. Therefore, impacts of the proposed 2019 CAP Update are the same as those for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

f)	Result in substantial adverse physical impacts associated with the provision of new or physically altered medical facilities? Or, would it result in the need for new or physically altered medical facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any medical facilities?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.16.f) Approved Project Analysis. According to the 2015 General Plan Amendment EIR, buildout of the 2015 General Plan Amendment would contribute incrementally (by about 6.5 percent) to the need for an additional community clinic and generate roughly 13,500 medical encounters. However, since the population increase would be spread throughout the County and occur over 50 years, associated impacts to medical facilities and services would be negligible. At General Plan buildout, the Approved Project would result in a net decrease of roughly 143,700 Riverside County residents. Thus, for long-range provision of needed medical facilities and services, the project would slightly lower (by roughly 8 percent) the expected increase in demand for new or expanded medical facilities and services over time. According to the 2015 General Plan Amendment EIR, compliance with General Plan Policy LU 5.1 and Mitigation Measures 4.15.17A and 4.15.7B would further

reduce the impacts associated with General Plan buildout to *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. The 2019 CAP Update would not include any site-specific designs or proposals, grant any entitlements for development, or propose to change existing land use designations or zoning, so it would not change resident population or total jobs in the County. Demand for medical services is based on service population, which is a total of resident population and jobs. Thus, the nature of the proposed 2019 CAP Update would not affect the demand for medical services when compared to the Approved Project. Compliance with the General Plan Policy LU 5.1 and Mitigation Measures 4.15.17A and 4.15.7B consistent with the Approved Project would reduce any impacts associated with the need for additional medical facilities to *less-than-significant with mitigation incorporated*.

4.17 TRANSPORTATION/TRAFFIC

Would the project:

a)	Conflict with an applicable plan, ordinance or policy establishing a measure of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths and mass transit?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☐	Reduced Impact ☒

4.17.a) Approved Project Analysis. Implementation of the Approved Project, per the 2015 General Plan Amendment EIR, would generally improve traffic conditions throughout the County compared to the buildout of the General Plan. This is due to the decreased population estimates, decreased employment estimates, a refined roadway network and implementation of revised policies that provide more realistic parameters for mobility planning. However, the buildout of General Plan would still result in increased traffic levels in the future that would contribute to deficient operations within its proposed circulation network. The proposed policies incorporated in General Plan Circulation and Land Use Elements, and Mitigation Measures 4.16.1A, 4.16.1B, and 4.16.1C would partially address these deficient conditions. However, these policies and mitigation measures would not fully address the deficiencies, nor would the proposed revisions to the Riverside County Circulation Element fully mitigate these impacts. Therefore, the impacts to Riverside County roadways were determined to be *significant and unavoidable*.

2019 CAP Update Analysis. The proposed changes in the 2019 CAP Update include new and enhanced GHG reduction measures compared to 2015 CAP. The measures include further increasing the availability of transit service, adding additional bicycle infrastructure, and further discouraging single-occupancy vehicle use. The implementation of each of these new and enhanced measures would result in a reduction in traffic loads, which would reduce the number of vehicle trips, volume to capacity ratio, and intersection congestion within the County. Furthermore, none of the new or enhanced measures would directly increase traffic in relation to the existing traffic load and capacity of the system. Therefore, impacts would be reduced compared to those identified for the Approved Project but still remain *significant and unavoidable*.

b)	Conflict with an applicable congestion management program, including, but not limited to level of service targets and travel demand measures, or other targets established by the County congestion management agency for designated roads or highways?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☐	Reduced Impact ☒

4.17.b) Approved Project Analysis. With the implementation of Approved Project, per the 2015 General Plan Amendment EIR, many freeway and expressway lane miles would operate at Level of Service (LOS) E or F. The General Plan policies and the revised General Plan Amendment policies would partially address these deficient conditions. However, these policies would not fully address these deficiencies and additional implementation actions may be needed once these conditions actually manifest. The Congestion Management Program (CMP) requires the development of deficiency plans to address actual operating deficiencies. The General Plan would not adversely affect the local CMP and does, in fact, include policies to support the goals and objectives of the CMP. Therefore, the impact was determined to be *less-than-significant*. No mitigation was required.

The Riverside County Transportation Commission (RCTC) CMP designates State Route (SR) 74 and SR 79 as CMP facilities, and the CMP designates a minimum acceptable LOS of E on CMP facilities. Because the County's standard LOS requirement is LOS D, compared to a less stringent standard of LOS E for roadways that are part of the CMP, the 2015 General Plan EIR did not include a separate analysis of CMP facilities.

2019 CAP Update Analysis. Refer to response to Checklist Question 4.17.a. The new and enhanced measures proposed in the 2019 CAP Update would have a beneficial effect in alleviating congestion by reducing VMT and facilitating alternative modes of transportation. Therefore, impacts would be reduced from those identified for the Approved Project and be *less-than-significant*. No mitigation is required.

c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.17.c) Approved Project Analysis. Implementation of the Approved Project, per the 2015 General Plan Amendment EIR, would not affect air travel or air facilities. Therefore, the impact was determined to be *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. Neither the 2015 CAP nor the 2019 CAP Update includes any GHG reduction measures related to air travel or air facilities. Therefore, impacts would be the same as those identified for the Approved Project (i.e., *less-than-significant*).

d)	Alter waterborne or rail traffic?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.17.d Approved Project Analysis. Implementation of the Approved Project, per the 2015 General Plan Amendment EIR, would not adversely affect waterborne and rail travel and does, in fact, encourage future improvement of rail systems. Therefore, the impact was determined to be *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. Neither the 2015 CAP nor the 2019 CAP Update includes any GHG reduction measures related to waterborne travel. The 2019 CAP Update includes strategies to encourage the use of rail and transit. However, the increased number of passengers would not adversely affect rail traffic, as rail systems would be consistently monitored by responsible agencies for continued improvement as buildout of the General Plan occurs. Therefore, impacts would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation is required.

e)	Substantially increase hazards due to a design feature or incompatible uses?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.17.e) Approved Project Analysis. Implementation of the Approved Project, per the 2015 General Plan Amendment EIR, would not adversely affect transportation safety. Policies C 3.4, C 3.23, and C 6.5 proposed as part of General Plan encourage the use of design features to enhance public safety. Therefore, the impact was determined to be *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. Neither the 2015 CAP nor the 2019 CAP Update includes any facilities that would substantially increase hazards or the construction of incompatible uses. Furthermore, any future development projects that would implement 2019 CAP Update GHG reduction measures would be subject to all applicable County regulations and requirements, as well as subsequent CEQA analysis of project-specific impacts, which would occur with or without implementation of the 2019 CAP Update. The County's zoning regulations, standard development conditions, and design guidelines address site and building design. Therefore, impacts would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation is required.

f)	Cause an effect upon or a need for new or altered maintenance of roads?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☐	☒

4.17.f) Approved Project Analysis. The 2015 General Plan Amendment EIR indicated that although the General Plan identifies the ultimate roadway network for the County, actual construction of roads that would be accepted into the maintained system undergo a

review process that identifies the timing of when roads are actually needed. This also includes ensuring that proper road maintenance is supported by the demand levels that contribute to maintenance revenue. This impact was, therefore, determined to be *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. The proposed changes in the 2019 CAP Update include new and enhanced GHG reduction measures compared to 2015 CAP. Implementation of the 2019 CAP Update would further reduce VMT, thus reducing maintenance rate on roadways in the County. The 2019 CAP Update implementation would not add vehicle trips or change the vehicle trips distribution among County roadways. Therefore, impacts would be reduced compared to those identified for the Approved Project and remain *less-than-significant*. No mitigation is required.

g)	Result in circulation impacts during construction?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☐	☒

4.17.g) Approved Project Analysis. The 2015 General Plan Amendment EIR indicated that the General Plan Amendment includes adequate policies, including Policies C 8.4, C 20.6, and C 20.15 to ensure construction-related impacts are reduced so that traffic circulation is maintained. This impact was determined to be *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. Potential construction activities from implementation of the 2019 CAP Update would include energy retrofits on existing residential and commercial buildings, and installation of renewable energy facilities such as photovoltaic arrays. These construction activities may result in temporary increases in traffic; however, it is anticipated that such activities would be minor and would not require large quantities of construction equipment or construction crews that would result in substantial traffic. Additionally, each specific development project would require a traffic study and would be required to comply with mitigation measures for consistency with General Plan policies and standards. Therefore, impacts would be the same as those identified for the Approved Project (i.e., *less-than-significant*). No mitigation is required.

h)	Result in inadequate emergency vehicle access?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.17.h) Approved Project Analysis. The 2015 General Plan Amendment EIR indicated that the General Plan Amendment incorporates Policy C 3.24, which would ensure adequate

emergency vehicle access. Therefore, this impact was determined to be *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. The proposed changes in the 2019 CAP Update include new and enhanced GHG reduction measures compared to the 2015 CAP. The 2019 CAP Update would encourage more efficient land use and transit-oriented development, so it is possible that future projects or actions could require temporary road closures during their construction, which could adversely affect evacuation during an emergency event or emergency response. However, any closures would be short-term and alternate routes would be provided as necessary. It is unlikely that these actions would significantly interfere with adopted emergency response or evacuation plans. Furthermore, all future proposed projects would be subject to further CEQA analysis of project-specific impacts. Therefore, impacts would be the same as those identified for the Approved Project (i.e., *less-than-significant*).

i)	Conflict with adopted policies, plans or programs regarding public transit, bikeways or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☐	☒

4.17.i) Approved Project Analysis. The 2015 General Plan Amendment EIR indicated that the General Plan incorporates policies to ensure adequate transit (Policies C 1.2 and C 1.3), bicycle (Policies C 16.1, C 16.2, and C 17.1), and pedestrian (Policies C 4.1, C 4.2, and C 4.6) facilities. Therefore, this impact was determined to be *less-than-significant*. No mitigation was required.

2019 CAP Update Analysis. The proposed changes in the 2019 CAP Update include new and enhanced GHG reduction measures compared to 2015 CAP. The 2019 CAP Update would further encourage alternative methods of transportation, such as public transit and bicycle facilities, which would be consistent with the General Plan policies and the intent of regional plans that seek to improve subregional and regional transportation. Therefore, implementation of the 2019 CAP Update would not conflict with any adopted policies, plans or programs, or decrease the performance or safety of any public transit, bikeways, or pedestrian facilities. Impacts would be reduced from those identified for the Approved Project and remain *less-than-significant*.

4.18 WATER RESOURCES

Would the project:

a)	Result in water supplies insufficient or unavailable to serve the project from existing entitlements and resources, or result in the need for new or expanded entitlements?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☐	☒

4.18.a) Approved Project Analysis. The 2015 General Plan Amendment EIR discusses the impacts of development projects on water supplies and concludes that future development in the County consistent with the land use policies in the General Plan has the potential to increase demand for water supplies, which could be insufficient or unavailable from existing entitlement and resources. This might necessitate new or expanded water infrastructure in order to adequately serve future development. The adequate water supplies for all future development cannot be assured due to the unavailability of potable water in some areas, variability and predictability of supply adequacy in light of future growth, and environmental and regulatory constraints. Therefore, within certain areas of the County where the water supply is not sufficient or cannot be assured into future, impacts could be significant and unavoidable.

The 2015 General Plan Amendment EIR further states that compliance with relevant federal, State, and County regulations, General Plan policies, and proposed mitigation measures would reduce or minimize potential impacts to water supply associated with future development accommodated by 2015 General Plan Amendment. The federal and State regulations, including the Federal Clean Water Act (CWA), Federal Safe Drinking Water Act, California Porter-Cologne Water Quality Control Act of 1970, California Safe Water Drinking Act, CCR Title 22 Recycled Water Quality Standards, Water Conservation Act (SBX 7-7), and Senate Bill 221, would contribute toward reducing potential impacts to water supply. The existing Riverside County regulations include Ordinance Nos. 458, 592, 617, 650, 682, 856, 859, and 871. The existing General Plan includes Policies OS 1.1, 1.3, 2.2, and 2.5, and LU 5.3, 21.2, 28.3, 29.7, 30.7, 31.4, and 32.6. The proposed new or revised General Plan Policies OS 1.4, 2.3, and 2.4, New Policies OS 2.1 and 18.1-18.6, and New Policy LU 22.2 also would help minimize potential impacts to water supply.

The Mitigation Measures that directly address water supplies include Mitigation Measures 4.17.1C, 4.17.1D, and 4.17.1E. Additionally, Mitigation Measures 4.17.2A and 4.17.3A aid in reducing indirect impacts to water supplies.

The 2015 General Plan Amendment EIR concludes that the above regulations, policies, and mitigation measures do not fully mitigate potential significant impacts that would arise from project-driven future increases in demand for and use of water. Nor do they provide the means to ensure water supplies are secured for the proposed areas. Therefore, even with the above measures, impacts to water supply would remain *significant and unavoidable*.

2019 CAP Update Analysis. The 2019 CAP Update consists of R2 Water Efficiency measures that contribute to further enhancing the water conservation beyond the State regulations (refer to Table A). These R2 measures also support the implementation of General Plan Policies related to Water Conservation, including LU 4.1, C 5.2, OS 1.4, OS 2.1 through 2.5, and AQ 20.13 through 20.17. Consistent with the Approved Project, implementation of the 2019 CAP Update would help reduce or minimize the potential impacts to water supplies. However, it will not fully mitigate potential significant impacts that would arise from project-driven future increases in demand for and use of water, nor does the 2019 CAP Update provide the means to ensure water supplies are secured for the proposed areas. Therefore, even with the above measures, impacts to water supply would be reduced from the Approved Project but still remain *significant and unavoidable.*

b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☐	Reduced Impact ☒

4.18.b) Approved Project Analysis. The 2015 General Plan Amendment EIR specifies that the future land use development and population growth under the 2015 General Plan Amendment would trigger increased water demands on areas relying on groundwater supplies. New and increased uses may also conflict with groundwater management plans and monitoring programs, may lead to groundwater extractions that exceed the groundwater basins' safe yields, or may cause a net deficit in the aquifer volume or reduction in the local water table level. In addition, there is the potential for future development accommodated by buildout of the General Plan to occur in vacant areas that are currently available for groundwater recharge. Development of such areas would reduce the area available for aquifer recharge and could substantially interfere with the process of groundwater recharge. In addition, an assessment of future water supply adequacy beyond the year 2035 (including groundwater) is speculative. Since at present roughly one-third of Riverside County's water demand is met by groundwater, this unpredictability and variability indicates significant impacts associated with project buildout over the next 50-plus years are possible.

Compliance with applicable federal and State regulations, including the Federal Clean Water Act, Federal Safe Water Drinking Act, California Porter-Cologne Water Quality Control Act of 1970, CCR Title 22-Recycled Water, Water Conservation Act (SB X7-7), California Urban Water Management Planning Act, Sustainable Groundwater Management Act (which consists of three separate bills [AB 1739, SB 1168, and SB 1319]), Senate Bill 610, and Senate Bill 221, would reduce impacts to groundwater supplies. Riverside County regulations, including Ordinance No. 682, Ordinance No. 856, and Ordinance No. 871 also would reduce impacts to groundwater supplies. Additionally, General Plan Policies OS 1.1, 1.4, 2.1, 2.2 through

2.5, 3.4 through 3.7, 4.1 through 4.7, 4.8, and OS 18.1 through 18.6, Policies LU 5.3, 21.2, 22.2, 28.3, 29.7, 30.7, 31.4, and 32.6 would contribute to the reduction of impacts to groundwater. Finally, Mitigation Measures 4.17.2A, 4.17.3A, 4.17.1C, 4.17.1D, and 4.17.1E would aid in reducing impacts to groundwater supplies. However, the 2015 General Plan Amendment EIR concludes that the above regulations, policies, and mitigation measures do not address specific groundwater basin usage or site-specific groundwater recharge impacts that would result indirectly from implementation of the Approved Project. Further, such on-site mitigation may not be feasible or sufficient to offset impacts to groundwater. Therefore, impacts to groundwater and groundwater recharge would be *significant and unavoidable*.

2019 CAP Update Analysis. Consistent with the Approved Project, implementation of 2019 CAP Update per the 2019 CAP Update would result in significant and unavoidable impacts on groundwater and groundwater recharge. The 2019 CAP Update provides measures (R2 Water Efficiency Measures R2-W1 and R2-W2), which are new and enhanced water conservation measures that build upon measures prescribed in the 2015 CAP and are geared toward conserving water through enhanced implementation of SB X7-7, AB 1739, SB 1168, SB 1319, and exceeding water efficiency standards. Although future development that implements the reduction measures of the 2019 CAP Update will also be required to adhere to the applicable federal and State regulations, General Plan policies, and mitigation measures identified in the 2015 General Plan Amendment EIR concerning groundwater recharge and groundwater supplies, groundwater basin usage and site-specific groundwater recharge impacts would continue to occur through buildout of the General Plan with or without implementation of the 2019 CAP Update. Therefore, even with the above measures, impacts to groundwater recharge and groundwater supplies would be reduced from the Approved Project through implementation of the 2019 CAP Update but still remain *significant and unavoidable.*

c) Substantially degrade water quality?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
	☐	☐	☒	☐

4.18.c) Approved Project Analysis. Per the 2015 General Plan Amendment EIR, future land use and policy changes associated with the implementation of Approved Project would result in an increased reliance on lower-quality water sources either from the Colorado River or marginal groundwater sources and would contribute to increased levels of pollutants in local/regional groundwater reserves and local/regional surface waters. These conditions would contribute to the deterioration of the quality of drinking water in Riverside County. The adverse effects on water quality would be reduced through compliance with applicable federal and State regulations, including the CWA, Federal Safe Drinking Water Act, California Porter-Cologne Water Quality Control Act of 1970 and California Safe Drinking Water Act, and California Code of Regulations Title 22-Recycled Water. Existing Riverside County regulations, including Ordinance Nos. 427, 457, 458, 592, 617, 629, 650, 682, 754, 830, 843, 856, and 871, as well as General Plan Policies OS 3.1 through 3.3, 6.1, 6.3, 3.4 through 3.7, and LU 9.1, 9.2, and 9.4, would also reduce impacts to water quality.

Mitigation Measures 4.17.5C and 4.17.5D were prescribed in the General Plan EIR to further reduce impacts to water quality, and Mitigation Measures 4.17.5A, 4.17.5B, and 4.17.5E would aid in reducing impacts to water quality. Through compliance with the above-listed regulations, General Plan policies, and existing Mitigation Measures, implementation of the 2015 General Plan Amendment, impacts related to water quality regarding compliance with the water quality standards and waste discharge requirements would be *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Consistent with the Approved Project, buildout of the 2015 General Plan Amendment with the implementation of 2019 CAP Update would affect water quality. Future population growth in the region would result in an increase in the amount wastewater generated, decrease the quality of treated wastewater (where wastewater is not fully processed), and increase the need for effluent disposal. The effluent, when discharged into a stream or other surface water body, has the potential to degrade the quality of the water in the receiving water body. Additionally, storm water runoff from urban areas contains a variety of organic and inorganic substances that may reduce the quality of groundwater when introduced into their aquifers.

Although the 2019 CAP Update provides measures (R2 Water Efficiency Measures R2-W1 and R2-W2) geared toward conserving water through enhanced implementation of SB X7-7 and exceeding water efficiency standards, the 2019 CAP Update is not designed to regulate storm water discharges or wastewater treatment. Buildout of the General Plan would result in an increased reliance on lower-quality water sources either from the Colorado River or marginal groundwater sources and would contribute to increased levels of pollutants in local/regional groundwater reserves and local/regional surface waters with or without implementation of the 2019 CAP Update. Nevertheless, implementation of the GHG reduction measures detailed in the 2019 CAP Update would be subject to the same General Plan policies and programs and compliance with existing federal, State, and local laws and regulations and Mitigation Measures 4.17.5A, 4.17.5B, 4.17.5C, and 4.17.5D prescribed for the Approved Project. Therefore, impacts on water quality associated with the 2019 CAP Update would be the same as those identified for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

d)	Violate any water quality standards or waste discharge requirements?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.18.d) Approved Project Analysis. Per the 2015 General Plan Amendment EIR, future development accommodated by the Approved Project would result in changes to existing hydrology and increases in impervious surfaces and surface water flows due to urban runoff. If the watershed is not managed properly, urbanization may change stream hydrology and increase pollutant discharge into receiving waters. Several federal and State laws, including CWA, NPDES, Federal Safe Drinking Water Act, and California Porter-Cologne Water Quality Control Act of 1970, are enacted to reduce impacts to water quality.

Additionally, Riverside County regulations such as Ordinance Nos. 457, 458, 592, 617, 629, 650, 682, 754, 843, 856, and 871, and program funding from taxes, fees, and revenue would support water quality protection programs to further reduce impacts. General Plan Policies OS 3.1 through 3.7, 6.1, and 6.3, LU 9.1, 9.2, and 9.4, as well as Mitigation Measures 4.17.5A, 4.17.5B, 4.17.5C, and 4.17.5D would directly aid in reducing water quality and wastewater impacts. Finally, existing Mitigation Measures 4.17.5E and 4.10.9A would help reduce water quality impacts indirectly. With the implementation of above-listed regulations, policies, and mitigation measures, implementation of the 2015 General Plan Amendment would occur in compliance with applicable water quality standards and waste discharge requirements to ensure impacts on water quality would be *less-than-significant with mitigation incorporated*. No mitigation was required.

2019 CAP Update Analysis. Future development in accordance with the 2019 CAP Update would be subject to the same federal, State, and local regulations, as well as General Plan policies and Mitigation Measures 4.17.5A, 4.17.5B, 4.17.5C, 4.17.5D, 4.17.5E, and 4.10.9A to ensure compliance with applicable water quality standards and waste discharge requirements. Therefore, the proposed 2019 CAP Update would have similar impacts as the Approved Project on water quality (i.e., *less-than-significant with mitigation incorporated*).

e)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB)?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.18.e) Approved Project Analysis. The 2015 General Plan Amendment EIR indicated future development in the County has the potential to increase the amount of generated wastewater. Wastewater when discharged into the receiving waters could cause pollution by elevating pollutant levels or introducing pathogens. Receiving waters are protected through the County's compliance with and enforcement of its NPDES Municipal Separate Storm Sewer Systems (MS4) permits, as well as other permits required for a wide variety of activities with potential to discharge wastes into Waters of the State or U.S. These include construction and operational activities, operation of MS4s, and industries that produce wastewater. The United States Environmental Protection Agency (EPA) has also established standards governing the placement of septic systems in the proximity of water supply wells.

Compliance with the CWA, NPDES, California Porter-Cologne Water Quality Control Act of 1970, CCR Title 22-Recycled Water, Riverside County Ordinance Nos. 457, 458, 461, 592, 617, 650, 754, 843, 856, and 871, General Plan Policies OS 3.1 through 3.7, LU 5.3, 21.2, 22.2, 28.3, 29.7, 30.7, 31.4, and 32.6, Mitigation Measures 4.15.4A, 4.17.5A, 4.10.9A, 4.17.5E, and 4.19.E-N1 would ensure buildout of the 2015 General Plan Amendment would not exceed RWQCB wastewater treatment requirements. Impacts would be *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Future development in accordance with the 2019 CAP Update would result in an increase in the amount of generated wastewater and therefore would be subject to the same federal, State, and local regulations, General Plan policies, and Mitigation Measures 4.154A, 4.17.5A, 4.10.9A, 4.17.5E, and 4.19.E-N1 to ensure future development consistent with the 2019 CAP Update would not exceed RWQCB wastewater treatment requirements. Therefore, the proposed 2019 CAP Update would have similar impacts as the Approved Project on wastewater treatment (i.e., *less-than-significant with mitigation incorporated*).

f)	Result in a determination by a wastewater treatment provider which serves or may serve the project that it would not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.18.f) Approved Project Analysis. The 2015 General Plan Amendment EIR indicated future development associated with Approved Project would contribute to increased generation of wastewater requiring treatment, and therefore could result in exceedances of treatment facility capacities. Septic systems may also be necessary where sanitary sewer connections and treatment are not available. The proliferation of septic systems in rural communities may potentially contaminate groundwater with nitrates, ammonia, salts, metals, organic solvents, grease and oil, and other substances, impairing the beneficial uses of local water supplies.

Compliance with federal, State, and local regulations, including the CWA, Federal Safe Drinking Water Act, California Porter-Cologne Water Quality Control Act of 1970, CCR Title 22-Recycled Water, Riverside County Ordinance Nos. 458, 592,650,754, 843, 856, and 871, General Plan Policies OS 3.1 through 3.3, LU 5.3, 21.2, 22.2, 28.3, 29.7, 30.7, 31.4, and 32.6, and Mitigation Measures 4.9.1C, 4.10.9A, 4.15.4A, 4.17.5D, and 4.17.5E, would ensure adequate treatment capacity of wastewater facilities serving the County. Therefore, impacts would be *less-than-significant with mitigation incorporated.*

2019 CAP Update Analysis. Consistent with the Approved Project, future development with implementation of the 2019 CAP Update would increase demand on wastewater treatment facilities and septic systems. The same federal, State, and local regulations, General Plan policies, and Mitigation Measures 4.9.1C, 4.10.9A, 4.15.4A, 4.17.5D, and 4.17.5E applicable to the Approved Project would apply to the proposed 2019 CAP Update to ensure adequate treatment capacity of wastewater facilities serving the County. Therefore, the proposed 2019 CAP Update would have similar impacts (i.e., *less-than-significant with mitigation incorporated*) as the Approved Project on treatment capacity of wastewater facilities serving the County.

g)	Require or result in the construction of new water or wastewater facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.18.g) Approved Project Analysis. The 2015 General Plan Amendment EIR indicated future development pursuant to the Approved Project would result in an increased demand for water supply, wastewater treatment, and infrastructure to supply these services. The increased demand would require new or expanded water and wastewater treatment facilities, which would be subject to CEQA review on a project- and site-specific basis and would not necessarily result in significant impacts to environmentally-sensitive areas. Through CEQA review of each project, the locations of these future facilities could be sited to minimize any potential environmental impacts.

Compliance with federal, State, and local regulations, including the Federal Safe Drinking Water Act, California Porter-Cologne Water Quality Control Act of 1970, CCR Title 22-Recycled Water, Water Conservation Act (SB X7-7), Riverside County Ordinance Nos. 592, 650, 682, and 843, General Plan Policies OS 1.1, 1.3, 1.4, 2.1, 2.2, 2.3, 2.5, 3.1, 3.3, 18.1 through 18.6, LU 5.3, 21.2, 22.2, 28.3, 29.7, 30.7, 31.4, and 32.6, and Mitigation Measures 4.17.1C, 4.17.1D, and 4.17.5A, would ensure construction of water and wastewater facilities would be evaluated on a project- and site-specific basis to reduce impacts to *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Consistent with the Approved Project, development in accordance with the 2019 CAP Update would create a need for new or expanded water and wastewater facilities. Impacts associated with building new facilities or expanding existing facilities would be minimized through compliance with federal, State, and local laws and regulations governing water, wastewater, and infrastructure development, as well as implementation of General Plan Policies and Mitigation Measures 4.17.1C, 4.17.1D, and 4.17.5A to ensure project-and site-specific CEQA review for each discretionary project. Therefore, the proposed 2019 CAP Update would have similar impacts (i.e., *less-than-significant with mitigation incorporated*) as the Approved Project on construction of new water or wastewater facilities or expansion of existing facilities serving the County.

h)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.18.h) Approved Project Analysis. Per the 2015 General Plan Amendment EIR, buildout of the 2015 General Plan Amendment would increase erosion, sedimentation, and siltation of surface water. This may occur due to the short-term disturbance of large

quantities of earth during construction, as well as from increased erosion potential in areas of new construction. Development would also reduce the distribution and extent of permeable surfaces suitable for groundwater recharge and may also increase runoff and subsequent flow in streams, which could increase the amount of non-point source pollutants that enter watercourses and recharge areas. Development activities may also alter or eliminate features essential to local or regional hydrologic systems.

Compliance with federal, State, and local regulations, including the CWA, California Porter-Cologne Water Quality Control Act of 1970, Riverside County Ordinance Nos. 457, 458, 461, 659, 754, and 859, General Plan Policies OS 1.4, 2.1 through 2.5, 3.1 through 3.7, 4.4 through 4.6, 4.8, 6.1, 6.3, 18.1 through 18.6, and LU 9.1, 9.2, and 9.4, and Mitigation Measures 4.17.4A, 4.17.4B, 4.17.4C, 4.9.1C, 4.9.2C, 4.10.9A, 4.10.9B, and 4.10.9C, would reduce impacts from alteration of drainage patterns leading to erosion, sedimentation and siltation to *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Implementation of the 2019 CAP Update would result in similar impacts as the Approved Project on existing drainage patterns, erosion, sedimentation and siltation. Consistent with the Approved Project, compliance with federal, State, and County regulations, and implementation of General Plan Policies and Mitigation Measures 4.17.4A, 4.17.4B, 4.17.4C, 4.9.1C, 4.9.2C, 4.10.9A, 4.10.9B, and 4.10.9C would reduce impacts from the proposed 2019 CAP Update related to alteration of drainage patterns leading to erosion, sedimentation and siltation to the same as the Approved Project (i.e. *less-than-significant with mitigation incorporated*).

i)	Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.18.i) Approved Project Analysis. Per the 2015 General Plan Amendment EIR, buildout of the 2015 General Plan Amendment would result in the development of vacant lands and increase impermeable surfaces, which would limit the amount of groundwater infiltration during storm events. The passage of storm flows over impermeable surfaces would increase the volume and rate of storm runoff. Compliance with federal, State, and local regulations, including the CWA, NPDES MS4 permit, California Porter-Cologne Water Quality Act of 1970, Riverside County Ordinance Nos. 457, 461, 592, 650, 659, 754, 843, and 859, General Plan Policies OS 1.4, 2.1 through 2.5, 3.1 through 3.7, 4.4 through 4.6, 4.8, 6.1, 6.3, 18.1 through 18.6, LU 5.3, 9.1, 9.2, 9.4, 21.2, 22.2, 28.3, 29.7, 30.7, 31.4, and 32.6, and Mitigation Measures 4.9.1C, 4.9.2D, 4.10.9A, 4.10.9B, 4.10.9C, and 4.17.5E, would reduce runoff from development accommodated by the Approved Project and ensure compliance with applicable water quality standards. Impacts would be *less-than-significant with mitigation incorporated*.

2019 CAP Update Analysis. Future development with the implementation of 2019 CAP Update would result in impermeable surfaces that would increase runoff exceeding storm

water drainage system capacity. Consistent with the Approved Project, all future development in accordance with the 2019 CAP Update would be required to comply with applicable federal, State, and County regulations, General Plan Policies, and Mitigation Measures 4.9.1C, 4.9.2D, 4.10.9A, 4.10.9B, 4.10.9C, and 4.17.5E to ensure runoff does not exceed infrastructure capacity or generate substantial additional sources of pollution. Therefore, the proposed 2019 CAP Update would have similar impacts (i.e., *less-than-significant with mitigation incorporated*) as the Approved Project on storm water pollution and infrastructure.

j)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☒	☐

4.18.j) Approved Project Analysis. Future development in accordance with the 2015 General Plan Amendment would result in an increase in residential and non-residential structures and associated facilities (e.g., roads), increasing the amount of unincorporated land covered in impermeable surfaces, thereby limiting the amount of ground infiltration during storm events. The passage of storm flows over impermeable surfaces would increase the volume and rate of storm runoff throughout Riverside County. Existing drainage facilities may not be sufficient to accommodate the increase in some areas. Compliance with the CWA, California Porter Cologne Water Quality Control Act of 1970, Riverside County Ordinance Nos. 457, 458, 461, 592, 650, 659, 754, and 843, General Plan Policies OS 1.4, 2.1, 2.3, 2.4, 3.4 through 3.7, 6.1, 6.3, 18.1 through 18.6, and LU 9.1, 9.3, and 9.4, and Mitigation Measures 4.10.9A, 4.10.9B, 4.10.9C, 4.17.4A, 4.17.4B, 4.17.4C, 4.17.5D, and 4.17.5E would ensure construction of new storm water drainage facilities or expansion of existing facilities would be subject to project- and site-specific CEQA review to reduce impacts to *less-than-significant with mitigation incorporated.*

2019 CAP Update Analysis. Future development in accordance with the 2019 CAP Update would increase impermeable surfaces and therefore increase demand on storm water drainage facilities. Any new construction or expansion of existing facilities to accommodate growth that occurs pursuant to the 2019 CAP would be subject to the same federal, State, and County regulations, General Plan Policies, and Mitigation Measures 4.10.9A, 4.10.9B, 4.10.9C, 4.17.4A, 4.17.4B, 4.17.4C, 4.17.5D, and 4.17.5E to ensure project- and site-specific CEQA review to reduce impacts. Therefore, the proposed 2019 CAP Update would have similar impacts (i.e., *less-than-significant with mitigation incorporated*) as the Approved Project from construction of storm water drainage facilities.

4.19 MANDATORY FINDINGS OF SIGNIFICANCE

a)	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☒	Reduced Impact ☐

4.19.a) Approved Project Analysis. Implementation of the General Plan would increase developed uses in Riverside County, which would affect sensitive habitats, plant and animal communities, and migratory wildlife corridors in various areas throughout the County. The 2015 General Plan Amendment EIR determined adherence to federal, State, and local regulations, General Plan Policies, Multiple Species Habitat Conservation Plans for western Riverside County, the Coachella Valley, and Stephens' kangaroo rat, and Mitigation Measures 4.8.A-N1, 4.8.A-N2, 4.8.B-N1, 4.8.C-N1, 4.8.C-N2, and 4.8.D-N1 would reduce impacts to biological resources to *less-than-significant with mitigation incorporated.*

Buildout of the General Plan has the potential to affect four known historical resources as defined in §15064.5 of the *CEQA Guidelines*, as well as possibly several known and unknown archaeological and paleontological resources throughout unincorporated portions of Riverside County. The 2015 General Plan Amendment EIR determined adherence to federal, State, and local regulations, General Plan policies, and Mitigation Measures 4.7.1A, 4.7.1B, and 4.9.B-N1 would reduce impacts to historical, archaeological, and paleontological resources to *less-than-significant with mitigation incorporated.*

2019 CAP Update Analysis. The 2019 CAP Update does not propose project- or site-specific developments, and discretionary projects in the County must be developed consistent with all applicable regulatory policies, habitat conservation plans (e.g., Western Riverside County and Coachella Valley Multiple Species Habitat Conservation Plans), General Plan policies, and mitigation measures designed to protect biological resources with or without development and implementation of the 2019 CAP Update. Although the 2019 CAP Update is designed as a stand-alone GHG policy document, it would be utilized as a companion document to the County General Plan to provide a more comprehensive and detailed framework for land-based policy decisions to reduce GHG emissions from existing and future development. Any future projects proposed pursuant to the 2019 CAP Update would be developed in accordance with General Plan Policies for habitat conservation while maximizing efficient use of resources, maintaining a high quality of life, enhancing job opportunities, promoting sustainability, and facilitating access to transportation facilities. Consistent with the Approved Project, future development in accordance with the 2019 CAP Update would comply with federal, State, and local regulations, General Plan policies, Multiple Species Habitat Conservation Plans for Western Riverside County, the Coachella

Valley, and Stephens' kangaroo rat, and Mitigation Measures 4.8.A-N1, 4.8.A-N2, 4.8.B-N1, 4.8.C-N1, 4.8.C-N2, and 4.8.D-N1 to ensure potential impacts to biological resources remain *less-than-significant with mitigation incorporated.* No new impacts or intensification of previously identified impacts would occur with the 2019 CAP Update.

Actions implemented in accordance with the 2019 CAP Update that could directly affect historical structures include energy retrofits (2019 CAP Update Measures R2-EE4 for residential and R2-EE9 and R2-EE10 for non-residential facilities) on existing historic structures and other buildings located within the setting and context of historic districts. Additionally, the required installation of solar panels on new residential and commercial buildings (2019 CAP Update Measure R2-CE1) could potentially alter the integrity of a historic building or district's setting, design, materials, workmanship, or other physical identity that conveys the values that render a cultural resource significant under CEQA. However, details of the potential construction activities are unknown, and the *CEQA Guidelines* require a project that would have potentially adverse impacts on historical resources to conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties. Future development projects that would implement the GHG reduction measures outlined in the 2019 CAP Update would require permits from the County, which would include a development review process to preserve the historic integrity of significant cultural resources in accordance with County Design Guidelines and ensure solar panels and energy retrofits prescribed under the 2019 CAP Update would be reviewed on a project- and site-specific basis in accordance with applicable federal, State, and local regulations, as well as Mitigation Measure 4.7.1B, to reduce impacts on historical resources. Therefore, impacts to historical resources would be the same as those identified for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

Consistent with the Approved Project, future development that would implement GHG reduction measures of the 2019 CAP Update would result in ground-disturbing activities that could affect archaeological resources. However, the 2019 CAP Update does not propose project- or site-specific developments, so ground-disturbing activities of future development projects would occur with or without implementation of the 2019 CAP Update. Actions that could directly affect archaeological resources include grading, excavation, or other ground-disturbing activities. Accordingly, unanticipated encounters with archaeological resources would be managed pursuant to applicable federal, State, and local regulations, as well as Mitigation Measures 4.7.1A, 4.7.1B, and 4.9.B-N1 on a project- and site-specific basis. Additionally, consultation with interested Native American tribes would be required pursuant to California Public Resources Code 21080.3.1 and 21080.3.2 for projects so defined under California Public Resources Code §21065. Therefore, impacts to archaeological and paleontological resources would be the same as those identified for the Approved Project (i.e., *less-than-significant with mitigation incorporated*).

b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	New Significant Impact/ Increased Severity of Impact ☐	New Mitigation is Required ☐	No New Impact/ No Impact ☐	Reduced Impact ☒

4.19.b) Approved Project Analysis. Even with compliance with federal, State, and local regulations, and implementation of General Plan policies and mitigation measures identified throughout this Addendum, the 2015 General Plan Addendum EIR determined buildout of the General Plan would have cumulatively significant impacts related to the following environmental factors:

- Population and Housing;
- Aesthetic and Visual Resources;
- Agricultural and Forestry Resources;
- Air Quality;
- Greenhouse Gases;
- Cultural and Paleontological Resources;
- Energy Resources;
- Geology and Soils;
- Hazardous Materials and Safety;
- Noise;
- Parks and Recreation;
- Public Facilities;
- Transportation and Traffic; and
- Water Resources.

General Plan buildout would generate substantial population growth, which would trigger not only direct impacts related to growth inducement (i.e., required housing and employment), but also indirect impacts related to the infrastructure (e.g., roadways, storm drains, water reservoirs, pipelines, transmission lines, and other utilities) required to accommodate the increase in population throughout the County. Accordingly, development projects implemented to build out the County pursuant to the General Plan inherently would be growth-inducing and growth-accommodating (cumulative impacts to Population and Housing). These projects would convert open space to more urban types of uses (cumulative impacts to Aesthetic and Visual Resources and Cultural and Paleontological Resources), generate additional emissions of criteria pollutants and GHGs (cumulative impacts to Air Quality and Greenhouse Gases), and demand additional output (e.g., electricity and natural gas) from utility providers (cumulative impacts to Energy Resources). Additionally, the growth inducing nature of the General Plan would expose additional people to risks associated with seismic activity, unstable geologic conditions, and wildfire hazards (cumulative impacts to Geology and Soils and Hazardous Materials and Safety). Additional urban activity would also increase the overall ambient noise levels in areas comprising sensitive receptors (cumulative impacts to Noise). Increases in population would advance

the deterioration of existing parks and recreation facilities (cumulative impacts to Parks and Recreation); increase demand for fire protection and law enforcement services, schools, libraries, and medical services (cumulative impacts to Public Facilities); and increase traffic levels throughout the County such that level of service standards could not be maintained and consistency with applicable congestion management plans would not be feasible (cumulative impacts to Transportation and Traffic). Finally, increases in population and development of required infrastructure to support it would incrementally increase demand on water supply and groundwater usage and its recharge; change existing drainage patterns, erosion, sedimentation and siltation; and increase runoff due to development of additional impervious surfaces (cumulative impacts to Water Resources).

The 2015 General Plan Amendment EIR concluded no additional feasible regulations, General Plan Policies, or Mitigation Measures are available to reduce the inherent growth-inducing and growth-accommodating nature of General Plan implementation. Therefore, cumulative impacts to the environmental factors listed above would remain *significant and unavoidable.*

2019 CAP Update Analysis. Although the 2019 CAP Update is designed as a stand-alone GHG policy document, it would be utilized as a companion document to the County General Plan to provide a more comprehensive and detailed framework for land-based policy decisions to reduce GHG emissions from existing and future development. Any future projects proposed pursuant to the 2019 CAP Update would be developed in accordance with General Plan Policies for energy conservation while maximizing efficient use of resources, maintaining a high quality of life, enhancing job opportunities, promoting sustainability, and facilitating access to transportation facilities. However, the 2019 CAP Update does not include any site-specific designs or proposals, nor does it propose to grant any entitlements for development that would have a direct effect on population or employment in the County. Accordingly, direct and indirect cumulative effects related to population growth and growth inducement from implementation of the General Plan would occur with or without incorporation of the 2019 CAP Update, and impacts from the proposed 2019 CAP Update would be the same as the Approved Project (i.e., *significant and unavoidable*). Environmental factors for which implementation of the 2019 CAP Update would foreseeably reduce cumulatively significant impacts include Air Quality, Greenhouse Gases, Noise, and Transportation and Traffic.

The 2019 CAP Update includes new and enhanced GHG reduction measures compared to 2015 CAP (refer to Table A), which are expected to result in reduced VMT, higher energy efficiency, and correspondingly more reductions in criteria pollutant emissions than originally anticipated in the 2015 General Plan Amendment EIR. However, implementation of the 2019 CAP Update through buildout of the General Plan would not reduce criteria pollutant impacts to below regulatory thresholds. Therefore, although cumulative air quality impacts from implementation of the 2019 CAP Update would not be significant, cumulative air quality impacts associated with implementation of the 2019 CAP Update in conjunction with buildout of the County General Plan would remain *significant and unavoidable*.

Consistent with Mitigation Measure 4.7.A-N3 in the 2015 General Plan Amendment EIR, the 2019 CAP Update serves as the post-2020 Climate Action Plan update and includes specific targets for GHG reductions for 2030 and 2050 consistent with broader State and federal reduction targets and with the scientific understanding of the needed reductions by 2050.

Consistent with the Partial Settlement Agreement,[9] the 2019 CAP Update includes specific considerations for EV charging stations, on-site renewable energy generation, and high efficiency traffic signal lights. Additionally, the 2019 CAP Update serves as an update to the County's GHG inventory in accordance with the Partial Settlement Agreement's four-year (quadrennial) inventory update requirement in order to review the effectiveness of specific measures in the CAP and revise associated point values in the screening tables according to available evidence. If measures included in the prior CAP are found to be ineffective, they are removed or revised in the subsequent CAP Update pursuant to the Partial Settlement Agreement.

Accordingly, the 2019 CAP Update incorporates Mitigation Measure 4.7.A-N3 of the 2015 General Plan Amendment EIR, facilitates County monitoring of CAP reduction measures, and includes provisions for revisions and/or amendments to the CAP as needed based upon the results of monitoring to ensure achievement of the 2030 Reduction Target. Though compliance with the Partial Settlement Agreement's quadrennial GHG inventory update requirement, the CAP will ensure a post-2030 GHG reduction plan commensurate with concurrent technology, regulations, and baseline conditions to establish a specific target for GHG reductions for 2050. The target must be consistent with broader State and federal reduction targets including Executive Order S-3-05 and with the scientific understanding of the needed reductions by 2050. Through the process of updating the CAP every four years, GHG reduction measures will continue refinement to achieve the 2050 reduction target, and an updated monitoring system will ensure that the updated targets are achieved.

The 2019 CAP Update includes new and enhanced GHG reduction measures compared to 2015 CAP, which would further reduce GHG emissions within unincorporated portions of the County. Because quadrennial updates to the County CAP and refinement of GHG reduction measures are required in accordance with the Partial Settlement Agreement and Mitigation Measure 4.7.A-N3 prescribed in the 2015 General Plan Amendment EIR, implementation of the 2019 CAP Update would not generate new significant impacts or increase the severity of previously identified significant impacts. However, the 2050 reduction target could not be achieved until the State adopts a plan with regulations geared toward achieving 2050 emissions and the County adopts a subsequent CAP update designed to comply with those regulations. Therefore, cumulative GHG impacts from implementation of the 2019 CAP Update would be less severe than those identified for the Approved Project but still remain *significant and unavoidable*.

The 2019 CAP Update encourages mixed-use development, which would potentially increase localized ambient noise levels in proximity to such uses and locate sensitive receptors closer to traffic noise. However, mixed-use development would reduce VMT and thus decrease traffic noise. In addition, implementation of the 2019 CAP Update would further reduce VMT, thus reducing overall ambient noise in the County from mobile sources. The 2019 CAP Update implementation would not add vehicle trips. Implementation of the GHG reduction measures of the 2019 CAP Update would augment existing County programs and policies with regard to transit-oriented development. Energy retrofits would likely reduce impacts

[9] Partial Settlement Agreement, 2017. Petitioners: Sierra Club, Center for Biological Diversity, San Bernardino Audubon Society and Respondents: County of Riverside and Riverside County Board of Supervisors.

from vehicular noise to occupants of the subject buildings since increased insulation and double- or triple-paned windows would act to buffer exterior noise levels. Therefore, through reduction in overall VMT and implementation of building retrofits, ambient noise levels under the proposed 2019 CAP Update would be reduced and would not themselves result in a significant impact. However, ambient noise impacts associated with implementation of 2019 CAP Update in conjunction with buildout of the County General Plan would remain *significant and unavoidable*.

The proposed changes in the 2019 CAP Update include new and enhanced GHG reduction measures compared to 2015 CAP to further increase the availability of transit service and bicycle infrastructure, and further discourage single-occupancy vehicle use. The implementation of each of these new and enhanced measures (refer to Table A) would result in a reduction in traffic loads, which would reduce the number of vehicle trips, volume to capacity ratio, and intersection congestion within the County. Furthermore, none of the new or enhanced measures would directly increase traffic in relation to the existing traffic load and capacity of the system. Therefore, cumulatively considerable transportation and traffic impacts associated with the 2019 CAP Update would not themselves be significant. However, cumulatively considerable transportation impacts associated with implementation of 2019 CAP Update in conjunction with buildout of the County General Plan would remain *significant and unavoidable*.

c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	New Significant Impact/ Increased Severity of Impact	New Mitigation is Required	No New Impact/ No Impact	Reduced Impact
		☐	☐	☐	☒

4.19.c) Approved Project Analysis. Even with compliance with federal, State, and local regulations, and implementation of General Plan policies and mitigation measures identified throughout this Addendum, the 2015 General Plan Amendment EIR determined buildout of the General Plan would have significant effects on humans for the following environmental factors:

- Air Quality;
- Geology and Soils;
- Hazardous Materials and Safety; and
- Noise.

Proximity of a human to a source of pollutants exceeding regulatory standards, for example from a construction site or an industrial operation, could result in a significant impact to the human. For example, construction activities generating particulate matter less than 10 microns in size (PM_{10}) would need to be a minimum of 50 meters from the nearest sensitive receptor in order to be less than significant. For future development sites where this distance cannot be achieved, a significant impact would result. Since the exact location, timing, and level of future development activities from General Plan buildout is speculative, specific impacts to sensitive receptors cannot be quantified, and implementation of Mitigation Measures cannot guarantee pollutant levels would be reduced to below applicable

agency thresholds. Increased densities proposed for various land uses throughout the County and development of residential land uses in proximity to both transit and commercial centers is expected to expose sensitive receptors to pollutants from construction activities and operation of commercial and industrial uses. Therefore, impacts associated with exposure of sensitive receptors to air pollutants would be *significant and unavoidable*.

As stated previously, General Plan buildout would generate substantial population growth, which would trigger not only direct impacts related to growth inducement (i.e., required housing and employment), but also indirect impacts related to the infrastructure (e.g., roadways, storm drains, water reservoirs, pipelines, transmission lines, and other utilities) required to accommodate the increase in population throughout the County. Accordingly, the growth-inducing nature of the General Plan would expand and intensify human occupation of lands throughout the County and expose additional people to risks associated with seismic activity, unstable geologic conditions such as landslides, and wildfire hazards. Although these risks can be mitigated for new development, the anticipated increase in population would result in occupation of previously-developed structures and infrastructure that may no longer conform to the most-current regulatory standards. Therefore, impacts associated with exposure of humans to seismic activity, unstable geologic conditions such as landslides, and wildfire hazards would be *significant and unavoidable*.

Additional urban activity would increase the overall ambient noise levels in areas comprising sensitive receptors. The source of these substantial noise effects on humans would be either construction or traffic activities. Impacts on humans would be *significant and unavoidable* where construction activities or traffic volumes would expose sensitive receptors to excessive noise because mitigation of these incremental and widespread noise impacts is infeasible.

2019 CAP Update Analysis. As stated previously, the 2019 CAP Update is designed as a stand-alone GHG policy document, but it would be utilized as a companion document to the County General Plan to provide a more comprehensive and detailed framework for land-based policy decisions to reduce GHG emissions from existing and future development. Any future projects proposed pursuant to the 2019 CAP Update would be developed in accordance with General Plan Policies for energy conservation while maximizing efficient use of resources, maintaining a high quality of life, enhancing job opportunities, promoting sustainability, and facilitating access to transportation facilities. However, the 2019 CAP Update does not include any site-specific designs or proposals, nor does it propose to grant any entitlements for development that would have a direct effect on population or employment in the County. Accordingly, direct and indirect effects on human beings due to population growth and growth inducement from implementation of the General Plan would occur with or without incorporation of the 2019 CAP Update, and impacts from the proposed 2019 CAP Update regarding exposure of humans to seismic activity, unstable geologic conditions such as landslides, and wildfire hazards would be the same as the Approved Project (i.e., *significant and unavoidable*). Environmental factors for which implementation of the 2019 CAP Update would foreseeably reduce adverse effects on human beings include air quality and noise.

The 2019 CAP Update includes new and enhanced GHG reduction measures compared to 2015 CAP (refer to Table A), which are expected to result in reduced VMT, higher energy efficiency, and correspondingly more reductions in criteria pollutant emissions than originally

anticipated in the 2015 General Plan Amendment EIR. Pollutant emissions attributed directly to the 2019 CAP Update would not themselves result in significant impacts. However, due to the speculative nature of land use development through General Plan buildout, there is no way to guarantee implementation of the 2019 CAP Update in conjunction with the Approved Project would reduce criteria pollutant emissions to below regulatory thresholds. Therefore, air quality impacts associated with implementation of 2019 CAP Update in conjunction with buildout of the County General Plan would remain *significant and unavoidable*.

The 2019 CAP Update encourages mixed-use development, which would increase the density and intensity of land uses on specific parcels in the County and therefore expose sensitive receptors to intensified construction and traffic noise. However, mixed-use development would reduce VMT and thus decrease traffic noise. In addition, implementation of the 2019 CAP Update would further reduce VMT, thus reducing overall ambient noise in the County from mobile sources. The 2019 CAP Update implementation would not add vehicle trips. Implementation of the GHG reduction measures of the 2019 CAP Update would augment existing County programs and policies with regard to transit-oriented development. Energy retrofits would likely reduce impacts from vehicular noise to occupants of the subject buildings since increased insulation and double- or triple-paned windows would act to buffer exterior noise levels. Therefore, noise impacts associated with implementation of 2019 CAP Update would not be significant, as implementation of GHG reduction measures identified in the CAP Update would result in overall VMT reduction, enhanced energy efficiency from building retrofits, and reduced impacts from exposure of sensitive receptors to increased noise levels. However, noise impacts associated with implementation of 2019 CAP Update in conjunction with buildout of the County General Plan would remain *significant and unavoidable*.

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SECTION 6.0 REFERENCES

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