FINAL ENVIRONMENTAL IMPACT REPORT

SONOMA COUNTY REGIONAL CLIMATE PROTECTION AUTHORITY

Climate Action 2020: Community Climate Action Plan

State Clearinghouse #2015092072

June 2016

Prepared for:

rcpa
REGIONAL CLIMATE PROTECTION AUTHORITY

Prepared by:

FINAL ENVIRONMENTAL IMPACT REPORT

SONOMA COUNTY REGIONAL CLIMATE PROTECTION AUTHORITY

CLIMATE ACTION 2020: COMMUNITY CLIMATE ACTION PLAN

STATE CLEARINGHOUSE #2015092072

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June 2016

ICF International. 2016. *Sonoma County Regional Climate Protection Authority Climate Action 2020: Community Climate Action Plan.* Final EIR. June. (ICF 00171.13.) San Francisco, CA. Prepared for Sonoma County Regional Climate Protection Authority, Santa Rosa, CA.

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Acronyms and Abbreviations

AB	Assembly Bill
ABAG	Association of Bay Area Governments
ARB	California Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BCDC	San Francisco Bay Conservation and Development Commission
CALFIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CEQA	California Environmental Quality Act
County	Sonoma County
CPUC	California Public Utilities Commission
CRW	California Riverwatch
EIR	Environmental Impact Report
GHG	greenhouse gas
HOV	high-occupancy vehicle
HPMS	Highway Performance Monitoring System
ICLEI	International Council for Local Environmental Initiatives
MTC	Metropolitan Transportation Commission
$MTCO_2e$	metric tons of carbon dioxide equivalent
NOP	Notice of Preparation
project	Climate Action 2020: Community Climate Action Plan Project
RCPA	Regional Climate Protection Authority
RTAC	Regional Targets Advisory Committee
SB	Senate Bill
SCAPOSD	Sonoma County Agricultural and Open Space District
SCP	Sonoma Clean Power
SCTA	Sonoma County Transportation Authority
SCWA	Sonoma County Water Authority
TAZ	traffic analysis zone
tCO_2e	tons of carbon dioxide equivalent
TNC	The Nature Conservancy
VMT	vehicle miles traveled
VOC	volatile organic compound

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Chapter 1
Introduction

This final Environmental Impact Report (EIR) for the *Climate Action 2020: Community Climate Action Plan* (CAP) Project (project) has been prepared in compliance with the California Environmental Quality Act (CEQA). This document contains the following:

- Comments received on the March 2016 draft EIR (Chapter 2, *Comments Received in the Draft EIR*);
- Responses to those comments (Chapter 3, *Response to Comments*);
- Revisions to the draft EIR in the form of an errata, including several changes to the project description (Chapter 4, *Text Changes to the Draft EIR*); and
- An analysis of environmental impacts resulting from changes in the project description (Chapter 5, *Environmental Effects of Changes to the CAP GHG Reduction Measures Compared to the Draft EIR*).

The March 2016 draft EIR is incorporated by reference and has been provided on a compact disc inside the back cover of this document.

The Sonoma County Regional Climate Protection Authority (RCPA) is the CEQA Lead Agency for the project, given its role to support climate action planning in Sonoma County (County). As required by CEQA, the draft EIR was made available to the public and regulatory agencies for review and comments during a 45-day period between March 21, 2016, and May 6, 2016. A public meeting was held on April 20, 2016, to receive comments on the draft EIR. Appendix A contains the transcript of the oral comments received at the public meeting.

The majority of comments received during the draft EIR public review period are comments directed at the CAP itself and its merits and do not concern the draft EIR. Comments regarding the CAP are not responded to in this final EIR because they do not concern the adequacy of the EIR or the CEQA process. The RCPA will consider these CAP comments during the preparation of the final CAP.

The State CEQA Guidelines require that written responses be prepared for all written comments received on a draft EIR during the public review period. Per CEQA Guidelines Section 15132, the final EIR shall consist of:

a. The draft EIR or a revision of the draft.

b. Comments and recommendations received on the draft EIR either verbatim or in summary.

c. A list of persons, organizations, and public agencies commenting on the draft EIR.

d. The responses of the Lead Agency to significant environmental points raised in the review and consultation process.

e. Any other information added by the Lead Agency.

During the preparation of the final CAP, several greenhouse gas (GHG) reduction measures were removed or revised and one new GHG reduction measure was added to the CAP. In addition, several participating jurisdictions have clarified their commitment to certain GHG reduction measures.

Revisions to the CAP are described in Chapter 4, *Text Changes to the Draft EIR*, Appendix B contains the revised CAP measures and jurisdictional commitments, and Appendix C contains a revised project description for the EIR. Modifications to the GHG reduction measures in the CAP have been reviewed and the environmental impacts of these changes are disclosed in Chapter 5, *Environmental Effects of Changes to the CAP GHG Reduction Measures Compared to the Draft EIR*. The RCPA, as the CEQA Lead Agency, has determined that these changes would not result in any new significant impacts, nor any substantially more severe impacts than disclosed in the draft EIR and thus there is no need to recirculate the draft EIR.

Chapter 2
Comments Received on the Draft EIR

This chapter includes a list of the agencies, organizations and individuals who commented on the draft EIR (Table 2-1); and the actual comment letters submitted. The comment letters have been numbered as shown in Table 2-1 and include letters, emails, and the relevant portions of the transcript from the April 20, 2016, public meeting on the draft EIR. The individual comments within each letter have been numbered in the right margins and there is a response for each comment in Chapter 3, *Responses to Comments*. The location of the responses for each letter is indicated in Table 2-1.

Table 2-1. List of Comments Received on the Draft EIR and Location of Responses

Letter #	Commenter	Location of Response in Chapter 3
Federal and State Agencies		
--	None	--
Regional Agencies		
1	San Francisco Bay Conservation and Development Commission (BCDC)	Page 3-1
Local Agencies		
--	None	--
Organizations		
2	California River Watch (CRW)	Page 3-4
Individuals		
3	Fugett, Kerry	Page 3-19
4	Kinney, Edward	Page 3-19

The majority of comments received during the draft EIR public review period are comments directed at the CAP itself, and not the draft EIR. The following is a list of commenters that provided comments on the CAP received during the public review period for the draft EIR:

- Fred Allebach, comment letter
- Terry Harrison, oral comments at April 20, 2016, public meeting
- Anna Jacopetti, oral comments at April 20, 2016, public meeting
- Laura Neish, oral comments at April 20, 2016, public meeting
- Jorge Rebagliati, comment letter
- John Rosenblum, comment letter

Comments regarding the CAP are not responded to in this final EIR because they do not concern the adequacy of the EIR or the CEQA process. The RCPA will consider these CAP comments during the preparation of the final CAP.

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From: Wenger, Maggie@BCDC <maggie.wenger@bcdc.ca.gov>
Sent: Thursday, May 05, 2016 3:33 PM
To: Lauren Casey
Subject: BCDC Comments on Community Climate Action Plan
Attachments: BCDC Comments on SCTA CCAP may 2016.pdf

Lauren,
Please see our attached comments on your Draft EIR. We will also send a paper copy. I'm available if you have any further questions.

Sincerely,
Maggie Wenger
Coastal Program Analyst
Bay Conservation and Development Commission
415-352-3647

San Francisco Bay Conservation and Development Commission
455 Golden Gate Avenue, Suite 10600, San Francisco, California 94102 tel 415 352 3600 fax 415 352 3606

May 5, 2016

Sonoma County Regional Climate Protection Authority
490 Mendocino Avenue, Suite 206
Santa Rosa, CA 95407

ATTENTION: Lauren Casey

SUBJECT: Sonoma County Climate Action 2020: Community Climate Action Plan DEIR (SCH# 201509072)

Dear Ms. Casey:

Thank you for the opportunity to comment on the Draft Environmental Impact Report dated March 2016. The Commission has not reviewed the report, however, the following staff comments are based on staff's review of the report for consistency with the Commission's law, the McAteer-Petris Act and the policies of the San Francisco Bay Plan (Bay Plan). 1-1

Jurisdiction. In Sonoma County, the Commission has jurisdiction over San Francisco Bay up to the shoreline located at the mean high tide line, and in marsh areas, at the line five feet above mean sea level, and a shoreline band jurisdiction extending upland 100 feet from the shoreline. This jurisdiction extends up the Petaluma River "to its confluence with Adobe Creek and San Antonio Creek to the easterly line of the Northwestern Pacific Railroad right-of-way...Tolay Creek in Sonoma County, to the northerly line of Sears Point Road (State Highway 37), and Sonoma Creek, to the first Napa Slough." The Commission also has shoreline land use authority within designated priority use areas, including extensive wildlife refuge priority use areas along San Pablo Pay and the Petaluma River. For a full set of priority use areas in Sonoma County, see Bay Plan Map 1. http://www.bcdc.ca.gov/pdf/bayplan/bayplan.pdf 1-2

Public Access. Section 66602 of the McAteer-Petris Act states, in part, that "existing public access to the shoreline and waters of the San Francisco Bay is inadequate and that maximum feasible public access, consistent with a proposed project, should be provided." Bay Plan policies require that public access be designed and maintained to avoid flood damage due to sea level rise and storms. Any public access provided as a condition of development must either remain viable in the event of future sea level rise or flooding, or equivalent access consistent with the project must be provided nearby. As there are significant biological resources along the shoreline of the Climate Actions Plan area, the plan should also consider the Bay Plan public access policies that aim to maximize public access opportunities while minimizing significant adverse impacts upon wildlife. If the project will attract substantially more people to the shoreline than current visitation rates, the potential impact on adjacent habitats and wildlife should be evaluated in the Plan, as outlined the public access policies, including any design features or management that would address possible impacts on habitats and wildlife. 1-3

Recreation. The Commission's Bay Plan policies on recreation state in part "The Bay is the most important open space in the Bay region. The Bay and its shoreline provide unique recreational opportunities. Population growth in the Bay region will bring increases in water-oriented recreation. The demand for recreational facilities, including parks, trails, marinas, launching ramps, fishing piers, and beaches in the Bay Area will increase rapidly as the population increases, and will accelerate as population density near the edge of the Bay and spending power per capita increase, and the population ages. Many more recreational facilities will be needed. As the diversity of the Bay Area population increases, the demand for water-oriented recreational activities will also diversify. 1-4

Providing a variety of accessible, water-oriented recreational facilities and diverse recreational opportunities at these facilities for people of all races, cultures, ages and income levels, would accommodate a broad range of recreational activities. Waterfront parks can serve as important gateways to wildlife refuges, wildlife areas and ecological reserves by providing staging and education opportunities and serving as buffers between these lands and developed areas.

Sea Level Rise. The Bay Plan climate policies state that, "[t]o minimize the potential hazard to Bay fill projects and bayside development from subsidence, all proposed development should be sufficiently high above the highest estimated tide level for the expected life of the project or sufficiently protected by levees...." Additionally, the policies state that, "[l]ocal governments and special districts with responsibilities for flood protection should assure that the Plan requirements and criteria reflect future relative sea level rise and should assure that new structures and uses attracting people are not approved in flood prone areas or in areas that will become flood prone in the future, and that structures and uses that are approvable will be built at stable elevations to assure long-term protection from flood hazards. 1-5

The Climate Action Plan includes preliminary analysis of future flood risk in Sonoma County due to rising sea level, but does not propose any specific shoreline projects. If any projects are implemented based on the Final Plan require Bay fill for new shoreline development within BCDC's jurisdiction, then the Final Plan should discuss BCDC policies on filling and what is allowable for fill to be placed in the Bay to protect existing and planned development from flooding as well as erosion. However, new projects on fill that are likely to be affected by future sea level rise and storm activity during the life of the project must: be set back from the shoreline to avoid flooding; be elevated above expected flood elevations; be designed to tolerate flooding or employ other means of addressing flood risks.

Adapting to Rising Tides Program. The Community Climate Action Plan can broaden its vulnerability assessment and resilience strategies by incorporating findings from the Adapting to Rising Tides Program, a collaborative project led by BCDC investigating sea level rise and storm event flood risk in the Bay Area. Development in the plan area, especially along tidal 1-6

channels and the shoreline, could be vulnerable to future flooding, storm events, and sea level rise inundation if not located or designed to be resilient to current and future flood risks. For more information on the results of that project, or to participate, please contact me or visit www.adaptingtorisingtides.org. 1-6 cont.

I am available to assist you in clarifying these comments, including the Commission's jurisdiction in the Sonoma County Community Climate Action Plan. Thank you again for the opportunity to comment. Please contact me at 415 352-3647 or maggie.wenger@bcdc.ca.gov with any questions. 1-7

Sincerely,

MAGGIE WENGER
Coastal Program Analyst

MW/go

cc: State Clearinghouse

From: Jerry Bernhaut <j3bernhaut@gmail.com>
Sent: Wednesday, May 04, 2016 12:11 PM
To: Lauren Casey
Subject: River Watch comments on the CAP DEIR
Attachments: Climate CAP EIR CRW comments.doc

Lauren,

Given the length of our comments, I was directed to email them by attachment directly to you. Please send me a return email acknowledging you received them. I will also be in town later today and will drop off a hard copy at the RCPA office.

Thanks,

Jerry Bernhaut

Law Office of Jack Silver
P.O. Box 5469 Santa Rosa, California 95402
Phone 707-528-8175 Fax 707-528-8675
lhm28843@sbcglobal.net

The following comments regarding the DRAFT Environmental Impact Report ("DEIR") for Sonoma County's Climate Action 2020 Regional Program ("CAP"), are submitted on behalf of California River Watch. California River Watch (CRW) is a 501(c)(3) non-profit, public benefit corporation organized under the laws of the State of California, with headquarters located in Sebastopol, California and offices in Los Angeles, California. The mailing address of CRW's northern California office is 290 S. Main Street, #817, Sebastopol, CA 95472. CRW is dedicated to protecting, enhancing, and helping to restore surface and ground waters of California including rivers, creeks, streams, wetlands, vernal pools, aquifers and associated environs, biota, flora and fauna, and educating the public concerning environmental issues associated with these environs. Climate change is the greatest environmental challenge we humans face. The impacts of global warming effect all biological systems. Of particular interest to CRW, is the warming of the earth's surface waters which decreases the nutrients in rivers, creeks and streams necessary to sustain aquatic life. Global warming also causes drought, which lowers stream levels necessary to sustain threatened and endangered fish species, and extreme storm events leading to the runoff of pollutants into surface waters. 2-1

CRW submits comments regarding the following areas of concern in the County's CAP and DEIR:

I. Green House Gas Emissions ("GHG") Inventory

The Draft CAP CLAIMS TO include a GHG inventory of Sonoma County GHG emissions for the year 2010. This is intended to provide a baseline from which estimates of future GHG emissions are projected. The accuracy of all statements in the CAP and DEIR regarding estimates of future emissions, with and without reduction measures, is dependent on the accuracy of the 2010 GHG inventory. The CAP DEIR describes the CAP methodology for calculating the County's GHG emissions as follows: "The CAP explains that the current climate action planning practice for cities and counties, states, and nations is to focus on the production-side GHG emissions most directly within the control of a jurisdiction." [EIR p.21]; "The community inventory includes GHG emissions occurring in association with the land uses within a jurisdictional boundary, and it 2-2

consists of sources of emissions that a community can more readily influence or control. [EIR p.43]

CRW is concerned that although land use is called out as a source of GHG's, not all land use impacts are included in the CAP inventory or baseline calculations(See sub section A and B below). Therefore the environmental setting analysis is inadequate because the inventory analysis is flawed and does not provide an adequate basis for assessing impacts or considering mitigation measures. The County has violated CEQA by not adequately discussing this issue.

Inclusion of ALL GHG's associated with land use is required in order to be consistent with and is required by the methodology described above. The omitted GHG emission sources listed below are all associated with permits issued by Sonoma County or Cities within Sonoma County authorizing land uses within the County. 2-2, cont.

The DEIR does not present the details of the methodologies used in the CAP to calculate GHG emissions from specific sources. The EIR instead incorporates by reference sections of the CAP which describe in detail those methodologies. "**Sonoma County's Community Greenhouse Gas Emissions** This section is derived from Chapter 2 and Appendix B of the draft CAP, which discuss the County's GHG emissions" [EIR 2.4.1] "The entire draft CAP, including appendices, is hereby incorporated by reference as part of this draft EIR." [DEIR 3.2.2] Therefore, the comments below regarding omissions of GHG emissions sources in the CAP and all other comments on the inadequacies of the CAP are comments on inadequacies of the DEIR. The DEIR should contain the information necessary for the public to analyze the proposed project and the adequacy of the statements and conclusions contained in the environmental document.

A. <u>The Assessment of GHG Emissions From On- Road Transportation</u>

The methodology for calculating on-road transportation emissions is described in the CAP as follows: "CA2020 uses the Sonoma County Transportation Authority's (SCTA) Vehicle Miles Traveled (VMT) using an Origin-Destination method for the county, along with the conversion factor from daily VMT to annual VMT of 347. To determine VMT by community, County or City, SCTA apportioned one-half of the trip distance for any trip with an origin or destination within a community. This eliminates apportioning through-trips on freeways or major arterials to the communities containing them, while adding regional traffic burden to land uses generating trips on a 50/50 split." (CAP 2-3

Appendix B-9). **There is no language in the CAP or the DEIR describing how the origin and destination points are determined.** The only additional information is that this is the approach recommended by the State's Regional Targets Advisory Committee. When Jerry Bernhaut, at a meeting of the Stakeholders Advisory Committee on March 30, posed the example of a truckload of wine transported by truck from Sonoma County to the Port of Oakland and then by ship to China and asked what would be identified as the destination point of that chain of distribution for the purpose of calculating emissions, the only answer the consultant could provide was that it would not include China. He could not even specify whether it would include the Port of Oakland. He said he would have to check. The production and bottling of wine for worldwide distribution is a prime example of "land uses generating trips". Below is a quote from one wine distribution service:
"Quility Partners has proudly exported California wine to China, Hong Kong, Asia, Africa, Europe, and more. We pride ourselves on our quality service and export management knowledge. With the help and support of our dedicated staff of passionate professionals, we aim to make exporting a seamless, turn-key process for you."

2-3, cont.

The CAP explicitly externalizes all GHG emissions from air travel:
"Emissions resulting from air travel are not included in the inventory because of the challenges in determining the origin and/or destination of flights and because Sonoma County communities do not have control over aircraft sources. Regulation of emissions from aircraft occurs at the federal level. Consequently, emissions from air travel are considered out of scope for this inventory."[CAP 2.4.4]
The reasonable inference is that emissions resulting from shipping are also not included in the inventory. The CAP is improperly segmenting ground, air travel and shipping and thus segmenting the impacts of these sources of GHG emissions.

There is nothing in the CAP, beyond the above quoted inadequate language, indicating any attempt to account for what must be the enormous carbon emissions from the worldwide distribution of Sonoma County's primary export product. Every permit issued for a new vineyard or winery in areas under County jurisdiction, or under the jurisdiction of a City within the County, every approval of increased production limits, is a land use decision made by Sonoma County or a City within the County, which will generate additional trips, i.e. VMTs contributing to CO2 emissions.

Additionally, every permit for a new hotel, tasting room event center or other tourist venue is a land use decision made by Sonoma County, or a City

within the County, which will generate additional trips, i.e. VMTs contributing to CO2 emissions. There is no language in the CAP specifically describing how points of origin will be determined for trips where Sonoma County is the destination. CRW specifically alleges that the cumulative impacts analysis of the DEIR is inadequate due to the flawed analysis of GHG emissions from on-road transportation. 2-3, cont.

B. The Assessment Of GHG Emissions From Lost Carbon Sequestration

The CAP externalizes obvious major sources of GHG emissions resulting directly from agricultural activities in the County: the lost sequestration of carbon from the destruction of tens of thousands of trees for vineyard development and the direct release of carbon from soil disturbance, the deep ripping necessary for vineyard planting, and from the downed trees when they decompose or are used for firewood.

"**Carbon Stock Sectors**. Estimates of carbon stored in soil and vegetation (not emissions) in agricultural rural lands, urban forested lands, and natural rural lands were also provided for informational purposes but were not included in the GHG inventory. Storage of carbon in these lands represent an emissions "sink" because soil and vegetation remove carbon dioxide from the atmosphere. However, since carbon cycling in existing soil and vegetation is part of global atmospheric carbon cycling, the U.S. Community Protocol for Accounting and Reporting Greenhouse Gas Emissions (ICLEI–Local Governments for Sustainability 2012) (referred to as the 2012 ICLEI Community Protocol) recommends that emissions sinks be disclosed but not combined with other emissions created by human activity in an emissions inventory." [CAP Appendix B.2] 2-4

The above quoted language provides no reasonable explanation for not including the loss of carbon "sinks" as part of an inventory of emissions created by human activity, i.e. as part of the County's GHG inventory. The direct emissions from cut trees, disturbed soil and removed vegetation is measurable, as is the lost sequestration had the cut trees remained standing. The fact that the CAP excludes agricultural or forest projects from the checklist for purposes of tiering from the programmatic EIR does not cure the deficiency in the GHG inventory, the CAP project baseline, resulting from not accounting for the reality of the direct emissions and lost sequestration resulting from these projects.

"This checklist is also not suitable for other discretionary agricultural or forestry projects because the character of emissions associated with such projects, including

emissions and sinks related to carbon sequestration, are not part of the formal CA2020 inventory and forecasts, and thus such projects would require separate project-specific analysis and could not tier from CA2020." [CAP Appendix A.2]

Excluding agricultural or forestry projects from the checklist for tiering purposes does not cure the deficiency in the GHG inventory, the CAP project baseline, created by not accounting for the GHG emissions associated with those projects. CRW specifically alleges that the cumulative impacts analysis of the DEIR is inadequate due to the failure of the CAP to include GHG emissions due to lost sequestration and direct emissions associated with agricultural projects in the GHG inventory, the project baseline, and the failure of the DEIR to discuss this issue.

CEQA Guidelines § 15183.5., provides for tiering and streamlining from the analysis of greenhouse gas emissions in a separate programmatic plan to reduce greenhouse gas emissions, for the purpose of using compliance with a programmatic document, such as the Sonoma County CAP and EIR, to determine that a specific project's incremental contribution to a cumulative effect is not cumulatively considerable. Guidelines § 15183.5 specifies the elements required in the programmatic document: 2-4, cont.

"(1) Plan Elements. A plan for the reduction of greenhouse gas emissions should:
(A) Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
(B) Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;
(C) Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;
(D) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
(E) Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels;"

To comply with element (1)(A) the RCPA developed the GHG inventory. To comply with the general requirements of CEQA, the GHG inventory, as referenced and incorporated into the EIR, must provide facts and analysis which provide the public with a clear statement of the analytical route taken by the RCPA to reach its conclusion that

"In addition to a near-term target of 25% below 1990 levels by 2020, CA2020 puts the county on a solid trajectory toward meeting the long-term goals of 40% below 1990 levels by 2030 and 80% below by 2050." [CAP 3-3] "**there must be a disclosure of the analytic route the . . . agency traveled from evidence to action.**" (Emphasis added) *Laurel Heights Improvement Assn. v. Regents of University of California*, 47 Cal. 3d 376, *406; 764 P.2d 278, **292; 1988 Cal. LEXIS 261, ***47 (Supreme Court of California December 1, 1988), *Citizens for Quality Growth v. City of Mt. Shasta*, 198 Cal. App. 3d 433, 441 (Court of Appeal of California, Third Appellate District February 8, 1988) 2-4, cont.

Here, the failure of the CAP to account for GHG emissions from obvious sources from land uses the County, or Cities within the County can readily influence or control, i.e. emission sources associated with permits issued within Sonoma County authorizing land uses within the County, calls into question the analytical route the County traveled to reach the conclusion that the reduction measures in the CAP puts the County on a solid trajectory to meet its 2020 goal of 25%below 1990 emissions levels, as well as the longer term goals.

II. <u>Reduction Measures</u>

Most of the reduction measures relied on in the CAP/EIR as a basis for estimates of reductions of GHG emissions attributable to activities within the borders of Sonoma County are not supported by enforceable regulations or by identified sources of committed funding. For example, "Measure 2-L3. Solar in New Non-Residential Developments Objective: Implement a requirement to install solar energy systems on new non-residential development to increase local renewable energy generation. Under this measure, the communities will **encourage or require** solar installations on as many new non-residential developments as feasible." The percentage of new nonresidential development constructed between 2017 and 2020 affected by this measure, chosen by each community, would be required to incorporate solar energy for some or all of the project's energy needs. These percentages are: Cloverdale -, Cotati 10%, Healdsburg 2%,Petaluma10%, Rohnert Park 10%,Sebastopol 75%, Sonoma -,Windsor 5%, Unincorporated County-." The imprecise nature of the language-"encourage or require solar installations on as many new non-residential developments as feasible.", the variation in the level of commitment by the different jurisdictions, including no commitment from Cloverdale, Sonoma and the Unincorporated County, the lack of any clear obligation to honor these "commitments", which are really just aspirational goals, speak to the conjectural nature of this and most other reduction measures relied on by the CAP for projected levels of yearly GHG emissions 2-5

reductions by 2020. Yet the CAP projects specific reduction levels: “Total countywide reductions from this measure are anticipated to be 528 MTCO2e.”

Another example is “C.10 Goal 4: Reduce Travel Demand Through Focused Growth
Measure 4-L1. Mixed-Use Development in City Centers and Along Transit Corridors”
Implementation Information: The communities will develop appropriate tools to encourage mixed-use, infill, and transit-oriented development for cities and urbanized unincorporated areas. The primary method will be through updated General Plans and Specific Plans and associated land use designations and site zoning. Total countywide reductions from this measure are anticipated to be 3,485 MTCO2e.”

These are classic smart growth, transportation demand management measures which can reduce GHG emissions by reducing VMT, but the implementation is even more conjectural than for solar installation. To be successful, smart growth requires greater densities and affordable housing near transit, which will inevitably face political opposition by current residents in affected areas. These concepts are also subject to manipulation by developers, such as the claim by the developer of a new large hotel in downtown Sonoma that it is consistent with infill development. A major new tourist destination will hardly reduce VMT. 2-5, cont.

These kinds of measures are laudable aspirational goals but they do not amount to substantial evidence to support projected GHG emissions reductions. The majority of the reduction measures in the CAP are similar aspirational goals which are based on questionable presumptions regarding decisions by governing bodies subject to political influence. In *Sierra Club v. San Diego County*, D064243, (Court Of Appeal, Fourth Appellate District, Division One, State Of California, 2014) a case also involving a programmatic CAP and EIR for greenhouse gas emissions, the appellate court, in analyzing the adequacy of mitigation measures in the CAP, upheld the trial court’s conclusion that "environmental review is necessary to ascertain whether the CAP met the necessary GHG emission reductions when considering the CAP is merely hortatory and contains no enforcement mechanism for reducing GHG emissions." (*San Diego* p.12) The appellate court noted that "Mitigating conditions are not mere expressions of hope." citing (Lincoln Place I,130 Cal.App.4th at p. 1508.) (*San Diego* p.18) “The County cannot rely on unfunded programs to support the required GHG emissions reductions by 2020" (*San Diego* p.20)

Most of the reduction measures in the Sonoma CAP are also "hortatory" or merely aspirational, not enforceable under any regulation and relying on unfunded programs. CRW specifically alleges that the DEIR analysis of the effectiveness of the mitigation measures in the CAP is inadequate due to the failure of the DEIR to discuss the hortatory nature of reduction measures which are not enforceable under any regulation or supported by committed funding sources. 2-5, cont.

III. Alternatives Analysis

Regarding the selection of alternatives to be analyzed, the EIR states:

"As allowed by CEQA, an EIR needs to analyze only alternatives that are feasible, that meet most of the project objectives, and that reduce one or more of the significant impacts of the project. Thus, it is important to establish project objectives and profile the significant impacts of the project." [EIR 5.2]

The EIR identifies the following objectives of the CAP project:

i Identify specific and implementable actions that the RCPA, other regional agencies, each participating community, and individual residents and businesses can take to reduce greenhouse gas (GHG) emissions, consistent with, and even exceeding, the goals established in Assembly Bill (AB) 32. Specifically, the CAP target is to reduce countywide GHG emissions to 25% below 1990 levels by 2020. 2-6

ii Promote consistency with the land use policy direction and growth anticipated in local general plans.

iii Allow for continued economic growth to provide opportunities for businesses and residents. [EIR 5.2.1]

The DEIR considers 3 Alternatives, the No Project Alternative, Zero Net Energy Buildings Alternative, and Carbon Offset Alternative. The DEIR identifies the Zero Net Energy Buildings Alternative, whereby the County would adopt an updated green building ordinance, requiring ZNE for all new commercial and residential buildings in the County beginning in 2017, as the Environmentally Superior Alternative. [EIR 5.6]

In so doing the County does an improper analysis of the other potentially feasible alternatives. For instance the County failed to adequately analyze the Growth Moratorium Alternative. This alternative would be consistent with reduction goals by ensuring that no new emissions from land use decisions are added to the atmosphere while reductions are identified and implemented in other sectors. It would also be consistent with the General Plan and CEQA that emphasize balancing the needs of the environment with the need to maintain economic stability.

Instead the DEIR states, "[u]nder this alternative, the County would reduce GHG emissions by placing a moratorium on new wineries/vineyard expansions or new housing until the jobs-housing balance in the County is more equitable. A moratorium on new growth, although reducing emissions compared with a business-as-usual (BAU) scenario, would hinder the economic growth of the County and would not be consistent with the existing general plans adopted by the County or the incorporated cities. Thus, this alternative is not analyzed further in this EIR because it would not meet the objective of the project to allow for continued economic growth and provide opportunities for businesses and residents in the County." [DEIR 5.4.1]

2-6, cont.

In light of the deficiencies in the CAP GHG inventory for emissions associated with wine production and tourism noted above, and questions regarding the reliability of a number of the CAP's reduction measures to actually achieve the projected emissions reductions, some consideration of a moratorium or significant limitation on new wineries/vineyard expansions and/or tourist destinations seems reasonably required to provide the public with an adequate assessment of feasible measures to reduce Sonoma County's GHG emissions to actually meet the reduction targets of the CAP. However, consideration of any such alternative is precluded by defining 2 objectives of the CAP as promoting consistency with current land use policies and allowing for continued economic growth. The question whether we can, as a region, state, country, species, avoid catastrophic global warming while continuing with current economic policies based on perpetual growth is a question of enormous consequence. The CAP and DEIR avoid this question by arbitrarily defining the CAP project as promoting pro growth policies, and then by a process of reverse engineering tries to justify that decision by vastly understating the County's actual GHG emissions.

The California Supreme Court, in *Laurel Heights Improvement Assn. v. Regents of University of California*, 47 Cal. 3d 376; 764 P.2d 278; 1988 Cal.

LEXIS 261; 253 Cal. Rptr. 426; 19 ELR 20427 (Supreme Court of California December 1, 1988) addressed the issue of adequate alternatives analysis in an EIR:

" The Guidelines require that an EIR [describe] a reasonable range of alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project and evaluate the comparative merits of the alternatives. (Guidelines, § 15126, subd. (d).) **These alternatives must be discussed, even if these alternatives would impede to some degree the attainment of the project objectives**, or would be more costly. (Guidelines, § 15126, subd. (d)(3).) [*Laurel Heights****38] (emphasis added).

2-6, cont.

"The key issue is whether the selection and discussion of alternatives fosters informed decision making and informed public participation.' (*Guidelines, § 15126, subd. (d)(5)*, italics added.)[*Laurel Heights* ***40]

By summarily dismissing any discussion of limiting the growth of facilities in Sonoma County with substantial associated GHG emissions, the DEIR fails in its primary purpose as an informational document to " foster informed decision making and informed public participation". CRW specifically alleges that the alternatives analysis in the DEIR is inadequate due to its lack of consideration of feasible alternatives including mitigations such as land use restrictions regarding additional wine production and tourist destinations.

In summary, after careful review of the CAP and EIR, it is CRW's contention that, in light of the inadequate inventory of Sonoma County's current GHG emissions, inadequate identification of enforceable or securely funded reduction measures and inadequate alternatives analysis, the CAP and DEIR need to be redrafted to address the above discussed deficiencies and recirculated for public review. The finding in the DEIR that the significance of impacts of the CAP on GHG emissions before mitigation would be "beneficial" [DEIR ES-8],is not consistent with the data , and lack of data, in the DEIR and CAP. "The foremost principle under CEQA is that the Legislature intended the act to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language. (Friends of Mammoth v. Board of Supervisors (1972) 8 Cal.3d 247, 259 [104 Cal.Rptr. 761, 502 P.2d1049]. [*Laurel Heights****11]

2-7

The above comments are respectfully submitted on behalf of California River Watch.

Sincerely,
Jerry Bernhaut Esq.
Jack Silver Esq..

2-7, cont.

Climate Action 2020 and Beyond, CEQA Public Meeting on Draft EIR
Wednesday, April 20, 2016, 5-7pm
Sonoma County Permit & Resource Management Department
2550 Ventura Avenue
Santa Rosa, California

Commenter: Kerry Fugett

8262 Valley View Dr.
Sebastopol, CA 95472
kerry@conservationaction.org

My name is Kerry Fugett, I'm representing Sonoma County Conservation Action as well as Sonoma County Compost Coalition. Again I want to thank you for this work. We're very excited about it. There's the one item we really want to highlight is the organics material and the fact that it's being out-hauled now.

We produce 300 tons of organic material a day, which adds up to over 100,000 tons per year. This results in at least 1,300 tons of CO2 emissions a year, not including hauling back to Sonoma County as farmers purchase the compost back - nor idling. So it's a significant impact on the emissions, which you said were 51.7%, so I think it would be a good way to lower that.

Our primary solution that I want to present is really focused on encouraging local organics program, looking into centralized or decentralized options within Sonoma County. This would be facilitated by the continuation of Sonoma County Waste Management Agency. We really encourage the continuation of that agency to help with the organic materials management.

We also recommend the Climate Action Plan looking into a plan that could leverage the healthy soils program funding provided by the California Department of Food and Agriculture which, when aligned with Sonoma RCD, could strengthen position for farmers to apply for grants, and gain grants to subsidize compost. 3-1

Additionally we recommend changing the term "waste" throughout the document to a more appropriate term of "organic food scraps", "landscape debris", "organic materials", etc. as we believe it better represents the value of this public resource that should really be managed within our own community.

We have two additions to the EIR. We'd love to see in the Construction and Demolition Ordinance to add deconstruction as a priority to promote the reuse of materials, rather than destroying them for recycle and landfill. This could done by promoting tax incentives.

Additionally, all carbon farming and sequestration should be applied to agriculture as a whole, including urban farming, gardening and landscaping - and not just applied to rangeland.

We really applaud the baseline of an annual sequestration value. We think that's a really great idea in addition to the carbon offsets and we'll follow up with these comments in written form as well.

From: [redacted]
Sent: Monday, April 18, 2016 8:45 AM
To: Carolyn Glanton
Subject: Fwd: Climate Action 2020: Public Scoping Meeting and Preparation of Draft Environmental Impact Report

Last week I received your email where I was cited by name and attributed comments that I have submitted (included in the email below from 6 months ago and I have included my most recent comments below from a few weeks ago). I do not believe the citation in the draft report correctly reflects my comments, specifically I do not see how my comments resolved into housing/job concerns.

A more accurate representation of my comments could be summarized as follows:
The time it has taken for the 2020 plan to evolve is a concern...only 4 years away and change is still in a 'draft plan'...
Vehicle emissions sould be addressed by addressing the extended carpool lane schedule/directions and ramp light controls which cause stop/go unnecessairly should also be reviewed 4-1
Commuters leave SoCo to find employment...there should be efforts to address employment needs so commuter pollution reduces as a lack of viable employment opportunity is a root cause of commuting
Fermentation is a contributor to air pollution and as such should be included in the Agriculture section

I trust that my comments will be accurately reflected in the next draft. Also, I was unaware that comments to the county would be cited by the persons name which I find to be highly irregular and without my prior permission. This should also be corrected.

My most recent comments (2016):

My comment is a concern about how public input has now spanned 3 years ("started 2013") and we continue to "plan" for"2020" and now citing "2050" in the plan... with an apparent absence of seizing the opportunity for more immediate action. For instance, as I recall 58% of emissions are the result of vehicle emissions...yet I continue to see stop/go/idling as a result of extended hours of low use and am/pm (both way north and south 101) carpool lanes, cars waiting at onramp light controls well beyond carpool lane hours, exit light controls (such as Airport Blvd westbound from the southbound exit) has a no turn on red on only the west side of the overpass and causes a high traffic area to have cars backedup idling/waiting for no apparent reason), etc... There are immediate opportunities to reduce emissions that should be addressed...one does not have to drive during rush hour too often to recognize that two lanes are stop/go/idling while the carpool lane is vacant...and again I note that SoCo is unique in having lane controls both directions both am/pm. 4-2

Additionally, as I have commented consistently, the reason that people commute out of SoCo is the absence of employment that enables affordability...the traffic (and associated pollution) is a symptom of a failure to plan and retain viable employment in SoCo. I again suggest that addressing the employment issue is a necessary approach to ***treating a root cause*** of the traffic ***symptom***...addressing the traffic (carpool, electric cars, etc.) alone will not adequately address this issue. 4-3

I can appreciate the importance of a plan however, even with my over 30 years of government experience, it is difficult to understand how more immediate actions are not evident.

-----Original Message-----
From: edwardjkinney [redacted]
To: Brant.Arthur <Brant.Arthur@sonoma-county.org>; lcasey <lcasey@sctainfo.org>; barthur <barthur@sctainfo.org>
Sent: Sat, Oct 10, 2015 5:32 pm
Subject: Re: Climate Action 2020: Public Scoping Meeting and Preparation of Draft Environmental Impact Report

Thank you for the opportunity to review and comment on the PEIR. My comments are not intended to be critical; instead are intended to be brief and specific and reflect my observations from attending SoCo/GHG meetings, my review of pertinent studies by government agencies, experience as a public servant as well as a SoCo resident. I welcome the opportunity to elaborate on these comments as should be deemed necessary.

It is not surprising that SoCo will "not meet goals" as stated in the report. I suggest that this is the result of:

Insufficient focused effort to recognize the realities of the SoCo commuting issue (GHG, 58% from vehicles); the two way AM/PM HOV actually results in unnecessary stop/go increased pollution particulates; further, the onramp metering systems continue to operate well beyond HOV lane times/traffic demands further increasing idling/stop-go increased emissions. When 2 of 3 available lanes are congested due to extended operation of underutilized HOV lanes, it is clear that a review needs to be conducted to change times, etc. Published studies and metrics by the Federal Hiway Admin. and the EPA are specific as to the impact of idling/stop/go emissions. I suggest that addressing these traffic management practices in SoCowould go a long way to reduce the highest impacting GHG cause.

Additionally, I suggest that a root cause of the volume of commute traffic out of SoCo can be the result of insufficient SoCo efforts to create viable employment opportunities in SoCo; also, by numerous accounts it is financially burdensome for companies to start up and remain in SoCo. The necessity to leave SoCo on a daily basis is a significant impact on GHG; increased focus should be placed upon the attraction, creation, and maintenance of employment within SoCo; there should be a direct measurable strategic initiative established between GHG reduction efforts and initiative for and insufficient employment in SoCo. Neither challenge can be independent of the other; there is an opportunity for SoCo to integrate disciplines (for instance Environment and Employment) in a 'systems approach' which is recognition of these dependencies. 4-4

The report does not address the impact of emissions from wine industry fermentation (not the same as enteric). Pg 7, Item 15 **Agriculture** is remiss in the specific recognition of its contribution to our air quality. Further mandates should be placed upon expectations to resolve fermentation (sustainability production methods) and other agriculture emissions controls (recycle gases to create electricity) such as is already successfully practiced by dairies in Marin in a more timely approach.

The report does not address the impact of the drought on air quality. I suggest that the metrics on SoCo air quality improvement are influenced by the the drought and as such adherence to SoCo plan objectives will not accurately reflect the impact of agency and community efforts to reduce emissions. A failure to acknowledge the impact of the drought will likely result (as cited in the document) in further mandates for building and other emissions controls that increase costs and impacts on business growth in SoCo.

I am truly concerned by the extended schedule and absence of accomplishment that is evident when reading through the document provided. Continued (year after year) use of terms such as "Plan" "Analysis" "Schedule" "Feasibility Study" are indicative of a paralysis in achieving measurable accomplishment toward critical environmental priority objectives. There is no luxury of time when it comes to our GHG challenge(s); as such I suggest that the top two impacts on our air quality (such as motor vehicles 58%) should be addressed in a concerted manner with well stated goal/objectives/metrics/dependencies/schedule to be achieved by qualified personnel who are empowered by SoCo leadership to be successful. I suggest there clearly are 'low hanging fruit' (those that can be achieved by modifying current practices and inter-department coordination) as Ive suggested in this communication to be made a priority in curbing our GHG issues. Anything less than this will, without a doubt, continue the delay in actions and improvement to resolve the GHG issue and a continued call for more Draft documents to be created and commented upon by the community. 4-4, cont.

Thank you.
Edward Kinney, MS. MPA.

-----Original Message-----
From: Regional Climate Protection Authority <Brant.Arthur@sonoma-county.org>
To: Edward [redacted]>
Sent: Fri, Oct 9, 2015 5:00 pm
Subject: Climate Action 2020: Public Scoping Meeting and Preparation of Draft Environmental Impact Report

Hi Edward,

The Sonoma County Regional Climate Protection Authority (RCPA), as the lead agency under the California Environmental Quality Act (CEQA), will prepare a Program Environmental Impact Report (PEIR) for the proposed **Climate Action 2020: Community Climate Action Plan (CAP)** and would like your views regarding the scope and content of the environmental information to be addressed in the PEIR. This PEIR may be used by your agency when considering approvals for this CAP. The CAP location, description, and a brief summary of potential environmental effects are online.

Due to the time limits mandated by state law, your response must be sent at the earliest possible date, but no later than 30 days after the receipt of this notice. Written comments will be accepted until **October 28, 2015**, at **5:00 PM**.

The scoping meeting will be held on **Tuesday, October 13th, 2015,** at **4:00 p.m.** at **the Permit Resource Management Department (PRMD), County of Sonoma, 2550 Ventura Ave, Santa Rosa, CA**.

This NOP also serves as notification to California Native American tribes that are traditionally and culturally affiliated with the geographic area of the proposed project, pursuant to Public Resources Code 21080.3.1(Assembly Bill 52). If your tribe wishes to consult on this project, please note you have 30 days to request consultation.

If you are a responsible agency, please identify a contact person for your agency with your comments.

Questions and comments should be addressed to:

Sonoma County Regional Climate Protection Authority, Attn: Lauren Casey
490 Mendocino Ave, Ste 306
Santa Rosa, CA 95407
707-565-5379, lcasey@sctainfo.org

All the best,
Brant Arthur | Community Affairs Specialist
Sonoma County Regional Climate Protection Authority (RCPA)
490 Mendocino Ave, Suite 206 | Santa Rosa, CA 95401
Tel. (707) 565-5373 | Fax (707) 565-5370 | barthur@sctainfo.org

Working to reduce the impacts of climate change
Our mailing address is:
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Chapter 3
Responses to Comments

This chapter includes responses for each of the numbered comments identified in the comment letters in Chapter 2, *Comments Received on the Draft EIR*. Each response begins with a brief summary of the comment, responds to the comment, and then identifies if revisions to the draft EIR are required. Revisions provided pursuant to comments are noted below and are included in Chapter 4, *Text Change to the Draft EIR*. Staff initiated changes to the CAP are also described in Chapter 4, *Text Change to the Draft EIR*.

In responding to comments, CEQA does not require a Lead Agency to conduct every test or perform all research, study or experimentation recommended or demanded by a commenter. Rather, a Lead Agency need only respond to significant environmental issues and does not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure of environmental impacts is made in the EIR (Guidelines secs. 15088, 15204).

3.1 Response to Comment Letter 1 (BCDC)

Comment 1-1

The comment includes introductory remarks on the opportunity to review and comment on the Draft EIR for the CAP.

RCPA appreciates BCDC's staff's comments. The comment does not concern the adequacy of the EIR or the CEQA process. No revisions to the Draft EIR are necessary.

Comment 1-2

The comment provides context regarding the BCDC's jurisdictional areas in the County, including areas where BCDC has shoreline land use authority within designated priority use areas.

As described in the comment, BCDC's jurisdiction of the San Francisco Bay includes: the Bay itself (all areas subject to tidal action) at the mean high tide line and in marsh areas at the line five feet above mean sea level; a shoreline band of land extending inland for 100 feet from the shoreline of the Bay; and certain waterways consisting of all areas that are subject to tidal action on named tributaries that flow into the Bay. In the County, these waterways include the Petaluma River, Tolay Creek, and Sonoma Creek. BCDC also has shoreline land use authority within designated priority use areas in the County, which include the Petaluma Marsh and San Pablo Bay.

In order to accurately reflect BCDC's authority and jurisdiction in the County, the regulatory setting in Section 3.11, *Land Use and Recreation*, of the draft EIR on page 3.11-4 has been revised to include the following description:

3.11.2.3 Regional

San Francisco Bay Conservation and Development Commission

The San Francisco Bay Conservation and Development Commission (BCDC), created in 1965, is a California State commission dedicated to the protection, enhancement, and responsible use of the San Francisco Bay. The BCDC's authority derives from two statues: the McAteer-Petris Act (Government Code Section 66600 to 66684) and the Suisun Marsh Preservation Action (California Public Resources Code [PRC] Sections 29000 to 29612). Under the McAteer-Petris Act, the jurisdiction of the BCDC of the San Francisco Bay includes: the Bay itself (including all areas that are subject to tidal actions), a shoreline band of land extending inland for 100 feet from the shoreline of the Bay, salt ponds, managed wetlands, and certain waterways consisting of all areas that are subject to tidal action on names tributaries that flow into the Bay. BCDC's jurisdiction of the Bay and the certain named waterways extends to the mean high tide line in areas that do not contain tidal marsh and up to five feet above mean sea level in areas of tidal marsh. In the County, these waterways include the Petaluma River, Tolay Creek, and Sonoma Creek. BCDC also has shoreline land use authority within designated priority use areas in the County, which include the Petaluma Marsh and San Pablo Bay.

The McAteer-Petris Act requires that any person or governmental agency proposing to place fill in, or to extract materials from, or make any substantial change in the use of land, water or structures within the area of BCDC's jurisdiction must secure a permit from the Commission. The Commission shall grant a permit if it finds that the project is either: 1) necessary to the health, safety, or welfare of the public in the entire Bay Area; or 2) consistent with the provisions of the McAteer-Petris Act and with the applicable provisions of the San Francisco Bay Plan. The McAteer-Petris Act provides that BCDC can deny a permit only if the proposed project fails to provide the maximum feasible public access to the bay and its shoreline consistent with the proposed project.

Comment 1-3

The comment states that a proposed project should be consistent with Bay Plan policies aimed at maintaining and providing maximum feasible public access to the shoreline and water of the San Francisco Bay, and that any public access provided by a proposed project should be designed to remain viable in the event of future sea level rise or flooding. The comment also states that if a proposed project that will attract substantially more people to the shoreline than existing visitation rates, the project should consider the potential impact on adjacent habitat and wildlife.

The Bay Plan policies in regards to proposed projects providing public access to the shoreline and water of the San Francisco Bay and incorporating a viable design in the event of future sea level rise or flooding events is noted. As described throughout the draft EIR, the CAP would not result in an increase in population more than what was accounted for in the buildout of the Sonoma County General Plan 2020 or in the local general plans because the CAP does not propose changes in the current land use policy. The CAP encourages a pattern of settlement that concentrates this population growth in city centers and near transit, rather than spread out across the County. Thus, the population as projected in the local land use plans would remain the same throughout the County. Because the CAP would not increase population beyond what is projected in land use plans and that CAP does not propose any specific development projects in shoreline areas, it is not

anticipated that the CAP itself would attract substantially more people to the shoreline that existing visitation rates.

As described above, the CAP does not propose any specific development projects that would be constructed in BCDC's jurisdiction. Any projects in furtherance of the CAP would be subject to project-level CEQA review. In the event such project is located within BCDC jurisdiction, the project-level analysis would describe compliance with applicable BCDC policies regarding access to the shoreline and water, resilient design for flood events and sea level rise, and other potential impacts associated with the project. The impacts of specific projects would be disclosed within the project-level environmental analysis. The comment does not concern the adequacy of the EIR or the CEQA process and no revisions to the draft EIR are necessary.

Comment 1-4

The comment provides context regarding the recreational policies of the Bay Plan and state that the demand for recreation facilities, including water-oriented recreation, in the Bay Area will continue to increase. The comment also elaborates on the benefits and opportunities of providing accessible and diverse recreational activities.

The Bay Plan policies in regards to recreation and the benefits of providing accessibly to and a diverse range of recreation facilities, including water-oriented recreation, is noted. The impacts of specific local projects would be disclosed and analyzed within the project-level environmental analysis. The comment does not concern the adequacy of the EIR or the CEQA process and no revisions to the draft EIR are necessary.

Comment 1-5

The comment provides context regarding the climate policies of the Bay Plan for proposed shoreline development projects within BCDC's jurisdiction. The comment also states that although the CAP does not propose any specific shoreline projects, any projects that would occur as a result of the CAP should discuss and comply with BCDC policies regarding fill in the Bay and designed to remain viable in the event of future sea level rise or flooding.

The Bay Plan policies in regards to proposed shoreline projects, the development associated with fill in the Bay and viable design is noted. As described in the comment, the CAP does not promote any specific shoreline projects. The CAP is not a land use plan and does not alter the existing land use designations or zoning in the Sonoma County General Plan or the local general plans for the incorporated cities. Implementation of the CAP would continue to promote the existing development patterns adopted by the County and local jurisdiction. Some local land use plans may already allow for development in shoreline areas within BCDC jurisdiction. Such projects in furtherance of the CAP would be subject to project-level CEQA review. In the event such project is located within BCDC jurisdiction, the project-level analysis would describe compliance with applicable BCDC policies regarding placement of fill in the Bay and resilient design or flood events and sea level rise. The impacts of specific projects would be disclosed within the project-level environmental analysis. The comment does not concern the adequacy of the EIR or the CEQA process and no revisions to the draft EIR are necessary.

Comment 1-6

The comment suggests incorporating the findings from the BCDC's Adapting to Rising Tides Program into the CAP to address development along tidal channels and the shoreline and the vulnerabilities of development in these areas to flooding, storm events, and sea level rise.

This comment is directed at the draft CAP and does not concern the adequacy of the EIR or the CEQA process. RCPA's response to public input received on the draft CAP will be addressed in the final CAP.

Comment 1-7

The comment includes closing remarks and the commenter's contact information for clarification of the comments submitted.

RCPA thanks BCDC for its comments. The comment does not concern the adequacy of the EIR or the CEQA process. No revisions to the draft EIR are necessary.

3.2 Response to Comment Letter 2 (CRW)

Comment 2-1

The comment provides background information regarding the CRW organization and its concerns in regards to global warming.

RCPA thanks CRW for its engagement on matters of public importance. The comment does not concern the adequacy of the EIR or the CEQA process. No revisions to the draft EIR are necessary.

Comment 2-2

The comment states that the 2010 greenhouse gas (GHG) emissions inventory in the CAP does not take into account all greenhouse gas emission sources in the County. Specifically, the comment asserts that the CAP does not include all land-use related GHG emissions, and therefore the CEQA "environmental setting" is inadequate. The commenter also states that the draft EIR does not present the details of the methodologies used to estimate the GHG emissions.

As the commenter notes, the draft EIR incorporates the entire draft CAP, including the appendices. The draft CAP is thus part of the draft EIR, and the commenter and other readers are directed to the draft CAP for a description of the methodology used to estimate the GHG emissions inventory. The commenter is directed to the discussion of GHG estimation methodology in Chapter 2, *Greenhouse Gas Emissions in Sonoma County*, and in Appendix B, *Inventory and Forecast Details*, of the CAP.

The commenter asserts that "the environmental setting analysis is inadequate" because "inclusion of ALL GHG's associated with land use" is required in the inventory. As an initial matter, GHG impacts are cumulative impacts that are mediated by the global climate, and the environmental setting for GHG impacts is thus ultimately global. The commenter is directed to Section 3.8.1, *Environmental Setting*, for GHG emissions of the EIR for more information and discussion. Second, the assertion that the inventory must take into account all GHG emissions associated with land use in the County is incorrect. Under CEQA Guideline 15183.5(b)(1)(C), the inventory does not purport to include all emissions and all means of calculating them. Instead, it analyzes the GHG emissions resulting from

"specific actions" or "categories of actions" anticipated within the boundary of Sonoma County. The future effect of the CAP on those GHG emissions are measured by the degree to which the CAP reduces those emissions. The project analyzed in the EIR is not the approval of all land use decisions and all future land use development. The project analyzed in the EIR is the CAP itself, which is a series of proposed regional and local measures that will reduce GHG emissions, as calculated based on the emissions inventory. There is no legal mandate that requires a CAP to inventory and address every single source of GHG emissions, and the CAP is not attempting to do so. Instead, pursuant to an established local government inventory protocol, the CAP is addressing the community GHG emissions most readily under the control or influence of municipal governments, including the participating cities and the unincorporated County government.

In sum, the cumulative environmental setting is not simply Sonoma County's land use emissions and the CAP is not a comprehensive "land use" approval for jurisdictions within Sonoma County. The CAP will not result in the approval of all new land use development. Instead, local governments will continue to approve discretionary new development per their existing land use authority and will be required to comply with CEQA as necessary in relation to those approvals.

There are many ways to conduct inventories, and a central issue faced by planners is that inventories using different protocols are not comparable. The inventory for the CAP is an activity-based inventory (as opposed to a consumption-based inventory). The activities include electricity use and building energy, on-road transportation, off-road transportation and equipment, generation of solid waste, water conveyance, wastewater treatment, and livestock and fertilizer. These emissions are included in the inventory, which was conducted pursuant to the International Council for Local Environmental Initiatives (ICLEI) *U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions* (Community Protocol) to make it comparable with other inventories.

For a discussion of different types of inventories generally, the commenter is directed to the Introduction to Version 1.1 of the ICLEI Community Protocol, including Section 2.2, *Measuring Emissions*, of the CAP which establishes the five basic emissions generating activities required to be included for protocol compliance, as well as to the CAP appendices which describe other consumption-based approaches as well as other methodologies.

This comment describes no deficiency in the draft EIR because the GHG methodology is fully described in the draft CAP. Comments in regard to transportation emissions and carbon sequestration are addressed in responses to Comments 2-3 and 2-4, respectively. No revisions to the draft EIR are necessary.

Comment 2-3

The comment states that the CAP lacks the methodology used in determining origin and destination points for the calculation of on-road transportation emissions. The comment also states the carbon emissions associated with exporting products from the County and those associated with land uses that generate additional trips in the County are overlooked in the CAP.

The on-road transportation emissions were estimated using vehicle miles traveled (VMT) calculations from the Sonoma County Transportation Authority's (SCTA) Sonoma County Travel Model (Appendix B of the draft CAP on pages B-3, B-8, and B-9). The Sonoma County Travel Model is described in greater detail in the brochure "Travel Demand Modeling at SCTA" available at: http://www.sctainfo.org/reports/Data_and_Traffic_Modeling/

Travel_Demand_Modeling_at_SCTA.pdf (last accessed June 5, 2016). The two basic inputs for applying the travel demand models are:

1. Land use inputs, representing estimates of current and future development; and
2. Transportation inputs, including the current transportation network and planned changes (increases or decreases in capacity, new roads or highways, new transit lines).

These inputs are housed in a countywide land use database called TRANSLAND, and are assembled and updated in conjunction with local jurisdictions. SCTA uses a traditional, four-step travel demand model process to replicate and forecast countywide travel behavior. These four steps are as follows:

- Trip Generation: Sonoma County is divided into over 700 traffic analysis zones (TAZ). The model estimates the number of trips goes to and from each zone based on the amount of residential and commercial development in each zone.
- Trip Distribution: This step allocates the produced trips to the zones that they are attracted to and matches the produced trips to other zones around the region. These linkages are called origin/destination pairs.
- Mode Choice: This step uses observed travel mode usage rates to estimate with proportion of total trips made are made using different modes of transportation.
- Trip Assignment: In this final step, the model selects the best path for travelers to take, assuming people will take the fastest route avoiding traffic and congestion where possible.

As presented in Appendix B of the draft CAP, the Sonoma County Travel Model was used to estimate VMT for model validated years (2010 and 2040) and interpolation was used to estimate other years (2015, 2020, and 2050).[1] The SCTA Sonoma County Travel Model was used because it is the most accurate model for estimating VMT in Sonoma County. The emissions associated with the VMT derived using the methodology above were then estimated by using emission factors for vehicles from the California Air Resources Board (ARB) EMFAC 2011 model. EMFAC is a standard transportation model that includes a set of emissions factors that represent the vehicle fleet, speeds, and environmental conditions useful in estimating vehicle emissions.

As presented in Appendix B of the CAP on page B-9: "*To determine VMT by community, SCTA apportioned one-half of the trip distance for any trip with an origin or destination within a community. This eliminates apportioning through-trips on freeways or major arterials to the communities containing them, while adding regional traffic burden to land uses generating trips on a 50/50 split. This is the current recommended approach of the State's Regional Targets Advisory Committee and provides a better accounting of VMT associated with land use community than approaches that apportion VMT on a pro-rata share or on the basis of VMT that occurs within the boundaries of a community. This approach can also help to reveal potential differences in VMT generation that can be useful during future land use and GHG reduction planning*."

The Regional Targets Advisory Committee (RTAC) developed recommendations on the factors to be considered and methodologies to be used in the ARB's target setting process pursuant to Senate Bill 375 (SB 375) (2008), which is the state's principal legislation on planning for and implementing regional reductions in VMT. The RTAC proposed this methodology in its September 2009 final

[1] The Sonoma County Travel Model was not used to estimate VMT for 1990 because the model is not available for 1990; instead based on guidance from SCTA, 1990 VMT for the County was estimated using the Highway Performance Monitoring System (HPMS) and then apportioned to the community.

report recommending a method for target setting, and the splitting of trips based on origin and destination is the most common method of accounting for on-road emissions in a community. This method provides a rational means of allocating emissions to jurisdictions where several regional jurisdictions may be involved, based on the extent to which those jurisdictions have the ability to influence emissions, and is accepted in the ICLEI Community Protocol, which is the most widely accepted guidance for preparing community scale GHG inventories. Specifically, the ICLEI Community Protocol recommends a "*preference given to origin-destination (using a demand-based allocation model) of vehicle trips by community members, as opposed to emissions from vehicle driving inside your community boundary*." For example, this method was used by the Metropolitan Transportation Commission (MTC)/Association of Bay Area Governments (ABAG) in the Plan Bay Area analysis, and this approach has been used in most recent climate action plans in the Bay Area, including in neighboring Marin County (Marin County Climate Action Plan, 2015 Update) and many other locations. ICF International has used this method in its work with other agencies to prepare hundreds of GHG inventories across California, including 88 cities in Los Angeles County, 21 cities in San Bernardino County, Marin County, the City of Livermore, the City of Oroville, and others.

The normal domain of the Sonoma County Travel Model is Sonoma County, but SCTA added 18 external TAZs outside of Sonoma County to track travel to external destinations such as San Francisco, Oakland, San Rafael, Napa County, and other destinations and set the lengths of travel to these zones at an average distance for trips to (and from) these generalized locations. For trips from outside Sonoma County to Sonoma County or vice-versa, the VMT was split 50/50 (50 percent of the VMT is attributed to the origin, and 50 percent attributed to the destination), and thus the VMT included in the GHG inventory does include some VMT outside the County when the distance for the external/internal trip is more than twice the distance from the origin or destination within Sonoma County to the County boundary. It is important to note that the inclusion of VMT outside the County using the 50/50 method for the GHG inventory for 2010 and forecast for 2020 (or later years) means that any comparison to the 1990 backcast GHG estimate would err on the conservative side since the 1990 backcast was based on the HPMS data which does not include VMT outside the County (as noted above, the SCTA model is not available for 1990, so an alternative source of data had to be used). This means that meeting the target in 2020 (using data from the SCTA model with some VMT from outside the County) based on a target derived from the 1990 emissions estimate will be even "tougher" than if the 1990 emissions estimate did include external VMT.

In sum, travel with an origin or destination in Sonoma County is accounted for in the VMT estimates derived from the model. For a trip, for example, from Sebastopol to Sonoma, 50 percent of the VMT is attributed to the Sebastopol (the origin) and 50 percent attributed to Sonoma (the destination) for the purposes of intra-region attribution, and the entire trip is included in the region's VMT. Trips entering and leaving the County are accounted for in the data similarly, with 50 percent of the VMT attributed to the origin and 50 percent attributed to the destination. Pass-through trips, or trips that begin and end outside of the county are excluded from the VMT estimates used for the GHG inventory. The modeling is based on typical regional destinations outside of Sonoma County. It is not meant to capture chains of additional trips in interstate and international commerce that are outside of our local governments' police power to regulate both as a practical and legal matter. The intent of the inventory is to appropriately reflect GHG emissions associated with the community and to be organized to be relevant for the local government's intended purposes, namely, the emission sources and activities that the local government has the opportunity to address.

Relatedly, the comment also asserts that the CAP should include emissions from air travel and should include all downstream emissions associated with transportation, such as air travel and

shipping (in the commenter's example, of wine bottles). This comment raises similar questions about control and jurisdiction over emissions as well as GHG inventory methodology/philosophy.

As noted above in response to Comment 2-1, the CAP includes those emissions that local governments have primary influence or control over. Appendix B of the draft CAP on page B-1 thus explains: "*The GHG Inventory includes GHG emissions associated with community activities occurring within the geographic or jurisdictional boundaries of the county and generally consists of sources of emissions that the County and its communities can influence or control.*"

Local Sonoma County governments can influence the location of residents and businesses in Sonoma County and the location of transportation networks inside the County, and thus can influence transportation within the County and the GHG emissions associated with travel inside the County. For origins and destinations in the Bay Area, the responsibility for transportation is one that is shared with other Bay Area local governments and thus trips are split between origin and destination. However, local governments cannot control transportation emissions outside the Bay Area, such as interstate, international travelers, or international transport of goods produced in Sonoma County (such as wine). The local police power does not extend to the regulation of interstate and international commerce. Hence, Sonoma County does not have the legal jurisdiction to regulate the entire downstream supply chain delivering any particular Sonoma County good to market.

Aircraft emissions are not within local government's jurisdiction to regulate. Nor can local governments control people's choice of travel destinations, the types of aircraft they use, or the types of fuel used in aircrafts. While Sonoma County jurisdictions can influence the size and activity of the local airports to some extent, regulating local airport activity is not the same as having the ability to control air travel emissions. If airports within Sonoma County simply closed, air travel demand could and would easily be met through other Bay Area airports.

Given these issues of jurisdictional control/influence, most local GHG inventories only include the transportation GHG emissions that are more readily under the control and influence of local government, including emissions associated with on-road travel within a jurisdiction and on-road travel from the jurisdiction to regional destinations. The ICLEI Community Protocol does not require air travel emissions to be included in the basic emissions necessary for protocol-compliant GHG inventories because it recognizes that local governments have less control over such sources as air travel and that information is often not available to precisely describe an airport's emissions to a specific community. Relative to air travel, most local GHG inventories only include the GHG emissions that are more readily under the control and influence of local government: the building emissions at airports, the on-road travel to and from airports, and the operation of ground-support equipment at airports and not the airplane emissions itself. <u>These non-airplane emissions associated with airport operations are included in the Sonoma County RCPA GHG inventory.</u>

Regarding emissions associated with goods transport out of the County to their final use destination, these are commonly referred to as "life cycle" emissions. While there are methodologies to estimate upstream emissions (associated with the manufacture of goods or services that are consumed in a jurisdiction), these methodologies are commonly used to prepare what is known as a "consumption-based" inventory, which estimate the life cycle "carbon footprint" of everything households (and sometimes other consumers) consume. There are also methodologies to estimate "downstream" emissions associated with the transportation, end use, and disposal of goods produced in jurisdiction, but such methodologies require highly detailed information about the entire

downstream supply chain, including the ultimate geographical destination of goods that can be difficult to come by, especially if such data is privately held. While one could estimate emissions using a consumption-based approach or a "downstream" emissions method, these are not the common approach used for community emissions, state emissions, or national emissions at present, and if used, would make it impossible to compare regional inventories. For example, the U.S. national GHG inventory, the California state GHG inventory, and the inventory of nearly every city and county in California that has prepared a climate action plan to date, including the GHG inventories for neighboring Marin County, Napa County, and cities throughout the Bay Area, have all used the "activity-based" approach for estimating GHG emissions, as was used for the Sonoma County CAP. Of note, the ARB's Scoping Plan pursuant to Assembly Bill 32 (AB 32), which is the current statewide GHG emissions reduction plan, does not include "consumption-based" emissions outside of California, nor does it include GHG emissions for transportation from outside of California to and from California for travelers or goods. Thus, in order to put the efforts of Sonoma County's local government in State and regional context, and to support statewide GHG reduction goals and legislation (like AB 32), the GHG inventory used in the CAP is an appropriate basis for evaluation.

By estimating GHG emissions using the widely accepted ICLEI Community Protocol, and including the GHG emissions commonly included in GHG inventories for communities across California and the state as a whole, Sonoma County is preparing an inventory that can be compared to those other communities, using a common standard, and thus comparing GHG emissions in the County on a common basis with other communities in California.

While it is recognized that there are several different methodologies available by which to estimate transportation GHG emissions, the fact that the County used the most commonly accepted standard and practice and not another methodology is not evidence of any deficiency in defining CEQA baselines for the draft EIR. As noted above, the CAP is not required to include every possible transportation GHG emissions source in Sonoma County or that is associated with every existing or possible future land use in the County; it needs only to define the transportation GHG emissions associated with the sectors being addressed by the CAP reduction measures in order to define the effectiveness of those reduction measures.

No revisions to the draft EIR are necessary in response to this comment.

Comment 2-4

The comment states that the CAP does not take into account the carbon sequestration lost as a result of vineyard development including the effects of tree removal and soil disturbance.

The draft CAP estimated the 2010 level of carbon stock, including carbon stored in agricultural soils and vegetation, in Section 2.4.2, *Carbon Sequestration*, of the draft CAP, including Table 2-5. The final CAP (Section 2.4.2, *Biological Carbon Sequestration*; Section B.10, *Carbon Stocks*, of Appendix B; and Section C.25, *Goal 19: Increase Carbon Sequestration*, of Appendix C) includes a revised estimate of the 2010 level of carbon stock, including agriculture, as well as an estimate of 1990 carbon stock and forecasted future carbon stock levels for 2030 and 2050, all based on work by The Nature Conservancy (TNC) and Sonoma County Agricultural Preservation and Open Space District (SCAPOSD) in the *Conserving Landscapes, Protecting the Climate: The Climate Action through*

Conservation Project (SCAPOSD/TNC 2016).[2] The TNC/SCAPOSD study reveals that there is, in fact, not a negative trend in carbon sequestration in Sonoma County. From 1990 to 2010, carbon sequestration in the County increased by more than 15 million tons of carbon dioxide equivalent (tCO_2e), an average of over 750,000 tCO_2e per year. Furthermore, extending 1990 to 2010 trends into the future, the study identifies that carbon sequestration in the County is likely to increase by 2030 and 2050, even taking into account vineyard and urban growth expansion. The study describes how additional land preservation efforts can further increase carbon sequestration in the County, a goal that is supported by the CAP. It is important to note that the TNC/SCAPOSD estimates represent the total carbon sink and do not represent the annual change in emissions in 1990, 2010, 2030 or 2050 due to increase or decrease in carbon stocks. In order to estimate annual change in carbon sinks (e.g., positive or negative GHG emissions in a single year), one would need to analyze (or project) the amount of carbon sequestration in the prior year and the amount in the target year. The TNC/SCAPOSD study did not estimate the change in annual sequestration at specific milestone years.

There are several important reasons why the CAP does not include carbon stock or sinks (including that associated with agricultural uses such as vineyards) in the GHG inventory of other man-made GHG emissions.

First, the inventory is ICLEI Community Protocol compliant. As described in Appendix B of the draft CAP, the ICLEI Community Protocol recommends that emissions sinks be disclosed but not combined with other emissions created by human activity in an emissions inventory. Indeed, the Community Protocol does not allow carbon stocks or sinks, including forests, to be combined in the inventory. Thus, the final CAP includes estimates of carbon stock in 1990 and 2010, and projections for 2030 and 2050, but did not combine any of these estimates or projections with the GHG emissions inventory. The ICLEI Community Protocol advises the separation of carbon sequestration estimates from other GHG emissions for several reasons: (1) the quantification of carbon sinks is still a developing inventory practice for local community inventories and the ICLEI Community Protocol does not provide any guidance or standards in the preparation of such estimates; and (2) the protocol desires to avoid the potential for jurisdictions to use a "combined" inventory to offset man-made GHG emissions with carbon sequestration in the natural environment and thus minimize a jurisdiction's GHG emissions inventory overall. Sequestration in the natural environment is part of the natural global carbon cycle and thus is not considered an offset for man-made emissions.

Second, accurate estimates of the specific amount of <u>past</u> or <u>future</u> carbon stock in Sonoma County are subject to some uncertainty. The updated carbon stock information is derived from recent work conducted by TNC/SCAPOSD completed in January 2016 that is actually a pilot study exploring new sequestration accounting techniques useable on a landscape level at the County level. Methodologies are still in development and could change over time. The estimate of the current carbon stock for 2010 in the TNC/SCAPOSD work is very close to the estimate for 2010 provided in the draft CAP. The commenter is referred to the revised sequestration discussion in Chapter 2, *Greenhouse Gas Emissions in Sonoma County*, and Appendices B and C of the final CAP, and to the January 2016 TNC/SCAPOSD documentation for further details. Further, the report projects that carbon sequestration will continue to increase in 2030 and 2050 compared to 1990 and 2010. While locally

[2]The Nature Conservancy (TNC)/Sonoma County Agricultural Preservation and Open Space District (SCAPOSD). 2016. *Conserving Landscapes, Protecting the Climate: The Climate Action through Conservation Project*. Available: http://scienceforconservation.org/dl/CATC_Final_Jan2016.pdf.

developed sequestration accounting being is new enough that it has not been incorporated into standard community inventory protocols, it may be in the future.

Third, the available data is on total carbon stock, not on the annual change in sequestration in a particular past, present, or future year. The GHG inventories and forecasts prepared for the CAP are estimates of the amount of GHG emissions in a single year (1990, 2010, 2020, etc.). Even if it were allowed by protocol, from a technical perspective, one could only combine the CAP GHG inventories and forecasts with an estimate of the change in carbon sequestration for specific milestone years and data on the annual estimate of change has not been developed to date.

Fourth, the CAP will not result in the approval or disapproval of vineyard expansions or conversions and will not result in new regulation of existing vineyards. Vineyards and other forms of agriculture are permitted uses, allowed as a matter of right, in many of the agricultural, residential, resource, and open space zoning districts in Sonoma County's cities and unincorporated areas. In the unincorporated area, Sonoma County is believed to be one of only three jurisdictions in the State to require any kind of permit for vineyard site development, through its Vineyard/Orchard Erosion and Sediment Control Ordinance (VESCO). That ordinance mandates approval of vineyard and orchard planting and replanting that conforms to ministerial standards to control erosion and sediment, while requiring a discretionary review of projects that cannot meet and seek relief from standards. The continued operation of existing vineyards and orchards does not require a discretionary land use permit from local jurisdictions in Sonoma County. As described in Chapter 2, *Project Description*, of the draft EIR, two of the fundamental objectives of the CAP are to: 1) promote consistency with the land use policy direction and growth anticipated in local general plans, and 2) allow for continued economic growth to provide opportunities for businesses and residents. The CAP is not proposing to change current city or county land use law or policy direction, and the CAP does not include mandatory measures that would be imposed on existing or new vineyards or orchards.

In addition, any major project impacting timberland sequestration would likely be in the unincorporated area of the County and would be subject to CEQA review, which would necessarily include an analysis of those projects' GHG impacts. The conversion of timberlands to vineyards or any other non-timber use requires a Timberland Conversion Permit (TCP) under the jurisdiction of the California Department of Forestry and Fire Protection (CALFIRE), as well as a use permit from the County of Sonoma under the County's timberland conversion ordinance. Both agencies subject conversions of more than three acres to discretionary permit review, making them subject to CEQA requirements. Any estimate of the impacts from future timberland conversions would currently be speculative. The EIR for the Sonoma County General Plan estimated that 1,220 acres of timberland would be converted over the life of the plan (through 2020), if all pending applications were approved, an amount that represents approximately one half of one percent of Sonoma County's 230,000 acres of timberlands, and a less-than-significant impact. However, since the 2006 adoption of Sonoma County's timberland conversion ordinance, no major timberland conversions have been approved (and very few have been proposed). Future timberland-to-vineyard conversions are speculative, will be subject to discretionary and CEQA review (including a review of GHG impacts), and there is no ready-made and meaningful basis to project potential future GHG emissions associated with uncertain future conversions, should they occur. The CAP is not providing any approval for vineyard conversions of timberland and such projects are not included in those projects allowed to streamline their GHG analysis using the CAP and the checklist in Appendix A of

the draft CAP. Since the CAP is not addressing agricultural conversions of timberland, GHG emissions of such actions is not required to be estimated in the EIR for the CAP.[3]

Finally, the CAP will not result in increased vineyard emissions related to carbon stock or sequestration. As discussed above, the CAP does not approve new vineyards and does not regulate existing vineyard emissions, and thus it is not the cause of existing or future vineyard GHG emissions. The CAP does include voluntary GHG reduction measures supporting efforts to reduce vineyard GHG emissions (such as Measure 18-R1, which supports sustainable agricultural certification programs that include enhancing carbon stocks/sequestration). As described in Section C.24, *Goal 18: Promote Sustainable Agriculture*, in Appendix C of the draft CAP, the County would provide support to the vineyard owners and operators and wineries to implement sustainability measures by cooperative development of a sequestration baseline for soil carbon in vineyards, collecting data and quantifying the carbon reductions due to vineyard and winery measures implemented under this project, and updating the plan to demonstrate the GHG benefits of sustainable winegrowing and winemaking. The CAP also includes other measures to preserve existing carbon stocks and increase carbon sequestration in the County. These include Measures 1-L3 (increase shade tree planning), 17-R1 (conserve open space and working lands), 17-R2 (enhance natural resources on open and working lands through climate beneficial management practices), and 18-R3 (urban agriculture). Measures under Goal 19 (Increase Carbon Sequestration) of the CAP include a robust "carbon farming" measure (Measure 19-R1) that will increase carbon sequestration on rangelands and crop land (including vineyards) throughout Sonoma County, and the formal establishment of short- and long-term targets for increasing carbon sequestration (Measure 19-R2). Thus, the CAP is actually expected to result in an increase in carbon stocks/sequestration compared to what would result in absence of the CAP.

In summary:

- RCPA is following the ICLEI Community Protocol in not combining carbon sequestration information with the other man-made emissions in the inventory, and the separation of carbon stock estimates from the estimate of other man-made emissions follows the most widely accepted GHG inventory protocol and practice;
- the CAP does not regulate existing or future vineyards;
- any major (greater than 3 acres) timberland-to-vineyard conversions will be discretionary and subject to CEQA (by CALFIRE or Sonoma County, or both);
- the CAP will not enable or streamline new vineyard development or approvals;
- the CAP will not result in increased emissions due to vineyards and will, if anything, increase carbon stock/sequestration compared to future conditions without the CAP; and
- the currently available data on carbon sequestration shows that overall carbon sequestration in Sonoma County is increasing, not decreasing since 1990 and is expected to continue to increase in the future.

[3] Forestry projects are regulated by the State through CALFIRE's Timber Harvest Permit (THP) process. This is not a County process. The response above concerning the uncertainty of estimating future sequestration applies equally to forest carbon stock and sequestration. As noted in Appendix A of the draft CAP, forestry projects are also not enabled by the CAP for CEQA streamlining and any necessary CEQA documentation would need to consider GHG emission impacts of forest projects, as appropriate.

The comment does not raise any deficiency in the draft EIR analysis for the reasons cited above and thus no revisions to the draft EIR are necessary in response to this comment.

Comment 2-5

The comment states that there is not substantial evidence to support the projected GHG emissions reductions because the measures identified in the CAP are not enforceable regulations, because the CAP does not discuss committed sources of funding, because local government is "subject to political influence," or because the measures are "aspirational." The comment also quotes from an appellate court CEQA ruling related to the San Diego County Climate Action Plan.

The CAP establishes targets and provides a variety of measures to meet those targets. In response to the commenter's assertions regarding evidence, the commenter is directed to Appendix C of the draft CAP, which contains the reduction measure details and analysis methods.

To the extent that the commenter's assertion is that the participating agencies need to meet the emissions reductions to which the individual agencies are committing, the commenter is correct. However, because of the scope of the plan, it is anticipated that some of the planning assumptions may need to be modified in the future, as is contemplated by CEQA Guideline 15183.5. Monitoring and adaptive management are part of the CAP, again as contemplated and required by CEQA Guideline 15183.5, and RCPA will conduct a two-year review of overall CAP effectiveness as part of its annual reporting in 2018. The review will include measure status and impact data and will allow for mid-course adjustments prior to 2020.

The commenter quotes case law regarding the enforceability of individual mitigation measures. The litigation concerning the San Diego Climate Action Plan to which the commenter refers involved the legal standards for mitigation measures and is not relevant to or applicable to the present CAP. The CAP is a broad planning document, not a specific mitigation measure that is being adopted for a particular project. As a planning document, it is based on population projections, travel projections, emissions estimates, and numerous government initiatives. The variety of types of measures in the CAP is a result of its breadth, it is not a weakness in the plan, and the types of measures implemented may be adjusted based on monitoring results in future iterations of the CAP. The measures are described at a planning level. It is anticipated that there will be differences in how they are implemented across the participating agencies. What matters is not that the emissions reductions for each measure are exact, but that the overall emissions reductions occur. Ultimately, the purpose of monitoring and adaptive management is to ensure that the plan meets the reduced emissions levels for the participating agencies. If the current reduction measures are inadequate to meet the reduction targets, they will be amended.

The CAP complies with all provisions of CEQA Guideline 15183.5, which contains the applicable standard the CAP must meet in order to be used for CEQA streamlining. The commenter is referred to Section 1.2.3, *Program-Level Analysis and Tiering*, on pages 1-2 to 1-4 in the draft EIR, which describes how the CAP complies:

1. Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area. *The CAP quantifies GHG emissions from all GHG sources within County jurisdictions over which the County jurisdictions have substantial control and/or influence for 1990, 2010, 2015, 2020, 2040, 2030, and 2050.*
2. Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the CAP would not be cumulatively considerable. *The CAP establishes*

a countywide GHG emissions target of 25% below 1990 levels by 2020, a target that goes well beyond the requirements of AB 32 and puts Sonoma County on a trajectory to achieve the even greater GHG reductions needed in the future. The CAP includes a GHG emissions budget for new development that will ensure that the countywide reduction target is met, even with projected population and economic growth. The GHG reduction measures in the CAP will reduce project-specific emissions and thereby ensure that the new-development share of total future emissions is not exceeded. Reducing and limiting emissions from new development is part of an overall strategy that substantially reduces emissions countywide and, therefore, contributions from new development that is consistent with the CAP would not be cumulatively considerable.

3. Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area. *The CAP analyzes community emissions, by sector, for the partner communities, including emissions from projected growth and development expected by 2020 and beyond.*
4. Specify measures or a group of measures, including performance standards that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level. *The CAP includes specific measures to achieve the overall reduction target, as well as the levels to which individual agencies are committing.*
5. Establish a mechanism to monitor the CAP's progress toward achieving the GHG emissions level and to require amendment if the CAP is not achieving the specified level. *The CAP includes periodic monitoring of plan progress.*
6. Adopt the GHG emissions reduction plan in a public process following environmental review. *This draft EIR has been prepared for the CAP, and the CAP itself will be adopted first by the RCPA, followed by adoption of community-specific portions by each local participating jurisdiction. The adoption process will include public outreach and public hearings.*

CEQA Guidelines Section 15183.5 does not restrict planning estimates of reductions to those that result from measures that are regulatory in nature. It only requires that the measures are shown to be able to reduce emissions to achieve the specified emissions level and the measures amended (or augmented), if the CAP is not achieving that level. As described in the CAP, the CAP takes into account the effects of state measures (which would occur with or without the CAP); regional measures implemented by cross-jurisdictional agencies like the RCPA, Sonoma Clean Power (SCP), transit agencies, and waste management and water supply agencies; and local actions implemented by the cities and the County. The local actions use a variety of voluntary, incentive-based, and regulatory approaches.

The comment is incorrect in asserting that most of the reduction measures in the CAP are aspirational. As indicated in Appendix A of the draft CAP, there are many mandatory regional and local measures for new development (and in some cases existing development) including the following with quantifiable reductions: Measures 1-L1, 1-L2, 2-L1, 2-L3, 4-L1, 5-R3, 5-R4, 5-L5, 7-L2, 8-L1, 8-L2, 9-R1, 9-L1, 11-R1, 11-L1, and 11-L2. In addition, there are mandatory measures that are not directly implemented by new development but would have measurable and meaningful GHG emissions reductions for both existing and new development and are certain to be implemented (due to committed state policy, regional mandatory commitment of RCPA, or local commitment of participating jurisdictions) that include the following: Measures 1-S1, 1-S2, 1-S3, 2-S1, 2-S2, 5-R1, 5-R8, 5-L6, 6-S1, 6-S2, 6-S3, 7-S1, 7-R1, 7-R2, 7-L1, 10-R1, 13-R1, 13-R2, 14-R1 and 14-L1. For the Santa Rosa Climate Action Plan, which has already been adopted, mandatory state and local

measures would also result in substantial emissions reductions by 2020. Considering only these mandatory state, regional and local measures, the total estimate GHG reductions for 2020 would be approximately 1.07 million metric tons of carbon dioxide equivalent ($MTCO_2e$), County GHG emissions in 2020 would be 3.28 million $MTCO_2e$, which would be approximately 17% below 1990 emission levels.

In addition to the mandatory measures, some measures identified as "voluntary" are nearly certain to happen. A primary example is Community Choice Aggregation through Sonoma Clean Power (Measure 2-R1). While enrollment in SCP is voluntary for the individual residence or business, SCP is an adopted program that is already being implemented. According to the SCP's 2014–2015 Annual Report, 89% of eligible customers are already receiving electricity from SCP. The goals for SCP included in the CAP are the goals that SCP itself has identified and intends to implement. Thus, the agency with the ability to implement the measure has already identified that it is committed to the measure. The GHG emissions reductions, including the RCPA-estimated reductions for all cities other than Santa Rosa and the Santa Rosa Climate Action Plan's estimated reductions for Community Choice Aggregation would be approximately 104,000 $MTCO_2e$. Combining this reduction and the mandatory measures noted above, the total estimated GHG reductions for 2020 would be 1.17 million $MTCO_2e$, County 2020 GHG emissions would be 3.17 million $MTCO_2e$, and the County would achieve a level of GHG emission that is approximately 20% below 1990 emission levels. Even if one were to exclude the non-mandatory measures, the Sonoma CAP (and the Santa Rosa Climate Action Plan), combined with state measures, would reduce GHG emissions in the County by far more than the state's 2020 reduction goal in AB 32 of reaching 1990 GHG emission levels by 2020.

Some measures identified as "voluntary" are certain to result in GHG reductions based on the evidence that they are already working to reduce GHG emissions in Sonoma County. Primary examples of this are energy efficiency retrofits and renewable energy installations that have already occurred due to local, regional, state and utility retrofit and renewable energy incentives and outreach as well as the effect of the private sector. Even without climate action plans for any municipality in Sonoma County through 2010, County GHG emissions in 2010 were 3.601 million $MTCO_2e$ compared to 1990 emissions of 3.944 million $MTCO_2e$ (see Table 3.8-3 in Section 3.8, *Greenhouse Gas Emissions,* of the draft EIR), representing a level that is approximately 9% below 1990 emission levels. This decrease occurred despite a 25% increase in population and a 17% increase in employment in Sonoma County between 1990 and 2010. Part of the reason this occurred is increased efficiency, expanded use of renewable power, water conservation, waste reduction and other actions. Some of these actions, like the increase in energy efficiency are the result of mandatory state and location action; other actions are the result of voluntary efforts not mandated by federal, state, or local law. There is no reason to expect that energy efficiency retrofits, renewable energy installations, and other voluntary efforts in other GHG emission sectors would not continue to occur due to the market and government incentives that exist and those that would be added by the CAP. In the building energy sector, the state of California intends to continue promoting energy efficiency and renewable energy, private solar companies continue to finance renewable energy incentives, and investor-owned utilities are required by the California Public Utilities Commission (CPUC) to continue incentivizing both their ongoing and future actions.

The RCPA and the participating agencies expect to and are committed to achieving their individual emissions reductions and the GHG reduction target identified in the CAP overall. While it is reasonable to expect that there will be some measures that work better and some that work worse than expected, the CAP provides ample evidence of the feasibility of the measures to achieve the goal overall. Furthermore, Chapter 4, *Implementation*, of the draft CAP describes the CAP

implementation, including scheduling, funding and financing, evaluation and monitoring, and importantly adaptive management. This may require changing GHG reduction measures or adding new GHG reduction measures if the CAP is not on track to meet the GHG reduction target.

The CAP is an aggressive step by the participating agencies. The Sonoma County CAP has a reduction target of 25% below 1990 emission levels by 2020, which is much greater than the AB 32 goal of returning to 1990 emissions levels by 2020. Many climate action plans in California have targets to reach 1990 emissions levels (or its equivalent) by 2020 (such as the San Bernardino County GHG Reduction Plan, the City of Stockton Climate Action Plan, the City of Livermore Climate Action Plan, the Santa Clara County Climate Action Plan, and many others) and they are allowing new development projects to streamline their CEQA analysis of GHG emissions. Sonoma County is voluntarily choosing the reduce GHG emissions by more than the current statewide goal. As shown above, the mandatory state, regional and local GHG measures in the CAP would result in emissions well below 1990 emission levels by 2020, even without the voluntary measures.

As identified in Section 3. 8, *Greenhouse Gas Emissions*, of the draft EIR, the CAP would reduce, not increase GHG emissions, and of the emissions addressed by the CAP, the full effect of all measures would be to reduce GHG emissions to a level 25% below 1990 levels by 2020, which would be better than AB 32 and would put the County on the path toward deeper reductions for 2030 and beyond. In addition, under the CAP, County GHG emissions in 2020 would be 5.8 $MTCO_2e$/capita which is much less than the Bay Area Air Quality Management District's (BAAQMD) recommended plan level CEQA GHG threshold of 6.6 $MTCO_2e$/capita.

The mandatory elements of the CAP, combined with the near certain voluntary elements, like SCP, will result in GHG emissions well below the state's 2020 GHG target (approximately 17% to 20% below 1990 levels) and below the BAAQMD plan threshold for 2020 (6.2 to 6.4 $MTCO_2e$/capita depending on whether one includes Community Choice Aggregation or not compared to BAAQMD plan threshold of 6.6 $MTCO_2e$/capita). While there may be some variation in participation in the incentive-based voluntary measures, particularly for existing development, there is evidence of the reduction effectiveness of voluntary measures as shown by the extensive numbers of energy efficiency retrofits, renewable energy installations, water conservation measures, waste reduction efforts and other measures that have already occurred without a CAP.[4] With the CAP, it is expected that substantial additional reduction can be achieved to supplement the mandatory state, regional, and local measures.

No revisions to the draft EIR are necessary in response to this comment.

Comment 2-6

The comment states that the draft EIR's analyses of alternatives is inadequate because the EIR failed to adequately analyze the Growth Moratorium Alternative in particular due to the alleged inadequacies of the CAP in analyzing wine production and tourism, and questions concerning the reliability of projected emissions reductions.

[4] Existing measures that reduce GHG emissions are described in further detail in the CAP, particularly in Chapter 1, *The Framework for Sonoma County Climate Action*, on pages 1-6 through 1-8 and in Chapter 5, *Community Greenhouse Gas Profiles and Emissions Reductions for 2020*, which includes a summary of existing actions, policies, and measures for each participating jurisdiction. A similar summary for Santa Rosa in provided in the 2012 Santa Rosa Climate Action Plan.

As described in the Chapter 5, *Alternatives,* of the draft EIR, CEQA does not require evaluation of alternatives that do not meet most of the project objectives or that are infeasible.

The draft EIR considered but rejected a growth moratorium alternative in Section 5.4.1, *Growth Moratorium Alternative*, of the draft EIR. As described in Section 5.4.1, this alternative would include a moratorium on new wineries/vineyard expansions and new housing until the jobs-housing balance is more equitable (e.g. more balanced). The draft EIR describes that this alternative would reduce GHG emissions compared to the business-as-usual (BAU) scenario but the hindering of economic growth would not be consistent with the existing general plans for the County or the incorporated cities and would not meet the objective of the project to allow for continued economic growth to provide opportunities for businesses and residents. In addition, however, such an alternative would not lessen the potentially significant and unavoidable impact identified in the draft EIR, which is to historic resources. The comment asserts that a growth moratorium alternative would be consistent with the general plan because it would balance the needs of the environment with the need to maintain economic stability and it would ensure that no new emissions from land use decisions would be added to atmosphere while reductions are identified and implemented in other sectors. While it is unclear which general plan the comment is referring to, a moratorium on new housing and on vineyard/wineries would not be consistent with the land use policy direction and growth anticipated in local general plans and would not allow for continued economic growth to provide opportunities for business and residents, both of which are fundamental project objectives of the CAP. All of the general plans in the County anticipate expanded economic growth and housing growth. While many of the general plans include policies that call for balancing environmental and economic concerns, none of them call for a moratorium on growth.

Chapter 5, *Community Greenhouse Gas Profiles and Emission Reductions for 2020*, of the draft CAP and Appendix C, *Local General Plan Goals, Objectives, and Policies*, of the draft EIR make numerous citations to existing policies in the County and the incorporated cities that support the GHG reduction strategies found in the CAP. The CAP is also found to be consistent with the general plans, as described in Section 3.11, *Land Use and Recreation*, of the draft EIR. As described in the CAP, the forecasts for 2020 are based on the anticipated growth in the County and the participating cities based on current general plans.

Furthermore, under California planning law, a municipality is required to zone sufficient housing for a variety of income levels for its future projected population and thus an absolute moratorium on housing over the long run would likely not be consistent with State law.

Since a growth moratorium alternative would not meet the project objectives of consistency with the existing land use policies in the County, would not support continued economic growth, and would likely violate state planning requirements in the long run, this alternative is not required to be considered further in the EIR. A growth moratorium alternative would not only impede the attainment of project objectives to some degree, it would only meet one of the three identified project objectives. As described in Chapter 5, *Alternatives*, in the draft EIR, CEQA (Public Resources Code [PRC], Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.) require that an EIR "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain <u>most</u> of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (CEQA Guidelines Section 15126.6(a)). The growth moratorium alternative would not meet most of the project objectives. The alternative also

would not lessen the potentially significant and unavoidable impact identified in the draft EIR, which is to historic resources.

Regarding the alleged deficiencies in respect to wine productions and tourism, please refer to the prior responses concerning these issues in responses to Comments 2-3 and 2-4. Regarding the alleged reliability of the projected emission reductions, please refer to the response to Comment 2-5. Regarding the comment that the CAP somehow improperly underestimates GHG emissions, this comment does not provide any evidence that the CAP used a methodology or protocol that does not represent standard professional practice for GHG accounting at present.

Regarding the comment as to whether the region can have continued economic growth while also reducing GHG emissions, the answer is yes, and the proof is in the inventory already completed for Sonoma County for 2010. As described above, GHG emissions in 2010 represent a level that is approximately 9% below 1990 emission levels, despite a 25% increase in population and a 17% increase in employment in Sonoma County between 1990 and 2010. Reducing emissions even more substantially in the future will require further actions by the participating agencies, but the CAP and the draft EIR provide evidence that this can be done through feasible reduction measures.

Since further analysis of the growth moratorium alternative is not required under CEQA as described in the response above, no revisions to the draft EIR are necessary in response to this comment.

Comment 2-7

This comment summarizes the commenter's contentions regarding the deficiencies of the CAP and draft EIR and states that the CAP and draft EIR should be redrafted and recirculated for public review. The comment also asserts that the finding in the EIR, that the CAP would have a beneficial impact on GHG emissions, is not consistent with the data in the draft EIR and CAP.

This comment reiterates the issues raised in earlier comments in regards to the GHG inventory, enforceable reduction measures, and alternatives analysis and asserts that the CAP and draft EIR need to be redrafted to address these issues. RCPA acknowledges and thanks the commenter for its comments. None of the alleged deficiencies in the draft EIR actually exist and the draft EIR meets CEQA requirements.

The CAP contains measures to reduce GHG emissions, and the commenter provides no support for the claim that it would not do so. The responses to this comment letter, the CAP, and the draft EIR all provide extensive evidence as to the effectiveness of the existing and new state, regional, and local GHG reduction measure included in the CAP in reducing GHG emissions compared to 1990 levels. As noted above, the mandatory state, regional and local measures alone will result in emissions well below 1990 levels by 2020, even accounting for increased population and economic growth.

Because there are no actual identified deficiencies in the draft EIR analysis concerning the issues raised by this comment, there is no need for revision or recirculation of the draft EIR, as requested by the commenter.

3.3 Response to Comment Letter 3 (Fugett)

Comment 3-1

The comment suggests incorporating policies into the CAP aimed at organics materials management, deconstruction and reuse of materials, and carbon farming and sequestration.

This comment is directed at the draft CAP and does not concern the adequacy of the draft EIR or the CEQA process. RCPA will consider public input received on the draft CAP during the preparation of the final CAP.

3.4 Response to Comment Letter 4 (Kinney)

Comment 4-1

The comment states that the commenter's comments on the Notice of Preparation (NOP) of the draft EIR were inaccurately represented in the draft EIR. The commenter also recommends that the CAP should address vehicle emissions by addressing the extended carpool lane schedule/directions and ramp light controls which cause unnecessary stop and go traffic, increased efforts to address employment needs to reduce commute traffic and association emissions, and address fermentation-related emissions in the agriculture section of the CAP. The commenter also states that the citation of his name was "highly irregular" and without his permission.

In regards to the commenter's comments on the NOP, they are included in Appendix A, *NOP and Scoping Comments*, of the draft EIR verbatim. It is standard practice, not irregular, to include scoping comments exactly as they are submitted in a scoping report or in an appendix to an EIR, which was done in this case. The commenter did not request that his name be blacked out or not cited in his comment on the NOP. All comments submitted to a public agency become a matter of public record unless there are specific requests and/or agreements with that public agency to maintain some information as confidential. As to the summary of the commenter's comments in the draft EIR, the only specific summary was on page ES-3 in the Executive Summary. A review of the full comments included in Appendix A of the draft EIR indicates that this is a reasonable, albeit brief, summary of the subjects raised in comment. In order to more accurately reflect the NOP comments, the text of page ES-3 has been revised as requested in this comment, as follows:

- A member of the public [name redacted] provided comments related to the CAP and GHG reduction efforts in the County. The comments advised the CAP should address the following issues: the transportation emissions associated with underutilization of HOV lanes and the continued operations of the onramp metering systems beyond traffic demands and related idling and stop-go traffic, ~~traffic management plans in the County~~, the GHG transportation emissions related to commute traffic due to the insufficient effort to create viable employment opportunities in Sonoma County and the resultant job-housing imbalance in the County, emissions from the wine industry fermentation ~~industry~~ and the need for sustainable production methods and emissions controls, ~~and~~ drought impacts on air quality, and concern about the extended schedule and delay for the CAP and the need for well drafted goals, objectives, metric, dependencies and schedules by qualified personnel.

With regard to the comments on the CAP, these comments are being considered. They are not comments on the draft EIR itself or the adequacy of the analysis in the draft EIR, and do not require a response in writing for the purposes of CEQA.

The comments on changing carpool lane and ramp light controls are presumably in regards to U.S. 101, which is under the jurisdiction of the Department of Transportation (Caltrans), not the County. Regarding increased efforts to increase employment in the County, this is noted, but as described in the CAP and in Chapter 2, *Project Description,* of the draft EIR, one of the objectives of the CAP is to be consistent with the land use policy direction in the existing general plans. The CAP is not seeking to change those existing plans and thus the existing land use policy direction in regards to promoting local employment would remain as is.

Regarding wine fermentation, fermentation does not result in a net increase in atmospheric carbon dioxide levels. Grape vines take in carbon dioxide from the atmosphere and convert it into glucose (sugar) and cellulose (plant tissue). When grapes are fermented, the glucose is converted into alcohol and carbon dioxide, much of which is released during fermentation with the remainder in the wine when it is bottled. When a wine bottle is opened and the wine is consumed, the remaining carbon dioxide is released back to the atmosphere. Thus, there is no net increase in atmospheric carbon dioxide relative to the grape growing, wine fermentation, and wine consumption cycle in regards to fermentation. This is why no GHG emissions related to fermentation are included in the GHG inventory and why no GHG reduction measures related to fermentation are included in the CAP. Wine fermentation does result in release of volatile organic compounds (VOCs), a criteria air pollutant which is a concern for air quality, particularly during the crush season. The CAP is focused on reducing GHG emissions, not criteria air pollutants like VOCs. The CAP will not change the amount of grapes grown or fermented in Sonoma County and thus would not result in any increase in such air quality pollutants, and thus the EIR does not need to address fermentation air quality emissions.

Comment 4-2

The comment suggests that the County should take immediate actions to reduce vehicle emissions in the County in particular related to the stop and go traffic and idling due to the high-occupancy vehicle (HOV) lanes and onramp light controls, as well as existing light controls.

This is a comment on the CAP and is noted. As noted previously, HOV lanes and the ramp metering for U.S. 101 is under the jurisdiction of Caltrans, not Sonoma County or the cities in the County.

As described above, there is no requirement to provide written responses to comments on the CAP, only to comments on the draft EIR. Since no comment is made relative to the adequacy of the EIR, no further response and no revisions to the draft EIR are necessary.

Comment 4-3

The comment suggests that the traffic congestion in the County is a result of residents commuting out of the County for employment opportunities.

This is a comment on the CAP and is noted. As noted above, one of the project objectives for the CAP is to be consistent with the land use policy reflected in the existing general plans, including those related to employment. Any change in existing land use policy to promote additional employment

beyond that supported by the general plan would require a general plan amendment which is outside the scope of the CAP (and the EIR on the CAP).

As described above, there is no requirement to provide written responses to comments on the CAP, only to comments on the draft EIR. Since no comment is made relative to the adequacy of the EIR, no further response and no revisions to the draft EIR are necessary.

Comment 4-4

The comment is from the commenter's input on the Notice of Preparation published on September 28, 2015, for the Draft EIR.

This comment was taken into consideration during the preparation of the draft EIR. The comment concerns the CAP and does not concern the adequacy of the EIR or the CEQA process. No revisions to the draft EIR are necessary.

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Chapter 4
Text Changes to Draft EIR

This chapter includes revisions to the draft EIR by errata as allowed by CEQA. The revisions are presented in the order they appear in the draft EIR, which the relevant page number(s) indicated with italicized print. New or revised text is shown with underline for additions and ~~strikeout~~ for deletions.

All text revisions are to provide clarification or additional detail. After considering all comments received on the draft EIR, the Lead Agency has determined that the changes do not result in a need to recirculate the draft EIR. Under the CEQA Guidelines, recirculation is required when new significant information identifies:

- A new significant environmental impact resulting from the project or from a new mitigation measure proposed to be implemented;
- A substantial increase in the severity of an environmental impact unless mitigation measures are adopted that reduce the impact to a level of insignificance;
- A feasible project alternative or mitigation measure, considerably different from others previously analyzed, that clearly would lessen the significant environmental impacts of the project, but that the project's proponents decline to adopt; or
- The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded (CEQA Guidelines Sec. 15088.5[a]).

Recirculation of a draft EIR is not required where the new information merely clarifies, amplifies, or makes minor modifications to an adequate EIR (CEQA Guidelines Section 15088[b]). The information provided below meets those criteria.

Global Text Changes

As of result of changes to the final CAP, the following text revisions are applied globally to the EIR:

- Greenhouse gas (GHG) emission source of "solid waste generation" has been revised to "solid waste";
- GHG emission source of "wastewater treatment" has been revised to "wastewater"; and
- GHG emission source of "water conveyance" has been revised to "water."

These text revisions are made to be consistent with the final EIR and none of these text revisions alter the conclusions of the EIR.

Executive Summary

The first bullet under "Scoping" on page ES-3 has been revised as follows:

- A member of the public [name redacted] provided comments related to the CAP and GHG reduction efforts in the County. The comments advised the CAP should address the following issues: the transportation emissions associated with underutilization of HOV lanes and the continued operations of the onramp metering systems beyond traffic demands and related idling and stop-go traffic, ~~traffic management plans in the County~~, the GHG transportation emissions related to commute traffic due to the insufficient effort to create viable employment opportunities in Sonoma County and the resultant job-housing imbalance in the County, emissions from the wine industry fermentation ~~industry~~ and the need for sustainable production methods and emissions controls, ~~and~~ drought impacts on air quality, and concern about the extended schedule and delay for the CAP and the need for well drafted goals, objectives, metric, dependencies and schedules by qualified personnel.

Chapter 2, Project Description

GHG Reduction Measure Changes

During the preparation of the final CAP, three GHG-reduction measures were modified to include additional components and two additional GHG-reduction measure were added to the CAP. These changes include:

- **Measure 3-L1, Convert Building Equipment to Electric ~~Water Heating~~**: This measure promotes the replacement of residential natural gas water heating equipment with electric heating equipment. Modifications to this measure will also promote the conversion of residential natural gas space heating equipment with electric heating equipment.
- **Measure 7-L3, Reduce Fossil Fuel Use in Equipment through Efficiency or Fuel Switching**: This measure promotes the reduction of fuel used in agricultural equipment by converting equipment currently using gasoline, diesel, or liquefied petroleum gas to alternative fuels with lower GHG intensity, such as natural gas, biofuels, or solar electricity. Modifications to this measure will encourage the use of more efficient equipment and support equipment conversion to alternative fuels with lower GHG intensity. This measure will be expanded beyond agricultural equipment to include installing methane gas digesters at the City of Petaluma's Ellis Creek Water Recycling Facility. The methane gas digesters would convert the waste from local food and beverage industries into compressed natural gas (CNG, or biomethane fuel) for use in buses and utility fleets.
- **Measure 15-L1, Livestock Manure Management ~~Methane Capture and Combustion at Dairies~~**: The title of this measure has been revised to Livestock Manure Management. The measure continues to promote opportunities to convert methane to fuel using some form of methane digestion to reduce emissions from the decomposition of manure materials at dairies (as described in the draft CAP). Modifications to this measure also encourage additional on-site management approaches such as dry composting or pasturing. The draft CAP was modified to eliminate quantified reductions associated with methane gas digesters at dairies as it is uncertain exactly how many digesters may ultimately be feasible, but the measure will still

support methane digesters where feasible. Promoting on-site pasturage would continue the historic trend of dairies moving toward organic farming methods, which emphasizes pasture feeding organic dairy cows.

- **Measure 17-R2, Enhance Natural Resources on Open and Working Lands through Climate Beneficial Management Practices:** This new measure promotes continued work to enhance the natural resources of open and working lands, including agricultural and timber lands. The draft CAP included a measure promoting the conservation of open and working lands as well as supporting improvements to increase carbon sequestration in agricultural soils and other landscapes. This measure was added to emphasize enhancement of carbon sequestration in open and working lands more explicitly.
- **Measure 19-R2, Establish a Target for Increased Carbon Sequestration:** This new measure promotes establishing short- and long-term targets for increasing carbon sequestration throughout the County. As noted above, the draft CAP included conservation of open and working lands as well as support for improvements to increase carbon sequestration in agricultural soils, rangeland and other landscapes. This measure was added to move toward an explicit target to help guide the level of effort in regards to increasing levels of carbon sequestration.

As a result of these changes to the CAP, the description of the CAP presented in Chapter 2, *Project Description*, of the draft EIR has been updated to reflect these modifications. Appendix C to this final EIR contains a reissued project description for the draft EIR. Appendix B to this final EIR includes changes to the description of GHG reduction measures from Appendix B of the draft EIR. Modifications to the GHG reduction measures in the CAP have been reviewed and the environmental impacts of these changes are disclosed in Chapter 5, *Environmental Effects of Changes to the CAP GHG Reduction Measures compared to the Draft EIR*.

GHG Reduction Measure Changes in Participation Levels

Several participating jurisdictions have clarified their participation and commitment to certain reduction measures.

- Measure 1-L2, Outdoor Lighting: This measure's reductions are now tied to Goal 2 measure reductions.
- Measure 1-L4, Co-Generation Facilities: The City of Petaluma is not participating in this measure.
- Measure 2-R1, Community Choice Aggregation: This measure’s reductions are now tied to Goal 2 measure reductions.
- Measure 2-L1, Solar in New Residential Development: The City of Sonoma changed its commitment level to this measure to 8%.
- Measure 2-L3, Solar in New Non-Residential Developments: The City of Sonoma changed its commitment level to this measure to 2%.
- Measure 2-L4, Solar in Existing Non-Residential Buildings: The City of Sonoma changed its commitment level to this measure to 2%.
- Measure 4-L1, Mixed-Use Development in City Centers and along Transit Corridors: The City of Sonoma increased its commitment level to this measure to 50%.

- Measure 4-L4, Affordable Housing Linked to Transit: The City of Petaluma changed its commitment level to this measure to 15%.
- Measure 7-L2, Electrify Construction Equipment: The City of Sonoma changed its commitment level to this measure to 5%.
- Measure 8-L1, Idling Ordinance: The City of Sonoma is participating in this measure.
- Measure 9-L1, Create Construction and Demolition Reuse and Recycling Ordinance: The City of Cloverdale increased its commitment level to this measure by 3%.
- Measure 11-L2, Water Conservation for New Construction: The City of Sonoma changed its commitment level to this measure to 50% for residential and 50% for non-residential.
- Measure 11-L3, Water Conservation for Existing Buildings: The City of Sonoma changed its commitment level to this measure to 25% for residential and 10% for non-residential.
- Measure 12-L1, Greywater Use: The cities of Cotati and Rohnert Park changed their commitment level to this measure to 0%. The City of Sonoma increased its commitment level to this measure to 2%.

As a result of these changes to the CAP, the description of the CAP presented in Chapter 2, *Project Description*, of the draft EIR has been updated to reflect the GHG effects of these changes for 2020 with CAP GHG emissions. Appendix C to this final EIR contains a revised project description for the draft EIR. Appendix B to this final EIR includes changes to the description of GHG reduction measures from Appendix B of the draft EIR. None of these technical changes resulted in any change in the physical character of the GHG reduction measures. The only change is a minor change in the overall level of measure activity and this would not change the level of secondary environmental effects disclosed in the EIR.

Revisions to the GHG Inventory and Forecast Estimates Related to Dairy Livestock

The final CAP was also modified to better estimate livestock emissions for dairy cows in relation to manure management. The draft CAP had used state or national average assumptions about manure management methods in order to estimate manure management related GHG emissions. The RCPA consulted with the Sonoma Resource Conservation District and other parties concerning dairy practices in the County and modified the assumptions regarding dairy manure management for the GHG inventory and forecast accordingly. In specific, the changes in dairy practices associated with the growth in organic dairies between 1990 and 2010 has resulted in a change in manure management as organic dairy requirements result in a greater minimum amount of pasturage required for organic dairy cows. Thus, the estimates of GHG emissions associated with livestock have been updated to take this into account.

As a result of these changes to the CAP, the description of the CAP presented in Chapter 2, *Project Description*, of the draft EIR has been updated to reflect these modifications in relation to the GHG emissions estimates for 1990, 2010, and 2020. Appendix B to this final EIR includes changes to the description of GHG reduction measures from Appendix B of the draft EIR. None of these technical changes resulted in any change in the physical character of the GHG reduction measures and thus no change in the environmental effects of these measures would occur in relation to this change in methodology.

Technical Revisions to the GHG Measure Reduction Estimates

A number of technical revisions were also made to certain GHG reduction measures:

- Measure 1-L2, Outdoor Lighting: This measure's reductions are now tied to Goal 2 measure reductions.
- Measure 2-R1, Community Choice Aggregation: This measure's reductions are now tied to Goal 2 measure reductions.
- Measure 3-L1, Convert to Electric Water Heating: A unit conversion for this measure was corrected.
- Measure 8-L1, Idling Ordinance: The draft CAP included reductions from this measure. Upon review of the transportation emissions, it was realized that on-road idling emissions were not included in the transportation emissions estimate due to lack of local Sonoma County data on the specific amount of idling emissions. Thus, the quantitative reductions for this measure was removed from the reductions estimate. The measure will result in reductions, but they are not quantified due to the data limitation.
- Measure 8-L2, Idling Ordinance for Construction Equipment: The average idling time percentage assumption was revised to better represent off-road only equipment.
- Measure 9-R1, Waste Diversion Goal: This measure's reductions are now tied to Measure 9-L1 reductions.
- Measure 10-R1, Increase Landfill Methane Capture and Use for Energy: This measure's reductions are now tied to Measure 9-L1 reductions.
- Measure 11-L1, Senate Bill SB X7-7 - Water Conservation Act of 2009: A revision to the calculation of fugitive wastewater reductions was made to be consistent with the methodology of the other water measures.
- Measure 11-L2, Water Conservation for New Construction: The order of calculation for this measure was modified.
- Measure 11-L3, Water Conservation for Existing Buildings: The order of calculation for this measure was modified.
- Measure 12-R1, Recycled Water: The calculations were revised to better account for overlapping reductions with the Sonoma County Water Agency (SCWA) carbon-free water measure.
- Measure 13-R1, Infrastructure and Water Supply Improvement: A revision to the accounting of methane and nitrous oxide emissions related to SCWA carbon-free water was made.

As a result of these changes to the CAP, the description of the CAP presented in Chapter 2, *Project Description*, of the draft EIR has been updated to reflect the effects on GHG emissions for 2020 with the CAP. Appendix C to this final EIR contains a revised project description for the draft EIR. Appendix B to this final EIR includes changes to the description of GHG reduction measures from Appendix B of the Draft EIR. None of these technical changes resulted in any change in the physical character of the GHG reduction measures and thus no change in the environmental effects of these measures would occur due to these changes in methodology.

Overall Effect on GHG Emissions Estimates in the Draft CAP and Draft EIR

Due to the change in GHG estimates for livestock, the GHG estimates for 1990 and 2010 are slightly lower than identified in the draft CAP and the draft EIR. Due to the changes in several measures described above, changes in participation rates by some jurisdictions, technical revisions to the reduction estimates for certain reduction measures and the change in GHG estimates associated with livestock, the overall GHG estimates for 2020 (both with and without the CAP) were revised and are slightly lower than presented in the draft CAP and draft EIR. Thus, the estimates of GHG emissions in Chapter 2 of the EIR were also revised as shown in Appendix B. These are the key overall changes:

- 1990 GHG emissions: Change from 3,966,000 $MTCO_2e$ to 3,944,000 $MTCO_2e$
- 2010 GHG emissions: Change from 3,959,000 $MTCO_2e$ to 3,601,000 $MTCO_2e$
- 2020 GHG emissions (without CAP): Change from 4,395,000 $MTCO_2e$ to 4,343,000 $MTCO_2e$
- 2020 GHG emissions reductions (with CAP): Change from 1,423,000 $MTCO_2e$ to 1,396,000 $MTCO_2e$
- 2020 GHG emissions (with CAP): Change from 2,971,900 $MTCO_2e$ to 2,947,000 $MTCO_2e$

The changes in estimated GHG emissions does not substantially change the level of impacts disclosed in the EIR, especially as the overall estimated GHG emissions for 2020 with and without the CAP did not increase, but decreased slightly. Implementation of the CAP is still expected to result in Sonoma County meeting the CAP reduction target of 25% below 1990 emissions by 2020. Appendix C to this final EIR contains a revised project description for the draft EIR. Appendix B to this final EIR includes changes to the description of GHG reduction measures from Appendix B of the draft EIR.

Chapter 3, Environmental Setting, Impacts, and Mitigation Measures

3.4 Air Quality

As a result of changes to the CAP's GHG reduction measures, the second paragraph under Impact AQ-2b on page 3.4-13 has been revised as follows:

> The CAP also promotes the installation of methane to energy facilities at landfills and methane digesters <u>at water recycling facilities and</u> dairies for organic waste reduction<u>, conversion into compressed natural gas,</u> and GHG abatement purposes. Methane to energy facilities and methane digesters, while reducing GHG emissions, can emit a variety of other emissions including nitrogen, sulfur oxides, particulate matter, carbon monoxide, and ammonia. However, all such facilities are subject to stationary source permitting requirements from the local air quality district. Those permitting requirements ensure that new sources do not result in noncompliance with regional air quality goal attainment. With implementation of such stationary source permitting requirements, new methane to energy facilities and methane digesters would not result in significant operational air quality impacts.

As a result of changes to the CAP's GHG reduction measures, the first paragraph under Impact AQ-5 on page 3.4-14 has been deleted as follows:

> In general, the CAP measures would not create new sources of substantial permanent odors. The CAP encourages an increase in installation of methane digesters at the City of Petaluma's Ellis Creek Water Recycling Facility and at dairies to capture methane emissions from the decomposition of waste from local food and beverage industries and manure for conversion into compressed natural gas. This would result in concentrated manure and waste collection that could result in localized odor concerns. However, the CAP does not create new dairies or water recycling facilities in Sonoma County and is not expected change manure and waste collection at the existing facilities that would result in substantial odor issues.

3.8 Greenhouse Gas Emissions

As a result of changes to the CAP's GHG inventory, Table 3.8-2 on page 3.8-4 has been revised as follows:

Table 3.8-2. Global, National, State, Regional, and County GHG Emissions Inventories

Emissions Inventory	CO_2e (metric tons)
2010 IPCC Global GHG Emissions Inventory	52,000,000,000
2013 EPA National GHG Emissions Inventory	6,673,000,000
2013 ARB State GHG Emissions Inventory	459,300,000
2007 SFBAAB GHG Emissions Inventory	95,800,000
2010 CAP Sonoma County Inventory	3,601,000 ~~3,700,000~~

Sources: Intergovernmental Panel on Climate Change 2014, U.S. Environmental Protection Agency 2015; California Air Resources Board 2015; BAAQMD 2008, and the RCPA CAP

CO_2e = carbon dioxide equivalent
IPCC = Intergovernmental Panel on Climate Change
EPA = Environmental Protection Agency
ARB = California Air Resources Board
SFBAAB = San Francisco Bay Area Air Basin

As a result of changes to the CAP's GHG inventory, Table 3.8-3 on page 3.8-16 is replaced with the table below:

Table 3.8-3. GHG Inventory and Forecast Results by Emission Sector and Year

	Emissions ($MTCO_2e$)					
	Backcast	Inventory	Forecasts			
Emission Sector	1990	2010	2015 BAU	2020 BAU	2040 BAU	2050 BAU
Building Energy	859,000	1,220,000	1,410,000	1,630,000	1,728,000	859,000
On-Road Transportation	1,203,000	1,899,000	2,349,000	2,661,000	2,749,000	1,203,000
Off-Road Transportation and Equipment	43,000	62,000	77,000	122,000	127,000	43,000
Solid Waste	281,000	134,000	236,000	285,000	306,000	281,000
Wastewater	15,000	15,000	14,000	15,000	15,000	15,000
Water Conveyance	27,000	4,000	14,000	17,000	18,000	27,000
Fertilizer and Livestock	393,000	268,000	243,000	193,000	169,000	393,000
Santa Rosa 1990 Emissions[1]	1,123,100	—	—	—	—	—
Sonoma County Total	**3,944,000**	**3,601,000**	**4,343,000**	**4,923,000**	**5,113,000**	**3,944,000**

Emission Sector	Emissions ($MTCO_2e$)					
	Backcast	Inventory	Forecasts			
	1990	2010	2015 BAU	2020 BAU	2040 BAU	2050 BAU
(*rounded*)						

[1] Santa Rosa's emissions in 1990 are not available from the city's CAP; 1990 emissions were therefore assumed to be equal to 15% below the baseline level of emissions, per the city's CAP. As a result, sector emissions for Santa Rosa in 1990 are not available and are included as a separate line item.

Note: For more details on changes in emissions over time, please refer to Chapter 2 and Appendix B of the final CAP.

As a result of changes to the CAP's GHG inventory, text on page 3.8-16 has been revised as follows:

> The County's 2010 emissions were already 9% ~~8%~~ below 1990 levels. However, projections for 2015 and 2020 reveal that emissions continue to rise and without further action Sonoma County communities will not meet their target.

As a result of changes to the CAP's GHG inventory and GHG reduction measures, Table 3.8-4 on page 3.8-17 has been revised as follows:

Table 3.8-4. Annual GHG Emissions Reductions from CAP Measures ($MTCO_2e$)

Parameter	**Emissions ($MTCO_2e$)**
1990 GHG Emissions Backcast (Baseline)	3,944,000 ~~3,966,000~~
2020 BAU GHG Emissions Forecast	4,343,000 ~~4,395,000~~
2020 Community Emissions Reduction Target (25% below 1990 levels)	2,958,000 ~~2,974,500~~
Total[1] Reductions Needed to Reach Target	**1,385,000 ~~1,420,500~~**
Total CAP Reductions (does not include Santa Rosa)	838,000 ~~865,200~~
Santa Rosa CAP reductions	558,000
Total[2] County 2020 GHG Reductions	**1,396,000 ~~1,423,200~~**
Emissions Reductions in Excess of Target (Total[2] – Total[1])	**11,000 ~~2,800~~**
2020 GHG Emissions with CAP	*2,947,000 ~~2,971,720~~*
AB 32 GHG Emissions Target (1990 level emissions)	*3,944,000 ~~3,966,000~~*

Note: For additional details on methodology and calculations, please refer to Chapter 2, Chapter 3, and Appendix B of the final CAP.

As a result of changes to the CAP's GHG inventory and GHG reduction measures, the footnote on page 3.8-17 has been revised as follows:

> [2] 2020 GHG Emissions with CAP / 2020 Projected Population = 2,947,000 ~~2,971,720~~ $MTCO_2e$ / 509,766 people = 5.8 $MTCO_2e$ per capita.

3.9 Hazards and Hazardous Materials

As a result of changes to the CAP's GHG reduction measures, the first paragraph under Impact HAZ-1b on page 3.9-9 has been revised as follows:

> Operation of several facilities supported by the CAP would likely utilize hazardous materials (such as fluids, paints, metals, solvents, or cleaning agents used for maintenance) and generate limited quantities of hazardous wastes. Hazardous waste could also be generated from CAP measures that support the installation of cogeneration facilities, waste-to-energy facilities

proposed at landfills, recycled water treatment facilities, and methane digesters proposed at the City of Petaluma's Ellis Creek Water Recycling Facility and at dairies. The disposal of generated hazardous materials at these facilities could pose a hazard to the public or environment.

3.11 Land Use and Recreation

Section 3.11.2, Regulatory Setting, on page 3.11-4 includes several new paragraphs as follows:

3.11.2.3 Regional

San Francisco Bay Conservation and Development Commission

The San Francisco Bay Conservation and Development Commission (BCDC), created in 1965, is a California State commission dedicated to the protection, enhancement, and responsible use of the San Francisco Bay. The BCDC's authority derives from two statues: the McAteer-Petris Act (Government Code Section 66600 to 66684) and the Suisun Marsh Preservation Action (California Public Resources Code [PRC] Sections 29000 to 29612). Under the McAteer-Petris Act, the jurisdiction of the BCDC of the San Francisco Bay includes: the Bay itself (including all areas that are subject to tidal actions), a shoreline band of land extending inland for 100 feet from the shoreline of the Bay, salt ponds, managed wetlands, and certain waterways consisting of all areas that are subject to tidal action on names tributaries that flow into the Bay. BCDC's jurisdiction of the Bay and the certain named waterways extends to the mean high tide line in areas that do not contain tidal marsh and up to five feet above mean sea level in areas of tidal marsh. In the County, these waterways include the Petaluma River, Tolay Creek, and Sonoma Creek. BCDC also has shoreline land use authority within designated priority use areas in the County, which include the Petaluma Marsh and San Pablo Bay.

The McAteer-Petris Act requires that any person or governmental agency proposing to place fill in, or to extract materials from, or make any substantial change in the use of land, water or structures within the area of BCDC's jurisdiction must secure a permit from the Commission. The Commission shall grant a permit if it finds that the project is either: 1) necessary to the health, safety, or welfare of the public in the entire Bay Area; or 2) consistent with the provisions of the McAteer-Petris Act and with the applicable provisions of the San Francisco Bay Plan. The McAteer-Petris Act provides that BCDC can deny a permit only if the proposed project fails to provide the maximum feasible public access to the bay and its shoreline consistent with the proposed project.

~~3.11.2.3~~3.11.2.4 Local

Appendix B, CAP Measures

During the preparation of the final CAP, two GHG-reduction measures were modified to include additional components and one GHG-reduction measure was added to the CAP. These CAP measure changes are briefly described under "Chapter 2, Project Description" above. In addition, several participating jurisdictions have clarified their commitment to certain reduction measures. As a result of these changes to the CAP, the description of the CAP measures and jurisdictional commitments presented in Appendix B, *CAP Measures*, of the draft EIR has been updated to reflect

these modifications. Appendix B to this final EIR contains a reissued list of CAP measures and jurisdictional commitments for the draft EIR.

Chapter 5

Environmental Effects of Changes to the CAP GHG Reduction Measures Compared to the Draft EIR

This chapter describes the environmental effects of the physical changes related to changes in the CAP GHG reduction measures since the publication of the draft EIR. As described in Chapter 4, *Text Changes to Draft EIR*, during the preparation of the final CAP, three GHG-reduction measures were modified to include additional components and two additional GHG-reduction measure were added to the CAP. As a result of these changes to the CAP, the description of the CAP presented in Chapter 2, *Project Description*, of the draft EIR has been updated to reflect these modifications. Appendix C of this final EIR contains a revised project description for the draft EIR.

5.1 Environmental Impacts of the CAP Changes

Modifications to the CAP's GHG-reducing measures would result in the following physical changes:

- **Measure 3-L1, Convert Building Equipment to Electric**: This measure was revised to also include the conversion of residential natural gas space heaters to electric heating equipment, in addition to conversion of water heating equipment. As with the conversion of natural gas water heating equipment to electrical water heating equipment, the physical changes associated with the conversion of space heaters from natural gas to electric would also be located within existing and new buildings. The environmental impacts of the physical changes for this additional component are analyzed in Section 5.1.1, *Conversion of Natural Gas Space Heaters to Electric Heating Equipment*, below.
- **Measure 7-L3, Reduce Fossil Fuel Use in Equipment through Efficiency or Fuel Switching**: This measure was expanded to also include the installation of methane digesters at the City of Petaluma's Ellis Creek Water Recycling Facility for the conversion of waste into compressed natural gas (CNG, or biomethane fuel), for use in buses and utility fleet. The physical changes associated with this additional element would be the installation of methane gas digestion facilities at the identified water recycling facility. The environmental impacts of the physical changes associated with this additional component are analyzed in Section 5.1.2, *Changes to Methane Digesters at City of Petaluma's Ellis Creek Water Recycling Facility,* below.
- **Measure 15-L1, Livestock Manure Management**: This measure was expanded to also include on-site management approaches such as dry composting or pasturing, in addition to opportunities to convert methane to fuel using some form of methane digestion, at dairies to reduce emissions from the decomposition of manure materials. The environmental impacts and benefits of the physical changes for this additional component are analyzed in Section 5.1.3, *Livestock Manure Management,* below.
- **Measure 17-R2, Enhance Natural Resources on Open and Working Lands through Climate Beneficial Management Practices:** This new measure promotes the continued work to enhance the natural resources of open and working lands, including agricultural and timber lands. The environmental impacts and benefits of the physical changes for this additional component are analyzed in Section 5.1.4, *Increased Carbon Sequestration Promotion,* below.

- **Measure 19-R2, Establish a Target for Increased Carbon Sequestration:** This new measure promotes establishing short- and long-term targets for increasing carbon sequestration throughout the County. This measure could result in changes to land management practices. The environmental impacts and benefits of the physical changes for this additional component are analyzed in Section 5.1.4, *Increased Carbon Sequestration Promotion,* below.

5.1.1 Conversion of Natural Gas Space Heaters to Electric Heating Equipment

The draft EIR analyzed the environmental impacts associated with constructing energy efficient retrofits to existing buildings. Similar to the energy efficiency improvements described in the draft EIR, improvements associated with the conversion of natural gas space heaters to electrical equipment (such as electrical heat pumps) would be located within existing building footprints and would not result in significant environmental impacts. As described in the draft EIR, construction and installation of new facilities aimed to improve energy efficiency would result in no impacts or less-than-significant impacts to aesthetics; agricultural and forest resources; air quality; biological resources; cultural resources (archeology and paleontology); geology and soils; greenhouse gas emissions; hazards and hazardous materials; hydrology and water quality; land use and recreation; noise and vibration; public service, utilities, and energy; and transportation/traffic because these improvements would be located inside (or immediately adjacent to) existing structures in developed areas and would require minimal construction to install these improvements.

In regards to impacts on historical resources, as described in Section 3.6, *Cultural Resources*, of the draft EIR, in the instance that new facilities aimed to improve energy efficiency are proposed at the site of a historic resource or potentially historic resource, these energy efficient retrofits could have the potential to cause a substantial adverse change in the significance of the historical resource through the alteration of the resource's physical characteristics. However, the replacement of natural gas space heaters to electrical equipment would be located within existing buildings and would not likely alter a historic resource's physical characteristics to the point where the resource becomes ineligible for listing. In any event, Mitigation Measures CUL-1b and CUL-1c in Section 3.6, *Cultural Resources*, of the draft EIR would require studies documenting the presence or absence of historical resource proposed on any site and historical resources investigations to eliminate or reduce impacts on historical resources. With the implementation of Mitigation Measures CUL-1b and CUL-1c, potential impacts from energy efficient retrofits would be less than significant.

Thus, the impact conclusions and mitigation measures associated with energy efficient retrofits in the draft EIR would also apply to the replacement of natural gas space heaters with electrical equipment. The addition of the electrical space heaters to CAP Measure 3-L1 would not change the environmental impact conclusions presented in the draft EIR.

5.1.2 Changes to Methane Digesters at City of Petaluma's Ellis Creek Water Recycling Facility

Changes to the CAP measures would result in the addition of a methane digester (or digesters) at the City of Petaluma's Ellis Creek Water Recycling Facility (Measure 7-L3). The primary effect due to this change would be that several more digesters would likely be installed.

The draft EIR analyzes the environmental impacts associated with constructing and operating waste-to-energy, anaerobic, and methane digesters at existing facilities (e.g., wastewater treatment plants, landfills, and dairies). Similar to these digesters described in the draft EIR, the installation of methane digesters at the City of Petaluma's Ellis Creek Water Recycling Facility for the conversion of waste into biomethane fuel would result in no impacts or less-than-significant impacts to aesthetics; agricultural and forest resources; air quality (operational); biological resources; cultural resources (archeology and paleontology); geology and soils; greenhouse gas emissions; hydrology and water quality; land use and recreation; noise and vibration; and public service, utilities, and energy because the digester would be installed within an existing facility/developed area and operational emissions from the equipment would be subject to the stationary source permitting requirements from the local air quality district.

As described in the draft EIR, construction associated with installing methane digesters could result in impacts to air quality, from hazards and hazardous materials, and to transportation/traffic. Construction and installation of methane digesters at existing facilities could result in air quality impacts from increasing the emission of ozone-precursor pollutants and fugitive dust (see Section 3.4, *Air Quality*, of the draft EIR). Construction of the methane digesters would require the use of constriction equipment that typically utilizes hazardous materials such as vehicle fuels and lubricants. While these are commonly used hazardous materials, if handled improperly they could pose a hazard to the public or environment during the construction period. Transportation and traffic impacts could occur during the construction and installation of methane digesters due to temporarily disrupting traffic flows on area roadways, substantially increasing hazards due to incompatible use, or delaying emergency access by increasing the number of heavy-duty construction vehicles on roadways with normal vehicle traffic (see Section 3.14, *Transportation/Traffic*, of the draft EIR). These construction-period impacts identified in the draft EIR are applicable to the construction and installation of methane digesters at the City of Petaluma's Ellis Creek Water Recycling Facility. However, as identified in the draft EIR, implementation of Mitigation Measures AQ-1 (requiring the implementation of basic construction mitigation measure to reduce construction emissions), HAZ-1 (requiring a spill prevention, control, and countermeasure program for construction activities), and TR-1 (requiring the preparation and implementation of a traffic control plan during construction activities) would reduce these construction-period impacts to air quality, hazards and hazardous materials, and transportation/traffic to a less-than-significant level.

In regards to impacts on historical resources, as described in Section 3.6, *Cultural Resources*, of the draft EIR, in the instance new facilities such as methane digesters are proposed at the site of a historic resource or potentially historic resource, these facilities could have the potential to cause a substantial adverse change in the significance of the historical resource through the alteration of the resource's physical characteristics. However, the addition of methane digesters at the City of Petaluma's Ellis Creek Water Recycling Facility would not likely impact any historic resources due to the existing disturbed non-historic nature of the facility. In any event, Mitigation Measures CUL-1b and CUL-1c in Section 3.6, *Cultural Resources*, of the draft EIR would require studies documenting the presence or absence of historical resource proposed on any site and historical resources investigations to eliminate or reduce impacts on historical resources. With the implementation of Mitigation Measures CUL-1b and CUL-1c, potential impacts from installing methane digesters at the City of Petaluma's Ellis Creek Water Recycling Facility would be less than significant.

Thus, the impact conclusions and mitigation measures associated with the installation of waste-to-energy, anaerobic, and methane digesters at existing facilities in the draft EIR would also apply to

the proposed methane digesters at the City of Petaluma's Ellis Creek Water Recycling Facility. The addition of methane digesters at the water recycling facility would not change the environmental impact conclusions presented in the draft EIR.

5.1.3 Livestock Manure Management

Methane digesters at dairies were included in the draft CAP and the draft EIR analysis of secondary environmental impacts and are still supported by Measure 15-L1, but the final CAP does not include quantified GHG reductions for digesters as it is uncertain at this time how much additional digestion may actually be feasible at dairies in Sonoma County.

As noted above, Measure 15-L1 was modified to also note to include other on-site management approaches to reduce methane emissions, such as pasturing and dry composting. As described in Appendix C (Section C.21) of the final CAP, dry manure management approaches, such as scrape and vacuum systems, and dry composting result in dramatically lower methane emissions compared to anaerobic wet handling systems. Likewise, well-managed pasture based systems (either as an alternative or complementary with a confined animal system) allow manure to decompose aerobically along with plant material, reducing the amount of methane generated. The carbon from this process is sequestered in the soil. Increased soil carbon not only results in lower net GHG emissions from the farming system but also results in healthier, more productive soil. In addition, converting fields that had previously grown cattle feed to perennial grasslands for grazing can also dramatically improve carbon sequestration levels.

Increased pasturing of dairy cows reduces concentration of manure waste compared to more confined animal management approaches. This has been the historic trend of dairies since 1990 as most dairies are now organic, which requires minimum pasturage times for organic dairy cows. By reducing concentrated manure management approaches, not only are methane emissions lowered, but this can also reduce water quality effects of concentrated systems, while enhancing pasture soils. Similarly, dry composting approaches can also help in management of water quality in runoff from dairy manure management systems.

Pasturing would not result in construction of new facilities. Dry composting might require minor management areas but within the context of existing dairies. Neither approach is likely to result in significance secondary environmental effects and both are likely to result in both GHG benefits and well as non-GHG benefits to soil productivity and improvements in water quality. The modification of CAP Measure 15-L1 would not change the environmental impact conclusions presented in the draft EIR.

5.1.4 Increased Carbon Sequestration Promotion

The draft EIR analyzed the environmental impacts associated with increasing carbon sequestration on croplands (Measure 18-R1), rangelands (Measure 19-R1), and through urban forestry (Measure 1-L3, planting of shade trees). Similar to the carbon sequestration actions described in the draft EIR, promoting enhancements on open and working lands (Measure 17-R2) and establishing short-term and long-term targets for increasing carbon sequestration (Measure 19-R2) could result in changes in land management practices.

Similar to the carbon sequestration actions described in the draft EIR, promoting and establishing short-term and long-term targets for increasing carbon sequestration (Measure 19-R2) would result

in changes in land management practices and would result in less-than-significant impacts on all environmental topics analyzed in the draft EIR. Enhancing open and working lands and establishing targets for increasing carbon sequestration, as with the carbon sequestration actions described in the draft EIR, will likely enhance carbon levels in soils and vegetation in agricultural and natural lands, and result in a wide range of other environmental benefits. As described in Impact AG-4 of the draft EIR, actions to increase carbon sequestration would help to sustain the existing agricultural land by reducing erosion and soil loss, increasing vegetative cover, improving soil structures, increasing soil fertility, reducing soil salinity, increasing biodiversity, creating healthier soils and vegetation, increasing water efficiency, and buffering against drought. As the nature of enhancements to open and working lands and the short- and long-term carbon sequestration targets have yet to be identified and/or established, the exact extent of the physical benefits of the targets is unclear.

Nonetheless, the impact conclusions associated with carbon sequestration actions in the draft EIR would also apply to enhancing open space and working lands and establishing short-term and long-term targets for increasing carbon sequestration. The addition of Measures 17-R2 and 19-R2 to the final CAP would not change the environmental impact conclusions presented in the draft EIR.

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Appendix A

Public Meeting Transcript

Climate Action 2020 and Beyond, CEQA Public Meeting on Draft EIR
Wednesday, April 20, 2016, 5–7 p.m.
Sonoma County Permit & Resource Management Department
2550 Ventura Avenue
Santa Rosa, California

Attendees

Woody Hastings	Center for Climate Protection	Santa Rosa
Geoffrey Smith	Solar Sonoma County	Santa Rosa
Anna Jacopetti		Santa Rosa
Brittany Jensen	Gold Ridge RCD	2776 Sullivan Rd, 95472
Odalis Medianero		Santa Rosa
Janae Lloyd	Compost Coalition / World Centric	Santa Rosa
Will Bakx	Sonoma Compost	Santa Rosa
Kerry Fugett	Conservation Action	Sebastopol
Terry Harrison		4395 Westside, Healdsburg 95448
Camille Armstrong		602 Spencer Ave, Santa Rosa, CA
Laura Neish		226 Yates Dr, Santa Rosa, 95405

Comment #1 Anna Jacopetti
4939 Deerwood Dr.
Santa Rosa, CA 95403
cummings@sonic.net

Thank you so much for all this work. It makes me very glad that I live in Sonoma County. And that we're looking forward in the way that we are. We were also very pleased. I should tell you a little bit about who I am. I am Anna Jacopetti, and I'm on the steering committee of 350 Sonoma County and I'm with the Compost Coalition, and I'm a concerned citizen.

So we were very pleased to see that the plan address agricultural practice. But we'd like to suggest a change in reference to section 18 R1. We suggest a critical word change from "sustainable agriculture" to "regenerative agriculture." Sustainable has many potential interpretations, including sustaining the status quo into the foreseeable future. Regenerative agricultural practices actually are not only sustainable but they improve soil by allowing it to re-sequester the carbon from the air, putting it back in the ground where it belongs.

According to Dr. Rattan Lal, who is Ohio State University's carbon management sequestration center leader, the world's cultivated soils have lost 50–70% of their original carbon stock. That's really a huge amount.

We haven't even known how to measure that loss where it's happening. 50–70%, releasing it into the air. This process started long before modern industrial agriculture and has been accelerated by our modern practice—utilizing fossil fuel fertilizers, pesticides, and herbicides which effectively turn living soil into dead dirt.

This is a new idea for us. That the soil in the ground, under our feet, is either living and growing—and doing its age old job of taking this carbon cycle and putting it down in the ground—or it's dying. If the soil is disturbed, overgrazed, farmed inappropriately, it actually continues to lose carbon.

So we have a new issue to really get our minds around. Regenerative practices that are now proven and out there, not only improve the soil and therefore increase soil productivity, they protect our food supply and they help us conserve water. For each 1% of carbon increase in the soil, we save 27,000 gallons of water per acre.

I just discovered this in my own garden, at home. Last year when we broke the garden down I sheet mulched it for the first time; and I have a bed that wasn't sheet mulched because it had other things in it. The soil is almost dry way down in the bed that wasn't sheet mulched. But the bed that I really worked on, it's damp soil that I can still squeeze and hold in my hand. I don't have to water it at all yet. So, this is a win-win solution to climate change and we can implement it now through regenerative agricultural practice.

Comment #2 Laura Neish
226 Yates Dr.
Santa Rosa, CA 95405
laurajneish@gmail.com

Laura Neish, and I have been working with Anna on some of this issues, and other organizations. This is very short actually. First of all, thank you everybody for putting such a thorough plan that holds the County to such high standards. I think that really captures who we are as a county.

Following on from Anna's comments, and our deep agricultural history and the intention I think of a lot of our agriculture to be more sustainable. I think it would be really aspirational and interesting if Sonoma County adopted the 0.4% increase in the soil targets that was adopted as an ancillary agreement at the COP21, in Paris, and that might help build out some of the detail in that section which right now doesn't have much in it. So that's it, and it's well under three minutes.

Comment #3 Terry Harrison
4395 Westside Rd.
Healdsburg, CA 95448
fresh@hughes.net

Yeah, I'm representing the community alliance of family farmers in the north coast chapter and we certainly thank the authority and researchers for many great ideas incorporated into the plan.

Large areas of the north bay are agricultural working lands and agriculture provides a significant economic base for the region. We feel the plan does not go far enough to include the potential for climate adaptation and mitigation in the area of carbon farming. The north coast chapter of the community alliance for family farmers, has presented workshops over the past several years and including making compost on the farm and using it in vineyards and for farming other crops and consider this to be a very important issue.

Many of our members are using compost on their farm, fully aware of its benefits for reducing carbon dioxide, nitrous oxide and methane emissions, sequestering carbon and reducing water needed for irrigation.

There is a shortage of compost for these practices due to the closer of Sonoma Compost and shipment of green plant material out of the county. There was an insufficient supply of compost before that happened. These farmers will be severely limited in how much compost they can incorporate into their soils until composting is brought back into this area and food waste is also collected and composted.

We're a member of Sonoma Compost Coalition and fully support the position I'll present shortly. We would like to also support the 0.4% carbon into the soil per year that Anna just mentioned. Thanks a lot.

Comment #4 Kerry Fugett

8262 Valley View Dr.
Sebastopol, CA 95472
kerry@conservationaction.org

My name is Kerry Fugett, I'm representing Sonoma County Conservation Action as well as Sonoma County Compost Coalition. Again I want to thank you for this work. We're very excited about it. There's the one item we really want to highlight is the organics material and the fact that it's being out-hauled now.

We produce 300 tons of organic material a day, which adds up to over 100,000 tons per year. This results in at least 1,300 tons of CO_2 emissions a year, not including hauling back to Sonoma County as farmers purchase the compost back—nor idling. So it's a significant impact on the emissions, which you said were 51.7%, so I think it would be a good way to lower that.

Our primary solution that I want to present is really focused on encouraging local organics program, looking into centralized or decentralized options within Sonoma County. This would be facilitated by the continuation of Sonoma County Waste Management Agency. We really encourage the continuation of that agency to help with the organic materials management.

We also recommend the Climate Action Plan looking into a plan that could leverage the healthy soils program funding provided by the California Department of Food and Agriculture which, when aligned with Sonoma RCD, could strengthen position for farmers to apply for grants, and gain grants to subsidize compost.

Additionally we recommend changing the term "waste" throughout the document to a more appropriate term of "organic food scraps," "landscape debris," "organic materials," etc. as we believe it better represents the value of this public resource that should really be managed within our own community.

We have two additions to the EIR. We'd love to see in the Construction and Demolition Ordinance to add deconstruction as a priority to promote the reuse of materials, rather than destroying them for recycle and landfill. This could done by promoting tax incentives.

Additionally, all carbon farming and sequestration should be applied to agriculture as a whole, including urban farming, gardening and landscaping—and not just applied to rangeland.

We really applaud the baseline of an annual sequestration value. We think that's a really great idea in addition to the carbon offsets and we'll follow up with these comments in written form as well.

Note to reader: New or revised text is shown with underline for additions and ~~strikeout~~ for deletions.

Table B-1. State, Regional, and Local Measures to Reduce GHG Emissions

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential[2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
Goal 1. Increase building energy efficiency													
1-S1	**Title 24 Standards for Commercial and Residential Buildings** Requires that new and remodeled buildings be designed to conserve energy and water.	*Developed by:* California Energy Commission (CEC) *Enforced by:* local building departments and the California Building Standards Commission	X	X	X	X	X	✓	X	X	X	X	14,440
1-S2	**Lighting Efficiency and Toxics Reduction Act (AB 1109)** Will decrease electricity used for lighting in new buildings through regulation and lighting standards.	*Developed by*: CEC *Enforced by:* CEC ~~local building departments and the CEC~~	X	X	X	X	X	✓	X	X	X	X	21,085
1-S3	**Industrial Boiler Efficiency** Requires an annual tuning of all boilers, or the installation of controls and systems to maximize efficiency.	*Developed by:* California Air Resources Board (ARB) *Enforced by:* ARB and local air districts	X	X	X	X	X	✓	X	X	X	X	345

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential[2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
1-R1~~C1~~	**Community Energy Efficiency Retrofits for Existing Buildings** Includes all existing programs to improve the energy efficiency of community buildings (including homes and businesses) through retrofits such as Energy Upgrade California, PACE Financing, utility incentives, and technical assistance.	*Implemented by:* Energy Independence Office, RCPA, Sonoma Clean Power	X	X	X	X	X	✓	X	X	X	X	3,954
1-R2~~C2~~	**Expand Community Energy Efficiency Retrofits Program** Expands programs to promote energy efficiency in existing residential buildings and commercial buildings, and removes ~~funding~~ barriers for energy efficiency improvements. Includes accelerating participation in existing programs and pursuing innovation through efficiency efforts including: on-bill repayment programs like Windsor PAYS, energy disclosure programs like Home Energy Score, community based campaigns, and others.	*Implemented by:* Energy Independence Office, RCPA, Sonoma Clean Power	X	X	X	X	X	✓	X	X	X	X	~~7,776~~ 12,394

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential [2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
1-L1	**Expand the Green Building Ordinance Energy Code** Requires new residential and nonresidential development to exceed CALGreen Tier 1 voluntary standards by complying with CALGreen Tier 2 standards.										X		~~80~~ 62
1-L2	**Outdoor Lighting** Adopts outdoor lighting standards in the Zoning Ordinance to reduce electricity consumption above and beyond the requirements of AB 1109.			X	X	X	X	✓	X	X	X	X	~~1,561~~ 1,550
1-L3	**Shade Tree Planting** Expands on current urban tree planting policies and programs to establish a shade tree planting goal for each jurisdiction ~~community~~.		X	X	X	X	X	✓	X	X	X	X	45
1-L4	**Co-Generation Facilities** Encourages co-generation facilities to supply a certain amount of energy in new commercial and industrial facilities greater than 100,000 square feet.					~~X~~		✓				X	~~3~~ 1

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential [2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
Goal 2. Increase renewable energy use													
2-S1	**Renewable Portfolio Standard (RPS)** Requires electric utilities (including PG&E, Healdsburg, and SCP) to procure an increasing amount of their electricity from eligible renewable sources up to 33% by 2020.	*Developed by:* California Public Utilities Commission (CPUC) *Enforced by:* CPUC	X	X	X	X	X	✓	X	X	X	X	181,793
2-S2	**Residential Solar Water Heater Program (AB 1470)** Provides incentives to encourage the installation of solar water heating systems.	*Developed by:* CPUC *Enforced by:* CPUC	X	X	X	X	X	✓	X	X	X	X	800
2-R1~~C1~~	**Community Choice Aggregation ~~Sonoma Clean Power~~** SCP is a community choice aggregation (CCA) program and electricity provider that works with PG&E to provide their customers between 33% and 100% renewable energy. SCP also supports local renewable energy generation (e.g., solar or wind) through its *NetGreen* program.	*Implemented by:* Sonoma Clean Power	X	X		X	X	✓	X	X	X	X	~~48,203~~ 47,995

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential [2] (MTCO$_2$e/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
2-L1	**Solar in New Residential Development** Implements solar energy installation requirements for new residential buildings to increase renewable energy generation.			X	X	X	X	✓	X	X	X		~~246~~ 248
2-L2	**Solar in Existing Residential Buildings** Incentivizes solar energy installation for existing residential buildings to increase renewable energy generation.		X	X	X	X	X	✓	X	X	X	X	9,942
2-L3	**Solar in New Non-Residential Developments** Implements solar energy installation requirements for new nonresidential development to increase renewable energy generation.			X	X	X	X	✓	X	X	X		~~528~~ 535
2-L4	**Solar in Existing Non-Residential Buildings** Incentivizes solar energy installation for existing nonresidential development to increase renewable energy generation.		X	X	X	X	X	✓	X	X	X	X	~~25,573~~ 25,714

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential [2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
Goal 3. Switch equipment from fossil fuel to electricity													
3-R1~~C1~~	**Stationary Fuel Switching Incentives** Will provide incentives and financing options for fuel switching from fossil fuel use to electricity.	*Implemented by:* SCP, Energy Independence Office, RCPA, Bay Area Air Quality Management District (BAAQMD), and/or Northern Sonoma County Air Pollution Control District										X	1,022
3-L1	**Convert to Electric ~~Water~~ Heating** Replaces residential natural gas water and space heating equipment with high efficiency electric ~~heating~~ equipment.				X	X	X	✓	X		X		~~2,215~~ 603
Goal 4. Reduce travel demand through focused growth													
4-L1	**Mixed-Use Development in City Centers and along Transit Corridors** Identifies specific areas for transit-oriented, city-centered, mixed-use development, focusing on identified existing and planned transit corridors.		X	X	X	X	X	✓	X	X	X	X	~~3,485~~ 3,494
4-L2	**Increase Transit Accessibility** Encourages new residential projects consisting of 25 units or more to be located within 1/2 mile of a transit node, shuttle service, or bus route with regularly scheduled daily service.		X	X	X	X	X	✓	X	X	X		1,057

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential[2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
4-L3	**Supporting Land Use Measures** Undertakes actions that will support transportation-related land use.		X	X	X	X	X	✓	X	X	X	X	NQ[3]
4-L4	**Affordable Housing Linked to Transit** Provides affordable housing developments near transit corridors, transit hubs, and downtown cores.		X	X	X	X	X	✓	X	X	X		~~166~~ 142
Goal 5. Encourage a shift toward low-carbon transportation options													
5-R1~~C1~~	**Improve and Increase Transit Service** Increases bus service, implements bus preferential treatments, implements bus rapid transit (BRT) and/or express service, improves transit marketing, and improves transit amenities.	*Implemented by:* SCTA, Golden Gate Transit, Sonoma County Transit, Petaluma Transit, and Santa Rosa Transit	X	X	X	X	X	✓	X	X	X	X	147
5-R2~~C2~~	**Supporting Transit Measures** Implements measures designed to improve the County's transit system.	*Implemented by:* SCTA, Golden Gate Transit, Sonoma County Transit, Petaluma Transit, and Santa Rosa Transit	X	X	X	X	X	✓	X	X	X	X	NQ[3]

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential[2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
5-R3~~C3~~	**Sonoma-Marin Area Rail Transit (SMART)** Ensures policies support planned SMART corridor, such as transit-oriented development at planned SMART stations, future local transit planning for SMART, and pedestrian and bicycle facilities to connect to SMART stations.	*Implemented by:* SMART and local communities with SMART stations	X	X	X	X	X	✓	X	X	X	X	NQ[3]
5-R4~~C4~~	**Trip Reduction Ordinance** Develops and implements a mandatory Trip Reduction Ordinance (TRO) for employers with 50+ employees by offering pre-tax transit expenses, transit or vanpool subsidy, free or low-cost shuttle, or an alternate trip reduction benefit ~~(with a non-trip reduction option of purchasing equivalent GHG offset credits)~~. The TRO will also include a non-trip reduction alternative, in the form of purchase of an equivalent amount of GHG offsets, for employers choosing not to implement trip reductions.	*Implemented by:* SCTA	X	X	X	X	X	✓	X	X	X	X	6,113

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential[2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
5-R5~~C5~~	**Supporting Measures for the Transportation Demand Management Program** Implements TDM measures to support the TRO.	*Implemented by:* SCTA	X	X	X	X	X	✓	X	X	X	X	NQ[3]
5-R6~~C6~~	**Reduced Cost Transit Passes** Provides reduced cost transit passes to encourage commuters to take transit ~~(with a non-transit pass option of purchasing equivalent GHG offset credits)~~. If this measure is made mandatory by a jurisdiction, then the measure will also include a non-trip reduction alternative in the form of purchase of an equivalent amount of GHG offsets.	*Implemented by:* SCTA, Sonoma County Transit, Petaluma Transit, and Santa Rosa Transit	X	X	X	X	X	✓	X	X	X	X	5,660
5-R7~~C7~~	**Alternative Travel Marketing and Optimize Online Service** Conducts countywide marketing efforts (and consistent community-wide efforts) to provide information on alternate travel modes.	*Implemented by:* SCTA, SMART, Sonoma County Transit, Petaluma Transit, and Santa Rosa Transit	X	X	X	X	X	✓	X	X	X	X	4,528
5-R8~~C8~~	**Safe Routes to School** Creates safe routes to school programs for communities where they currently do not exist.	*Implemented by:* SCTA	X	X	X	X	X	✓	X	X	X	X	14,234

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential[2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
5-R9~~C9~~	**Car-sharing Program** Builds on the work that the Sonoma County Air Resources Team has already conducted to implement a car-sharing program.	*Implemented by:* SCTA	X	X	X	X	X	✓	X	X	X	X	NQ[3]
5-R10~~C10~~	**~~Create a Countywide Public~~ Bike Share Program** Creates a countywide Public Bike Share Program to encourage a shift from automobiles to bicycle use.	*Implemented by:* SCTA	X	X	X	X	X	✓	X	X	X	X	NQ[3]
5-L1	**Local Transportation Demand Management Program** Implements support for voluntary transportation demand management (TDM) measures that are for employers with 49 employees or less, voluntary TDM measures for larger employers that are in excess of the TRO, and requirements for TDM measures in larger new residential projects.		X	X	X		X	✓	X			X	2,975
5-L2	**Carpool Incentives & Ride-Sharing Program** Creates or promotes a countywide ride-sharing program and encourages participation by local employers through their TDM programs.		X	X	X		X	✓	X			X	5,709

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential[2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
5-L3	**Guaranteed Ride Home** Creates a guaranteed ride home program that could provide a free car share, shuttle, or taxi ride home to employees in case of an emergency.		X	X	~~X~~	~~X~~	~~X~~	✓	X	~~X~~		X	NQ[3]
5-L4	**Supporting Bicycle/Pedestrian Measures** Implements local actions to support bicycle use and pedestrians.		X	X	X	X	X	✓	X	X	X	X	NQ[3]
5-L5	**Traffic Calming** Implements traffic calming measures in downtown cores, at accident hotspot locations, near schools and libraries, etc.		X	X	X	X	X	✓	X	X	X	X	1,205
5-L6	**Parking Policies** Implements additional parking policies to promote reduction in single-occupancy vehicle travel.		X		X			✓	X			X	2,489
5-L7	**Supporting Parking Policy Measures** Implements actions to support parking policies, such as prioritized parking for electric vehicles, carpools, and hybrids.		X	X	X	X	~~X~~	✓	X	X	X	X	NQ[3]

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential [2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
Goal 6. Increase vehicle and equipment fuel efficiency													
6-S1	**Pavley Emissions Standards for Passenger Vehicles and the Low Carbon Fuel Standard** Will increase the efficiency of automobiles and light-duty trucks by 30%, compared with ~~from~~ 2002 efficiency, by 2016. This also includes the Low Carbon Fuel Standard for on-road vehicles.	*Enforced by:* ARB *Implemented by:* ARB, vehicle manufacturers, and fuel producers	X	X	X	X	X	✓	X	X	X	X	333,030
6-S2	**Advanced Clean Cars** Requires that vehicle manufacturers increase the average fuel efficiency of their new vehicles, beyond the Pavley requirements.	*Enforced by:* ARB *Implemented by:* ARB and vehicle manufacturers	X	X	X	X	X	✓	X	X	X	X	9,679
6-S3	**AB 32 Vehicle Efficiency Measures** Increases the efficiency of vehicles through proper tire inflation, aerodynamic efficiency for heavy-duty vehicles, hybrid technology for heavy-duty vehicles, and other measures.	*Enforced by:* ARB *Implemented by:* ARB, vehicle service facilities, and vehicle manufacturers	X	X	X	X	X	✓	X	X	X	X	16,010

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential[2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
Goal 7. Encouraging a shift towards low-carbon fuels in vehicles and equipment													
7-S1	**Low Carbon Fuel Standard: Off-Road** Requires a minimum 10% reduction in the carbon intensity of transportation fuels sold in California by 2020.	*Enforced by:* ARB *Implemented by:* ARB and fuel producers	X	X	X	X	X	✓	X	X	X	X	5,182
7-R1~~C1~~	**Shift Sonoma County (Electric Vehicles)** Countywide electric vehicle promotion program, in partnership with SCP.	*Implemented by:* RCPA, SCTA, and SCP	X	X	X	X	X	✓	X	X	X	X	~~10,634~~ 11,353
7-R2~~C2~~	**Alternative Fuels for Transit Vehicles** Replaces diesel and gasoline buses with hybrid buses, ~~or~~ compressed natural gas (CNG) buses, or electric buses.	*Implemented by:* SCTA, Sonoma County Transit, Petaluma Transit, and Santa Rosa Transit			X	X		✓					40
7-L1	**Electric Vehicle Charging Station Program** Develops local charging stations to support electric vehicles.		X	X	X	X	X	✓	X	X	X	X	60
7-L2	**Electrify Construction Equipment** Incentivizes replacement of fossil-fuel construction equipment with alternatively fueled or electric equipment.			X	X	X		✓	X	X	X		~~365~~ 386

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential [2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
7-L3	**Reduce Fossil Fuel Use in Equipment through Efficiency or Fuel Switching** Encourage use of more efficient equipment and support equipment conversion to alternative fuels with lower GHG intensity ~~Reduces fuel use in agricultural equipment by converting equipment currently using gasoline, diesel, or liquefied petroleum gas (LPG) to alternative fuels with lower GHG intensity (such as natural gas, biofuels, or solar electricity)~~.		X	X	X	X	X	✓	X	X	X	X	~~NQ[3]~~ 2,392
Goal 8. Reduce idling													
8-L1	**Idling Ordinance** Limits idling of all commercial vehicles to 3 minutes except as necessary for the loading or unloading of cargo within a period not to exceed 30 minutes.		X	X	X	X	X	✓	X	X		X	~~13,120~~ NQ[3]
8-L2	**Idling Ordinance for Construction Equipment** Adopts an ordinance that limits idling time to 3 minutes for heavy-duty construction equipment.					X	X	✓	X			X	~~256~~ 163

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential[2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
Goal 9. Increase solid waste diversion													
9-R1~~C1~~	**Waste Diversion Goal** Increases the diversion rate of the total waste stream.	*Implemented by:* SCWMA with cooperation from local communities	X	X	X	X	X	✓	X	X	X	X	~~26,229~~ 26,217
9-L1	**Create Construction and Demolition Reuse and Recycling Ordinance** Implements goal for construction and demolition waste.		X	X	~~X~~	X	~~X~~	✓	X	~~X~~	~~X~~	X	~~4~~ 5
Goal 10. Increase capture and use of methane from landfills													
10-R1~~C1~~	**Increase Landfill Methane Capture and Use for Energy ~~Create New Waste-to-Energy Facilities~~** Develops new waste-to-energy projects at landfills.	*Implemented by:* SCWMA, landfill owners/operators	X	X	X	X	X	✓	X	X	X	X	~~39,132~~ 39,140
Goal 11. Reduce water consumption													
11-R1~~C1~~	**Countywide Water Conservation Support and Incentives** SCWA will continue to work with its water contractors to incentivize local water conservation and water-use efficiency measures.	*Implemented by:* SCWA, supported by local communities	X	X	X	X	X	✓	X	X	X	X	NQ[3]

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential [2] (MTCO$_2$e/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
11-L1	**SB X7-7 – Water Conservation Act of 2009** Meets or exceeds the state-established per capita water use reduction goal as identified by SB X7-7 (20% reduction in urban per capita use by 2020).		X	X	X	X	X	✓	X	X	X	X	~~16,653~~ 16,540
11-L2	**Water Conservation for New Construction** Requires adoption of the voluntary CALGreen Tier 1 water efficiency measures for new residential and nonresidential construction.					X	X	✓	X	X	X		~~295~~ 252
11-L3	**Water Conservation for Existing Buildings** Incentivizes renovation of existing buildings to achieve higher levels of water efficiency; encourages existing buildings to retrofit with CALGreen Tier 1 water efficiency measures.					X	X	✓	X	X	X		~~2,172~~ 2,425
Goal 12. Increase recycled water and greywater use													
12-R1~~C1~~	**Recycled Water** ~~Encourages u~~Use of recycled water instead of potable water.	*Implemented by:* Water/wastewater service providers	X	X	X	X	X	✓	X	X	X	X	~~146~~ 48

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential[2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
12-L1	**Greywater Use** Incentivizes greywater use instead of potable water for residential non-potable uses.			~~X~~	X	X	~~X~~	✓	X	X		X	~~36~~ 26
Goal 13. Increase water and wastewater infrastructure efficiency													
13-R1~~C1~~	**Infrastructure and Water Supply Improvements** Reduces energy demand from water supply infrastructure, investigates new water supply sources, and increases local water production.	*Implemented by:* SCWA and other water/wastewater service providers	X	X	X	X	X	✓	X	X	X	X	~~233~~ 230
13-R2~~C2~~	**Wastewater Treatment Equipment Efficiency** Reduces energy demand from wastewater treatment operations.	*Implemented by:* Wastewater service providers	X	X	X	X	X	✓	X	X	X	X	529
Goal 14. Increase use of renewable energy in water and wastewater systems													
14-R1~~C1~~	**Sonoma County Water Agency Carbon Free Water by 2015** SCWA has contracted to procure 100% of its electricity needs through renewable and carbon-free resources, thus achieving a carbon-neutral electricity supply.	*Implemented by:* SCWA		X		X	X	✓		X	X	X	2,145

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential [2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
14-L1	**Green Energy for Water Production and Wastewater Processing in Healdsburg and Cloverdale** Healdsburg will use 100% renewable energy for a certain percentage of its water production and/or conveyance. Cloverdale has implemented solar energy arrays at the city water and wastewater plants.		X		X								412
Goal 15. Reduce emissions from livestock operations													
15-L1	**Livestock Manure Management** Encourages manure management techniques to reduce emissions from decomposition of manure at dairies. Strategies include on-site management approaches that reduce methane emissions, like dry composting or pasturing, as well as opportunities to convert methane to fuel using some form of methane digestion. ~~Encourages the installation of methane digesters to capture methane emissions from manure at dairies.~~	*Implemented by:* Sonoma County, dairies, resource conservation districts, and Natural Resources Conservation Service (NRCS)										X	~~14,530~~ NQ[3]

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential[2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
15-L2	**Reduce Emissions from Fertilizer Use ~~Enteric Fermentation~~** Encourages dairies and livestock operations to explore ways to reduce GHG emissions from enteric fermentation.	*Implemented by:* Sonoma County, dairy/livestock operators, RCDs, and NRCS	n/a										NQ[3]
Goal 16. Reduce emissions from fertilizer use													
16-L1	**Optimize Nitrogen Fertilizer Use** Implements a voluntary program to encourage agriculture methods that reduce or eliminate the need for synthetic nitrogen fertilizer.	*Implemented by:* Sonoma County, farmers, RCDs, and NRCS										X	1,759
Goal 17. Protect and enhance the value of open and working lands													
17-R1~~L1~~	**Conserve Open Space and Working Lands** Preserve natural open space and working lands to prevent loss of carbon stock due to conversion of such lands to urban uses or other land use changes that also drive increased vehicle miles traveled. ~~Conserves open space and agricultural land from conversion to urban uses.~~	*Implemented by:* Sonoma County and communities, Sonoma County Agricultural Preservation and Open Space District, Sonoma Land Trust	n/a										NQ[3]

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential [2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
17-R2	**Enhance Natural Resources on Open and Working Lands through Climate Beneficial Management Practices** Continue to work to enhance the natural resources of open and working lands, including agricultural and timber lands.	*Implemented by:* RCDs and partners	n/a										NQ[3]
Goal 18. Promote sustainable agriculture													
18-R1~~L1~~	**Sustainable Agriculture Certification Programs** Support sustainable agriculture certification programs that reduce GHG emissions and/or enhance carbon stocks or increase sequestration. ~~Promotes carbon-beneficial practices through sustainable agricultural certification programs, such as the 100% sustainable wine region commitment.~~	*Implemented by:* Collaborative effort with agriculture groups, the County, and agriculture-related agencies ~~Sonoma County , wine growers, winemakers, and RCDs~~	n/a										NQ[3]
18-R2~~L2~~	**Promote Local, Sustainable Food and Ag Products ~~Promote the Sale of Local, Sustainable, and Organic Grown Foods and/or Products~~** Supports local farmer's markets to provide communities ~~community residents~~ with sustainable local~~, sustainable, and organic (or equivalent) sources of~~ food.	*Implemented by:* jurisdictions with support from regional entities ~~Sonoma County and local communities~~	n/a										NQ[3]

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions Potential [2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
18-R3~~L3~~	**Urban Agriculture** Amends zoning code to allow for ~~small-scale~~ urban farming areas and gardens in appropriate areas.	*Implemented by:* cities and the county with support from regional entities such as the University of California (UC) Cooperative Extension ~~Sonoma County and communities~~	n/a										NQ[3]
Goal 19. Increase carbon sequestration													
19-R1~~L1~~	**~~Rangeland~~ Carbon Farming** Increase carbon sequestration on croplands and working rangelands by adding soil organic material and other measures. Support increasing availability of local compost. ~~Promotes increased carbon sequestration on croplands and in Sonoma's working rangelands.~~	*Implemented by:* The County, Resource Conservation Districts, Natural Resources Conservation Service, and the SCAPOSD ~~Sonoma County, ranchers and farmers, and RCDs~~	n/a										NQ[3]
19-R2	**Establish a Target for Increased Carbon Sequestration** Work with local partners to establish short- and long-term targets for increasing carbon sequestration throughout the County.	*Implemented by:* RCPA, the County, Resource Conservation Districts, Natural Resources Conservation Service, the SCAPOSD, and partners	n/a										NQ[3]
Goal 20. Educate residents about emissions from the consumption of goods and services													

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions Potential [2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	
20-R1	**Measure and Track Consumption-based Emissions** Develop metrics and tools to analyze and track carbon intensity of goods and services consumed in Sonoma County.	*Implemented by:* RCPA with support from the SCWMA	n/a										NQ[3]
20-R2	**Educate Consumers** Provide information to residents and businesses about the carbon content of goods and services consumed in Sonoma County with emphasis on options that will reduce GHG emissions.	*Implemented by:* RCPA with support from the SCWMA	n/a										NQ[3]
20-R3	**Encourage and Promote Sustainable Consumption** Develop and provide resources that help residents get the goods and services they need with the least full life-cycle GHG emissions.	*Implemented by:* RCPA	n/a										NQ[3]
20-R4	**Reduce Carbon Intensity of Product Supply Chains** Explore partnerships and seek opportunities to support local businesses reducing the carbon intensity of their supply chain.	*Implemented by:* RCPA	n/a										NQ[3]

CAP Measure Number[1]	Name and Description	Responsible Entity	Adopted by?										2020 GHG Reductions~~s~~ Potential [2] ($MTCO_2e$/ year)
			Cloverdale	Cotati	Healdsburg	Petaluma	Rohnert Park	Santa Rosa	Sebastopol	Sonoma	Windsor	County of Sonoma	

Notes:

The City of Santa Rosa has completed a separate climate action plan (*Santa Rosa Climate Action Plan*, adopted June 5, 2012). Measures that the City has adopted in its climate action plan that are similar to those in the CAP are marked in this table.

[1] CAP Measure Number abbreviations: S = state measures, R~~C~~= regional measures, and L = local measures.

[2] Refer to Appendix C of the final ~~draft~~ CAP for a description of the assumptions and methodology used to calculate the 2020 GHG reductions.

[3] These measures were not quantified (NQ) for GHG reductions because they are qualitative supporting measures. Refer to Appendix C of the final CAP for more information.

Appendix C

Revised Project Description

Chapter 2

Revised Project Description

Note to reader: New or revised text is shown with underline for additions and ~~strikeout~~ for deletions.

2.1 Project Location and Project Area

The boundary of the proposed *Climate Action 2020: Community Climate Action Plan* (CAP) Project (project) encompasses Sonoma County (County). Sonoma County is the largest and northern-most county of the nine counties that comprise the San Francisco Bay Area (Bay Area). The County is located along the Pacific coastline, approximately 40 miles north of the City of San Francisco and the Golden Gate Bridge. Sonoma County is bordered by Mendocino County to the north; the Pacific Ocean to the west; Marin County and San Pablo Bay to the south; and Solano, Napa, and Lake Counties to the east.

For the purposes of this draft environmental impact report (draft EIR) and the analyses herein, the boundary of the project area is the County boundary. The project area includes eight incorporated jurisdictions (Cloverdale, Cotati, Healdsburg, Petaluma, Rohnert Park, Sebastopol, Sonoma, and Windsor) and unincorporated areas within the County. Santa Rosa is not included in the project area because it already adopted a CAP and subsequent supplemental general plan EIR. However, as discussed in the CAP, the assessment of meeting the CAP's overall target is of a countywide target and includes Santa Rosa and its reductions from the Santa Rosa CAP. The project area consists of 1,500 square miles and encompasses the land within the city limits of each incorporated city, the existing sphere of influence (SOI) area of each city, and the boundaries of the unincorporated County.

2.2 Project Objectives

The proposed CAP would include both regional measures (to be implemented by the Sonoma County Regional Climate Protection Authority [RCPA] and other regional agencies with local government support) and local measures (to be implemented by local governments with RCPA and regional agency support and on their own) to reduce greenhouse gas (GHG) emissions. The proposed objectives of the CAP are to:

- Identify specific actions that the RCPA, other regional agencies, each participating jurisdiction, and individual residents and businesses can implement to reduce GHG emissions consistent with and even exceeding the goals established in Assembly Bill 32 (AB 32); **specifically, the CAP target is to reduce countywide GHG emissions by 25% below 1990 levels by 2020**.
- Promote consistency with the land use policy direction and growth anticipated in local general plans.
- Allow for continued economic growth to provide opportunities for businesses and residents.

As part of the CAP, the RCPA is estimating GHG emissions for 1990 and 2010 and forecasting future emissions for 2020 and beyond. The community inventory includes GHG emissions occurring in association with the land uses within a jurisdictional boundary, and it consists of sources of

emissions that a community can more readily influence or control. Emissions sectors analyzed in the CAP include: building energy, land use and transportation, off-road transportation and equipment, solid waste ~~generation~~, wastewater ~~treatment~~, water ~~conveyance~~, and agriculture.

The draft CAP ~~will be released before or~~ was released during the public review period for ~~this~~ the draft EIR. The draft CAP ~~may~~ has been revised in response to public input throughout the public review process and a final CAP will be published prior to consideration for adoption by the RCPA and by the participating jurisdictions.

2.3 Project Background

2.3.1 Regional Climate Protection Authority

In 2009, the RCPA was created to coordinate climate change issues, establish a clearinghouse for efforts to reduce GHG emissions in the County, and secure funding for GHG-reducing efforts. The RCPA consists of ten communities, including Sonoma County, the Town of Windsor, and the following cities: Cloverdale, Cotati, Healdsburg, Petaluma, Rohnert Park, Santa Rosa, Sebastopol, and the City of Sonoma. The Staff Working Group (SWG) that developed the CAP collaboratively includes all communities except for the City of Santa Rosa. The City of Santa Rosa completed a separate climate action plan previously and therefore is not included in this draft EIR (and is not part of the SWG); however, it does participate in the RCPA.

The local governments within Sonoma County and the RCPA plan to reduce and avoid GHG emissions associated with community activities, which include everyday activities within the incorporated cities and the unincorporated areas of the County.

2.3.2 Past Actions to Reduce GHG Emissions

Sonoma County has a history of taking action to reduce GHG emissions. The County's past efforts to reduce GHG emissions was spearheaded by the leadership of forward-thinking local community officials at the city and County government levels, the actions of interested non-governmental organizations, and, most importantly, the individual actions of Sonoma County residents and businesses.

Some of the milestones in climate action planning in Sonoma County include the following:

- 2001: All Sonoma County communities committed to the International Council for Local Environment Initiatives campaign called Cities for Climate Protection, an initiative to reduce GHG emissions through local government action.
- 2005: The elected leadership in all Sonoma County communities adopted a countywide GHG emissions reduction target of 25% below 1990 levels by 2015. The City of Cotati adopted an even more aggressive goal of 30% below 1990 levels by 2015.
- 2008: A local community non-profit group, the Climate Protection Campaign (now known as the Center for Climate Protection), developed a community climate action plan, which was the first community-wide examination of strategies to reduce community-wide GHG emissions.
- 2009: Sonoma County communities established the nation's first regional climate protection authority, a multi-jurisdictional agency tasked with coordinating countywide efforts to reduce GHG emissions and become more resilient to climate change. The RCPA members and partners

have created and pioneered innovative approaches to climate solutions including Property Assessed Clean Energy (PACE) financing, Pay As You Save (PAYS) on-bill repayment for resource efficiency, community choice aggregation, carbon-free water, electric vehicle infrastructure deployment, climate action through conservation, adaptation planning, and more.

- 2012: The City of Santa Rosa was the first local government in the County to adopt its own CAP and adopt a new GHG emissions reduction target of 25% below 1990 levels by 2020 (City of Santa Rosa 2012).
- 2015: Sonoma Resource Conservation District and Gold Ridge Resource Conservation District started a "carbon farming" program to accelerate the rate at which carbon is sequestered from the atmosphere into soil and wood biomass.

Community leadership has resulted in direct actions by the citizens, businesses, and communities in the County to reduce GHG emissions. For example:

- All communities in the county (except Healdsburg, which has its own electric utility) now participate in the local Community Choice Aggregation program (known as Sonoma Clean Power [SCP]), which provides electricity with a higher renewable energy content than otherwise available. Healdsburg's municipal utility has provided electricity with a large renewable portfolio for many years.
- The County established a PACE program known as the Sonoma County Energy Independence Program to help property owners finance energy and water efficiency improvements. This program has reduced GHG emissions equal to taking 3,000 cars off the road and generated enough clean energy to power nearly 6,000 homes for a year.
- RCPA and County communities support energy-efficiency efforts and solar retrofits through a variety of programs. Waste minimization, recycling, and composting programs are already an essential part of resource conservation in the County.
- The Sonoma County Water Agency (SCWA) is a leader in innovating low-carbon methods for delivering water supplies and conserving water. SCWA reached its goal of a carbon-free water delivery system in 2015 and is a prominent supporter of energy conservation financing.
- The County is a center for sustainable wine growing and other sustainable agricultural practices.

By 2010, the combined actions of all Sonoma County communities had reduced countywide GHG emissions to approximately 9%~~7%~~ below 1990 levels, even while the County's population and economy grew substantially by 17% between 1990 and 2010. On a per capita basis, County GHG emissions declined approximately 27%~~26%~~ over the same period. However, based on projections from the 2010 GHG inventory, the County is not expected to meet the 2015 goal of 25% below 1990 levels. Furthermore, the County's population is projected to increase by 5% between 2010 and 2020, and employment is projected to increase by 13% over the same period. Population and economic growth are the main factors influencing the growth of GHG emissions.

Without additional actions, GHG emissions in 2020 and beyond will not be reduced and could increase because of continued population and economic growth**.** Therefore, the primary goal of the CAP is to grow smarter by reducing countywide GHG emissions to a level that is 25% below 1990 emissions by 2020, a target that is well beyond that established in current state law (AB 32). With ongoing efforts already underway combined with new actions proposed in the CAP, emissions reductions in 2020 are projected to meet the target of 25% below 1990 levels. Achieving the CAP's

2020 goal will place the County in a favorable position for meeting more aggressive goals for 2030 and 2050.

2.4 Project Characteristics

The goal of the CAP is to identify specific actions that each community can implement to reduce GHG emissions. The CAP includes measures to reduce GHG emissions and reduce the County's vulnerability to climate change hazards. The GHG reduction element of the CAP involves an assessment of GHG-reduction strategies, engagement of the public in planning efforts, and creation of a framework to maintain reductions in the future. The climate adaptation element of the CAP involves an analysis of the vulnerability of the communities to the effects of future climate change and identifies broad-level policies and actions that would increase the resiliency of the communities to these changes. This draft EIR analysis is limited to the GHG reduction measures and does not address the climate adaptation element of the CAP because the adaptation element of the CAP is a broad overview of climate vulnerabilities and general options for policy, not an implementation plan for GHG emissions.

The project includes reduction measures for the following sectors that produce GHG emissions: building energy; transportation and land use; solid waste ~~generation~~; water ~~conveyance~~ and wastewater ~~treatment~~; and livestock and fertilizer. The project also includes advanced climate initiatives that would protect and enhance the value of open and working lands, promote sustainable agriculture, increase carbon sequestrations, and educate residents about GHG emissions from the consumption of goods and services.

The RCPA has prepared a draft CAP for reducing countywide GHG emissions to 25% below 1990 levels by 2020. The draft CAP was prepared in consultation with the Sonoma County Transportation Authority (SCTA) and the SWG. The draft CAP has ~~may~~ been revised in response to public input throughout the public review process and a final CAP will be published prior to consideration for adoption by the RCPA and by the participating jurisdictions.

The entire draft CAP, including appendices, is hereby incorporated by reference as part of this draft EIR.[1] The CAP is summarized further below. For a full description of the CAP and the GHG-reduction measures, please refer to the CAP document itself.

2.4.1 Sonoma County's Community Greenhouse Gas Emissions

This section is derived from Chapter 2 and Appendix B of the ~~draft~~ final CAP, which discuss the County's GHG emissions.

2.4.1.1 GHG Profiles and Methodology for Measuring Emissions

Estimates of historic, current, and future GHG emissions are essential to understanding local emission sources that communities can influence to reduce local contributions to climate change. These profiles—referred to as backcasts, inventories, and forecasts—help to identify priorities for

[1] The *Climate Action 2020: Community Climate Action Plan* is available on the RCPA's website at: http://rcpa.ca.gov/projects/climate-action-2020/.

emissions reductions strategies and for tracking progress. Several GHG profiles were developed for the CAP:

- 1990 Backcast: An estimate of community-wide emission levels in 1990 was developed to understand historic emission levels in the County and to provide a baseline for measuring future GHG reductions.
- 2010 Inventory: The 2010 inventory measured existing emissions sources that are either created within the County or participating jurisdictions or that occur in association with the land uses within the city limits. Any actions initiated by communities to reduce GHG emissions implemented prior to 2010 are accounted for in the inventory.
- 2020 Business-as-usual (BAU)[2] Forecast: The 2020 emissions forecast was developed to predict how community emissions may occur in 2020, in the absence of state and local actions to reduce GHG emissions. This 2020 forecast was developed to evaluate the magnitude of the challenge in meeting the short-term CAP target of 25% below 1990 levels. The 2020 forecast is based on the expected growth in population, employment, and housing for the County in 2020.

Appendix B of the ~~draft~~ final describes the data sources and general methods and protocols used to develop the County's GHG profiles. The RCPA inventoried 2010 GHG emissions from community activities for all cities (except Santa Rosa) and the unincorporated County areas. The 2010 inventory was extrapolated to forecast GHG emissions for 2020 and backcast GHG emissions for 1990. The CAP also forecasts future emissions in 2040 and 2050 under a BAU scenario to help prepare the County to meet long-term GHG reduction goals.

The 2010 inventory includes GHG emissions occurring in association with the land uses within a jurisdictional boundary, and generally consists of sources of emissions that a community can influence or control. The inventory includes emissions that occur inside and outside the jurisdictional boundary, but only to the extent that such emissions are created by land uses within the community. Emissions generated by the County's municipal operations (e.g., government-owned facilities, vehicle fleets) are not individually highlighted in the CAP because separate municipal inventories were not prepared as part of the CAP effort. However, emissions generated by the County's municipal operations occurring within the boundaries of participating jurisdictions are calculated into the overall community emissions inventories and subject to the CAP.

As is the standard practice, the GHG profiles are presented in metric tons of carbon dioxide equivalent ($MTCO_2e$). Presenting inventories in $MTCO_2e$ allows one to characterize the complex mixture of GHGs as a single unit, taking into account that each gas has a different global warming potential (GWP).[3]

2.4.1.2 1990, 2010, and 2020 Countywide GHG Emissions

As shown in Table 2-1, approximately 3.94~~3.97~~ million $MTCO_2e$ emissions were generated by activities in the County in 1990. By 2010, emissions were approximately 9%~~8%~~ lower, at 3.60~~3.66~~

[2] The BAU scenario assumed that future development trends follow those of the past and no changes in climate action strategies or policies will take place. The BAU scenario can be forecast for multiple years.

[3] The global warming potential, or GWP, is used to compare GHGs based on their potential to trap heat and remain in the atmosphere. Some gases can absorb more heat than others, and thus have a greater impact on global warming. For example, CO_2 is considered to have a GWP of 1, whereas N_2O has a GWP of 265. This means that N_2O is 265 times more powerful than CO_2.

million $MTCO_2e$, or per capita emissions of approximately 7.4~~7.6~~ $MTCO_2e$ for the 483,878 residents in the County. However, in the absence of state and local climate actions, emissions in 2020 are projected to grow to 4.34~~4.40~~ million $MTCO_2e$, which is largely driven by population and economic growth.

Table 2-1. Summary of 1990, 2010, and 2020 Countywide GHG Emissions

Note to reader: Table 2-1 of the draft EIR is replaced with the table shown below.

Key CAP Indicators	Backcast 1990	Inventory 2010	Forecast 2020 BAU
Countywide emissions ($MTCO_2e$)	3,944,000	3,601,000	4,343,000
Percent change from 1990	N/A	-9%	10%
Per capita emissions ($MTCO_2e$/person)	10.2	7.4	8.5
California per capita emissions ($MTCO_2e$/person)[1]	14.5	12.1	12.5
Population (people)	388,222	483,878	509,766
Housing (housing units)	149,382	189,773	202,942
Employment (jobs)	172,064	202,123	229,710

[1] For details on how the California per capita emissions were estimated, please refer to Appendix C of the final CAP.

Table 2-2 depicts a breakdown of GHG emissions in the County by emissions sector. Of the total emissions in 2010, on-road transportation and building energy use (including residential and non-residential uses) are the largest sources of emissions at 53%~~52%~~ and 34%~~33%~~, respectively. The third largest source of GHG emissions is fertilizer and livestock (7%~~9%~~), followed by solid waste ~~generation~~ (4%), off-road transportation and equipment (2%), wastewater ~~treatment~~ (0.4%), and water ~~conveyance~~ (0.1%).

As the County experiences population and economic growth, energy consumption, water usage, waste generation, and transportation activities will increase. For the CAP, BAU forecasts have been developed to evaluate the impacts of this growth on future GHG emissions in 2020, 2040, and 2050. The BAU forecast is based on changes in population, households, and employment, and it represents a scenario that does not consider the effects of future local, state, or federal actions to reduce GHG emissions. Both Tables 2-1 and 2-2 compare the 2020 BAU forecast to the 1990 backcast and 2010 inventory. As shown in Table 2-1, GHG emissions would increase by approximately 21%~~20%~~ between 2010 and 2020 without state, regional, and local GHG reduction actions. Much of this increase in GHG emissions from 2010 to 2020 BAU is attributable to increases in building energy, on-road transportation (vehicle trips), off-road equipment, and solid waste ~~generation~~ emission sectors.

Changes in emissions by the community over time are a product of a number of factors, including economic and population growth, annexations, urban growth boundaries, an emphasis on city-centered growth, and changes in efficiency, energy sources, and behavior. Table 2-3 compares the 1990 backcast and 2010 GHG emissions inventory to projected 2020 BAU forecast for each community in the County. The cities of ~~Windsor,~~ Rohnert Park~~,~~ and Santa Rosa ~~and Petaluma~~ are projected to experience the highest increase in GHG emissions between 2010 and 2020. Figure 2-1 shows the County's emissions changes by sector from 1990 to 2050. For more information, please refer to Chapter 2 and Appendix B of the CAP.

Table 2-2. 1990, 2010, and 2020 Countywide GHG Emissions by Sector

Note to reader: Table 2-2 of the draft EIR is replaced with the table shown below.

	Emissions ($MTCO_2e$)			Change in Emissions (%)	
Emission Sector	**Backcast 1990**	**Inventory 2010**	**Forecast 2020 BAU**	**1990 to 2010**	**2010 to 2020**
Building energy	859,000	1,220,000	1,410,000	42%	16%
On-road transportation	1,203,000	1,899,000	2,349,000	58%	24%
Off-road transportation and equipment	43,000	62,000	77,000	44%	24%
Solid waste	281,000	134,000	236,000	-52%	76%
Wastewater	15,000	15,000	14,000	0%	-7%
Water	27,000	4,000	14,000	-85%	250%
Fertilizer and livestock	393,000	268,000	243,000	-32%	-9%
Santa Rosa 1990 emissions[1]	1,123,060	--	--	--	--
Sonoma County Total *(rounded)*	**3,944,000**	**3,601,000**	**4,343,000**	**-9%**	**21%**

[1] Santa Rosa's emissions in 1990 are not provided in the city's CAP; 1990 emissions were therefore assumed to be equal to 15% below the baseline level of emissions, per the city's CAP. As a result, sector emissions for Santa Rosa in 1990 are not available and are included as a separate line item. Sector emissions for 2010 and 2020 are included in the totals above.

Note: For details on changes in emissions over time, please refer to Chapter 2 and Appendix B of the final CAP.

Table 2-3. 1990, 2010, and 2020 Countywide GHG Emissions by Community

Note to reader: Table 2-3 of the draft EIR is replaced with the table shown below.

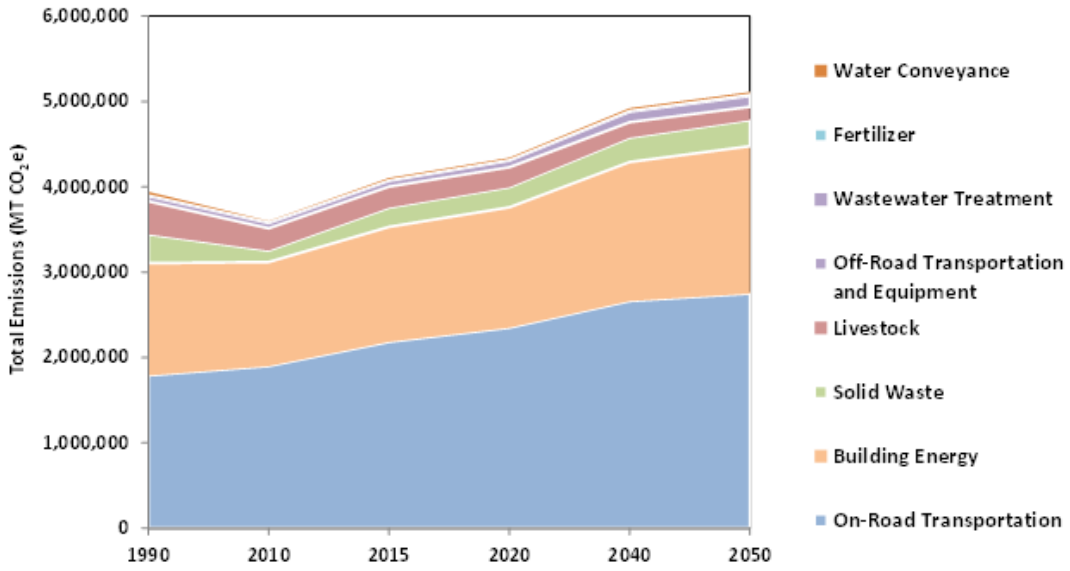
	Emissions ($MTCO_2e$)			Change in Emissions (%)	
Community	**Backcast 1990**	**Inventory 2010**	**Forecast 2020 BAU**	**1990 to 2010**	**2010 to 2020**
Cloverdale	57,000	59,000	73,000	4%	24%
Cotati	51,000	52,000	61,000	2%	17%
Healdsburg	93,000	109,000	121,000	17%	11%
Petaluma	387,000	442,000	543,000	14%	23%
Rohnert Park	291,000	264,000	373,000	-9%	41%
Santa Rosa	1,123,000	1,065,000	1,397,000	-5%	31%
Sebastopol	73,000	76,000	93,000	4%	22%
Sonoma	97,000	103,000	122,000	6%	18%
Windsor	133,000	158,000	188,000	19%	19%
Unincorporated Sonoma County	1,244,000	1,005,000	1,129,000	-19%	12%
Emissions Not Assigned to Individual Communities					
Fertilizer and Livestock [1]	393,000	268,000	243,000	-32%	-9%
Sonoma County Total *(rounded to thousands)*	**3,944,000**	**3,601,000**	**4,343,000**	**-9%**	**21%**

[1] Agriculture emissions (fertilizer and livestock) were not considered on an individual community basis. Thus, agriculture emissions are disaggregated from the community emissions and shown separately here.

Note: For details on changes in emissions over time, please refer to Chapter 2 and Appendix B of the draft final CAP.

Figure 2-1. 1990 to 2050 Countywide GHG Emissions by Sector

Note to reader: Figure 2-1 of the draft EIR is replaced with the figure shown below.



2.4.2 Greenhouse Gas Reduction Targets and Goals

This section is derived from Chapter 3 of the ~~draft~~ final CAP, which discusses GHG reduction targets for the County.

2.4.2.1 GHG Reduction Target for 2020

Prior commitments by the County and participating jurisdictions to reduce GHG emissions included adopting and codifying reduction targets. In 2005, the County and all participating jurisdictions adopted regulations to reduce GHG emissions by 25% below 1990 levels by 2015. Although a 2015 inventory has not yet been completed, based on BAU projections from the 2010 inventory, the County is not expected to meet the previously adopted target of 25% below 1990 levels by 2015. Furthermore, the County's population is expected to increase by 5% between 2010 and 2020, and employment is expected to increase by 14% over the same period. Without additional action, GHG emissions in the County in 2020 and beyond will increase as a result of continued population and economic growth.

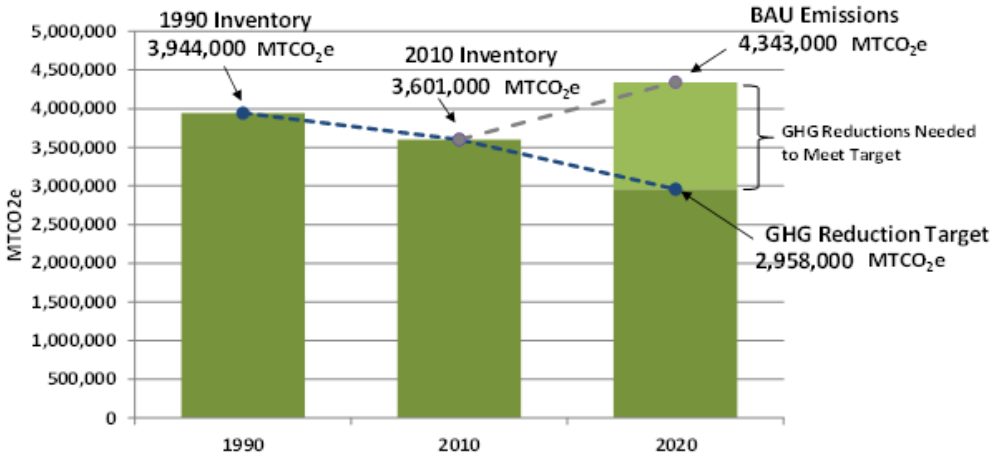
Creation of the CAP was motivated by a need to identify specific near-term actions to reduce GHG emissions and to establish updated goals for 2020 and beyond. Year 2020 is an important milestone in the State of California because of the Global Warming Solutions Act (also known as AB 32). Under AB 32, California is seeking to reduce statewide GHG emissions to 1990 levels by 2020. In 2006, Sonoma County communities were significantly more ambitious than the state when adopting the goal of 25% below 1990 levels by 2015. Even though no formal GHG reduction plan was adopted, that ambition has driven positive results—emissions in 2010 were already 9%~~7.5%~~ lower than 1990 levels.

A range of GHG reduction targets was considered for the CAP. The Sonoma County communities have agreed to adopt an updated countywide target of 25% below 1990 levels by 2020, as

illustrated in Figure 2-2. This goal is ambitious because it significantly surpasses the state's AB 32 target. However, it is also a practical target because it can be achieved by implementing the suite of state, regional, and local measures outlined in the CAP. The selection of the countywide target is based on the aspiration to set ambitious goals that would place Sonoma County communities on track in the long-term and would recognize what is attainable through the package of measures considered and adopted by each community through 2020.

Figure 2-2. Achieving Sonoma County's 2020 GHG Reduction Target

Note to reader: Figure 2-2 of the draft EIR is replaced with the figure shown below.



2.4.2.2 Long-Term Goals and Vision

The scientific consensus about the potential long-term ramifications of unchecked human-induced climate change has been integrated into state policy. Governor Schwarzenegger's 2005 Executive Order S-03-05 (EO S-03-05) established a long-term statewide goal of 80% below 1990 levels by 2050. In order to reach this target for 2050, the state will have to go above and beyond what is included in the AB 32 Scoping Plan for 2020. Accordingly, in April 2015, Governor Brown issued Executive Order B-30-15 (EO B-30-15), which established an interim reduction target of 40% below 1990 levels by 2030. EO B-30-15 also directed the California Air Resources Board to update the AB 32 Scoping Plan to reflect the interim target; the updated Scoping Plan is expected in late 2016. There is currently no statewide plan to achieve the 2030 or 2050 targets; therefore, the California communities must continue to reduce emissions aggressively beyond 2020. The state legislature is also considering Senate Bill 32 (SB 32), which, if adopted, would establish the 2030 goal as a legislative mandate, thus broadening its legal applicability.[4]

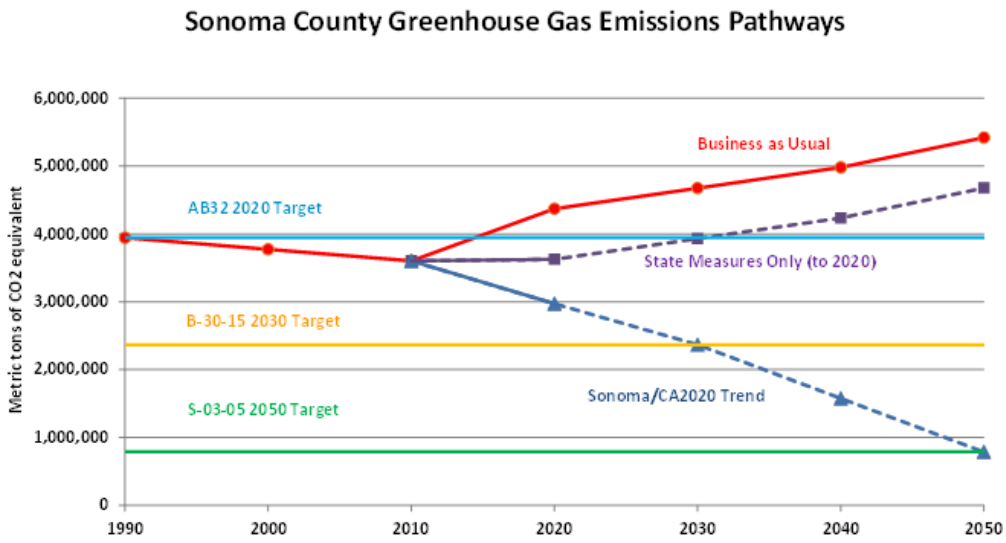
In addition to the near-term target of 25% below 1990 levels by 2020, Sonoma County communities have agreed to pursue the long-term goals of 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. Although the specific path to reach this goal has not yet been determined—either locally or by the State of California—it is clear that pursuing the ambitious 2020 target will make substantial progress toward the 2030 statewide target in a manner that is more aggressive than the state's current path under AB 32. Figure 2-3 shows that current state GHG reduction measures (e.g.,

[4] Executive Orders are not binding on the private sector or local governments; only state law is.

vehicle fuel standards and renewable portfolio standards for electricity) will only achieve a portion of the reductions needed to meet long-term goals. While further state action to reduce emissions is anticipated, success will require scaling up existing local and regional strategies, including those in the CAP, and developing new solutions.

Figure 2-3. Sonoma County GHG Emissions Pathway from 1990 to 2050

Note to reader: Figure 2-2 of the draft EIR is replaced with the figure shown below.



Another way to look at the long-term challenge of achieving 80% below 1990 levels by 2050 is on a per capita basis. As shown in Figure 2-4, countywide GHG emissions were 7.4~~7.6~~ $MTCO_2e$ per person in 2010 and are forecast to increase to 8.4 $MTCO_2e$ per person by 2015. Projected per-capita BAU emissions increase slightly to 8.5~~8.6~~ $MTCO_2e$ in 2020 and beyond because population is projected to increase somewhat faster than emissions. Nonetheless, given projected population and economic growth, meeting the long-term reduction target requires that per capita emissions in 2050 not exceed 1.3 $MTCO_2e$, an even steeper decline than is needed for overall emissions reduction. The County's 2020 target is equivalent to 5.8 $MTCO_2e$ per capita, further emphasizing the challenge of meeting the long-term goals and the importance of adopting an aggressive target of 25% below 1990 levels by 2020 to put the County on the right track to meet the long-term goals.

Although the long-term goal presents a challenge, there is much work underway in California, the United States, and in international negotiations to understand how to achieve it. The state has begun evaluating the cost and feasibility of strategies to achieve the long-term targets. Projects like the California Pathways Project demonstrate that success is possible based on scaling up the primary strategies in this plan: resource efficiency, zero carbon electricity, and switching away from fossil fuels. Further, implementing the local measures in the CAP will complement state efforts and would help Sonoma County achieve the near-term target while advancing goals for the long-term response beyond 2020.

2.4.3 Development of the Greenhouse Gas Reduction Strategies

In order to develop the GHG reduction measures, the County and the participating jurisdictions compiled a list of candidate GHG reduction measures for quantification and potential inclusion in the CAP, based on existing city and County documents, general plans, and local policies and programs. A comprehensive review of potential candidate measures recommended by the California Attorney General, California Air Pollution Control Officers Association (CAPCOA), and existing climate action plans throughout California was also conducted.

An extensive list of potential GHG reduction measures was developed and submitted to the RCPA and SWG for technical review. Based on feedback provided by the RCPA and SWG, candidate measures were selected to be analyzed in greater detail. The amount of GHG emissions that could be avoided in 2020 by each measure was calculated. Costs and savings associated with each measure were also quantified, as feasible, to help identify the financial and economic impact of the measures. Other benefits, such as reduction in air pollution, were also identified for all measures. The County also evaluated the methods of implementing different measures, including whether each measure should be implemented through incentive-based voluntary approaches, flexible performance-based measures, or new local mandates.

Based on consideration of the GHG reduction effectiveness, financial and economic costs of measures, and benefits, the County identified a list of voluntary and mandatory measures for inclusion in the CAP.

2.4.4 Greenhouse Gas Reduction Measures

This section is derived from Chapter 3 of the ~~draft~~ final CAP, which discusses the GHG-reduction measures. Appendix C of the ~~draft~~ final CAP provides an in-depth discussion of all GHG-reduction measures.

2.4.4.1 Overall GHG Reduction Strategy

The CAP planning process explored a variety of state, regional, and local measures to reduce GHGs within the County in order to achieve the target of 25% below 1990 levels by 2020 and provide a strong foundation for meeting the 2030 and 2050 goals. Measures were identified across levels of government and along a spectrum of strategies from voluntary to regulatory. Many of the measures build on existing programs, whereas other measures represent new opportunities. Public meetings and online engagement tools were used to collect input on community priorities for climate action.

The CAP measures are grouped into the following six sectors:

- Building Energy
- Transportation and Land Use
- Solid Waste ~~Generation~~
- Water ~~Conveyance~~ and Wastewater ~~Treatment~~
- Livestock and Fertilizer
- Advanced Climate Initiatives

Table 2-4 identifies the reduction goals for each sector. There are 20 overall goals for the GHG-reduction measures in the CAP.

Table 2-4. Greenhouse Gas Reduction Measure Goals

Building Energy	1. Increase the energy efficiency of buildings. 2. Increase renewable energy use. 3. Switch equipment from fossil fuel to electricity.
Transportation and Land Use	4. Reduce travel demand through focused growth. 5. Encourage a shift toward low-carbon transportation options. 6. Increase vehicle and equipment fuel efficiency. 7. Encourage a shift toward low-carbon fuels in vehicles and equipment. 8. Reduce idling.
Solid Waste ~~Generation~~	9. Increase solid waste diversion. 10. Increase capture and use of methane from landfills.
Water ~~Conveyance~~ and Wastewater ~~Treatment~~	11. Reduce water consumption. 12. Increase recycled water and greywater use. 13. Increase the water and wastewater infrastructure efficiency. 14. Increase use of renewable energy in water and wastewater systems.
Livestock and Fertilizer	15. Reduce emissions from livestock operations. 16. Reduce emissions from fertilizer use.
Advanced Climate Initiatives	17. Protect and enhance the value of open and working lands. 18. Promote sustainable agriculture. 19. Increase carbon sequestration. 20. Educate residents about emissions from the consumption of goods and services.

The GHG reduction measures in the CAP would be implemented at three levels.

- **State** measures adopted and implemented by state agencies, including statewide fuel efficiency standards and renewable portfolio standards for electricity generation.
- **Regional** measures implemented by cross-jurisdictional agencies like the RCPA, SCP, transit agencies, and waste management and water supply agencies.
- **Local** actions implemented by the cities and the County. These local measures include voluntary, incentive-based, and regulatory approaches.

Appendix B, *CAP Measures*, summarizes the state, regional, and local measures included in the CAP to reduce GHG emissions. The measures are organized by GHG-reduction goals for the County as a whole, not including the City of Santa Rosa.

Statewide efforts to reduce GHG emissions are a fundamental part of the CAP. For example, the state's Renewables Portfolio Standard (RPS) will reduce the carbon content of electricity throughout the state, including in Sonoma County. Electricity provided to the County will therefore be cleaner and less GHG-intensive than if the RPS had not been established. Regional actions, such as the SCP measure, encourage members of the community to subscribe to electricity service that surpasses RPS in terms of reducing carbon content. The SCP measure and others make the regional measures a critical part of the CAP as well. The CAP includes the impact of 9 state measures and 34~~32~~ regional measures to reduce GHG emissions, as discussed further in Chapter 3 and Appendix C of the ~~draft~~ final CAP.

In addition to the state and regional measures, 34~~30~~ local measures have also been identified. The communities have reviewed the list of local measures and have selected from this list the measures that they would like to include as part of their individual community commitments. Thus, the suite of measures that a community will implement varies by each community. Although each community won't implement all 34~~30~~ local measures, the individual community commitments will, in conjunction, act as a comprehensive GHG emissions reduction program and help the County achieve the countywide goal.

Some of the local measures include voluntary, incentive-based programs that would reduce emissions from both existing and new development in the communities. Some of the measures establish mandates for development, either pursuant to state regulations or through existing programs. Several other measures would be implemented by each community, while the regional measures would be implemented by other regional agencies with varying levels of coordination with the communities. While a number of the measures build on existing policies and programs, others provide new opportunities to address climate change. Successful implementation of these actions would require commitment from regional agencies, all participating jurisdictions and their various departments, and residents. The RCPA and communities would adaptively manage the implementation of the CAP to maximize GHG reductions and operational efficiency for each measure. Accordingly, the RCPA and communities may revise measures or add new measures to ensure that the region achieves the reduction target by 2020. If new federal programs that achieve local GHG reductions beyond state and local mandates are adopted and implemented prior to 2020, these federal programs may also be added to the CAP.

Successful implementation of the local strategies would rely on the combined participation of community staff along with residents, businesses, and community leaders throughout the County. The state and regional measures apply to all communities. There is diversity in the local measures selected by each community as the communities have made different choices in which measures are most appropriate for their community. Coordinating GHG-reduction programs within and across communities would streamline CAP implementation and potentially boost GHG reduction outcomes through synergies created among measures.

2.4.4.2 GHG Reduction with Implementation of the CAP

Table 2-5 presents countywide GHG emissions and reductions by sector for 2020 under both BAU conditions and with implementation of the CAP. As shown in Table 2-5, the County would achieve GHG reductions of ~~over~~ approximately 1.4 million $MTCO_2e$, including emission reductions from Santa Rosa, with implementation of the CAP. Table 2-6 presents the countywide GHG emissions and reductions by community. Under the CAP, the amount of GHG reductions would allow the County to meet the target goal of 25% below 1990 levels by 2020.

Table 2-5. 2020 Countywide GHG Emissions and Reductions by Sector

Note to reader: Table 2-5 of the draft EIR is replaced with the table shown below.

	Emissions ($MTCO_2e$)			
Emission Sector	**2020 BAU**	**CAP Reductions**	**2020 with CAP**	**% Reduction**
Countywide CAP Sectors				
Building energy	1,410,000	322,500	1,087,500	23%
On-road transportation	2,349,000	417,900	1,931,100	18%
Off-road equipment	77,000	8,100	68,900	11%
Solid waste	236,000	65,400	170,600	28%
Wastewater	14,000	600	13,400	4%
Water	14,000	22,000	-8,000[3]	157%
Livestock and Fertilizer	243,000	1,800	241,200	1%
Santa Rosa CAP Reductions, including applicable state and city regulations				
Santa Rosa CAP	--	558,080[1]	--	
Sonoma County Total *(rounded)*[2]	**4,343,000**	**1,396,000**	**2,947,000**	**32%**

Totals may not add up due to rounding.

[1] This number is from the Santa Rosa Climate Action Plan (City of Santa Rosa 2012).

[2] Sonoma County total emissions are rounded down to the nearest hundreds.

[3] The CAP reduction for the wastewater treatment sector is greater than 2020 BAU emissions because it contains emission reductions from multiple sectors. Wastewater treatment measures reduce direct fugitive emissions within the wastewater sector and also improve treatment efficiency, which reduces electricity use within the building energy sector.

NOTE: For details on methodology and emissions calculations for emission sectors, please refer to Chapter 3 the final CAP.

Table 2-6. 2020 Countywide GHG Emissions and Reductions by Community

Note to reader: Table 2-6 of the draft EIR is replaced with the table shown below.

Community	Emissions ($MTCO_2e$)			
	2020 BAU	CAP Reductions	2020 with CAP	% Reduction
Cloverdale	73,000	22,810	50,190	31%
Cotati	61,000	19,330	41,670	32%
Healdsburg	121,000	33,230	87,770	27%
Petaluma	543,000	166,350	376,650	31%
Rohnert Park	373,000	120,760	252,240	32%
Santa Rosa	1,397,000	558,080	838,920	40%
Sebastopol	93,000	29,560	63,440	32%
Sonoma	122,000	36,470	85,530	30%
Windsor	188,000	60,390	127,610	32%
Unincorporated Sonoma County	1,129,000	347,650	781,350	31%
Emissions Not Assigned to Individual Communities				
Fertilizer and Livestock	243,000	1,800		
Sonoma County Total *(rounded)*[1]	**4,343,000**	**1,396,000**	**2,947,000**	**32%**
Countywide Target (25% below 1990 levels)	--	--		--

[1] Sonoma County total emissions are rounded down to the nearest hundreds.

Note: For details on methodology and calculations for each community, please refer to Chapter 5 the ~~draft~~ final CAP.

Implementing state, regional, and local measures in the CAP would avoid the generation of approximately ~~more than~~ 1.4 million $MTCO_2e$ in 2020 (annually), which is equivalent to any of the following individual actions (U.S. Environmental Protection Agency 2014):

- Removing almost 300,000 passenger vehicles from the road each year.[5]
- Reducing gasoline consumption by more than 160 million gallons per year.
- Providing renewable energy to power over 130,000 homes each year.

The actions in the CAP are priority actions and are intended for near-term implementation, such that the County can achieve its GHG reduction targets for 2020.

2.4.5 Potential Physical Effects of CAP Measures

The CAP is a planning document; therefore, its adoption would not directly result in any physical changes. However, the goal of the CAP is to facilitate reductions in GHG emissions. This is the chief anticipated environmental effect. While the actions called for in the CAP would result in a number of environmental benefits, some of the actions may also result in adverse secondary impacts on the

[5] Assuming 10,000 miles traveled per year in a typical vehicle.

environment, which are analyzed in this draft EIR. Subsequent CEQA compliance would be required at a project level for any physical improvements necessary to implement the CAP measures, but the likely impacts would be analyzed at a planning level.

While state measures are discussed in the CAP, these state measures would apply whether or not the CAP is implemented. Thus, this draft EIR is focused on the potential environmental impacts of regional and local measures, and not state measures.

The physical changes resulting from the actions proposed in the CAP can be broadly categorized as follows:

- Building Energy
    1. *Increase the energy efficiency of buildings.* CAP measures focus on retrofits of existing buildings, greater energy efficiency in new development, more efficient lighting, planting of shade trees, and cogeneration in new development. Physical changes would be primarily associated with and located within existing and new buildings.
    2. *Increase renewable energy use.* CAP measures focus on increasing the use and production of renewable energy through SCP and supporting distributed solar installations on existing and new buildings. New energy facilities, primarily in the form of rooftop or parking lot solar, may result from these measures.
    3. *Switch equipment from fossil fuel to electricity.* CAP measures focus on supporting shifts from the use of fossil fuel (such as propane) for heating to electric heating. Physical changes would be primarily associated with and located within existing and new buildings.
- Transportation and Land Use
    4. *Reduce travel demand through focused growth.* CAP measures focus on reducing travel demand by promoting mixed use development, transit-oriented development, transit accessibility, and affordable housing linked to transit. Local plans already promote such development. As discussed in Chapter 3, En*vironmental Setting, Impacts, and Mitigation Measures*, while the CAP supports these measures, the CAP would not result in changes to the existing land use plans. This draft EIR notes some of the effects that may come from implementing existing land use plans, but as a disclosure item and not as an impact of the CAP itself.
    5. *Encourage a shift toward low-carbon transportation options*. CAP measures support a shift to transit, trip reduction, carsharing, bike sharing, carpools, traffic calming, bicycle and pedestrian linkages, parking policies, and other strategies. These measures may result in additional transit facilities and operations, bicycle and pedestrian facilities, and traffic calming improvements.
    6. *Increase vehicle and equipment fuel efficiency.* CAP measures in this category are all previously adopted state measures. As such, any associated environmental impacts would not be impacts of CAP adoption.
    7. *Encourage a shift toward low-carbon fuels in vehicles and equipment.* Likely CAP measures in this category focus on reducing the carbon intensity of transportation fuels and promotion of alternative fuel use (including electric vehicles and equipment). These measures may require new facilities such as electric charging or alternative fueling facilities. These

measures would also increase demand for alternative fuels, the production of which may have impacts on the environment.

8. *Reduce idling.* CAP measures support reduction of heavy vehicle and construction equipment idling, which would result in changes to heavy vehicle operations but likely would not require new facilities.

- Solid Waste ~~Generation~~

9. *Increase solid waste diversion.* CAP measures would increase waste diversion from landfills, reuse of materials, and recycling. In order to achieve increased diversion, additional solid waste facilities and operations may be necessary.

10. *Increase capture and use of methane from landfill.* CAP measures would support the modification of landfill control and gas collection systems and the addition, modification, or expansion of waste-to-energy facilities.

- Water ~~Conveyance~~ and Wastewater ~~Treatment~~

11. *Reduce water consumption.* CAP measures to increase water efficiency would primarily involve improvements within existing and new development as well as modifications to landscaping and landscaping irrigation systems. Some of these measures are already required by existing state law (such as Senate Bill X7-7 [SB X7-7]) and would occur with or without CAP adoption.

12. *Increase recycled water and greywater use.* CAP measures would support the expansion of recycled water treatment facilities and distribution lines and expanded greywater use. These expansions would require plumbing and fixture alterations.

13. *Increase water and wastewater infrastructure efficiency.* CAP measures to support efficiency improvements would require modification of existing water and wastewater treatment facilities.

14. *Increase the use of renewable energy in water and wastewater systems.* CAP measures in this category would result in expansion of renewable energy installations. This would happen primarily at existing water and wastewater treatment locations, but also indirectly through potential purchase of renewable energy for use at such facilities.

- Livestock and Fertilizer

15. *Reduce emissions from livestock operations.* CAP measures support <u>on-site management approaches that reduce methane emissions, such as dry composting or pasturing, and</u> additional methane collection and methane gas digestion facilities at dairies as well as exploration of methods to reduce enteric fermentation through modification of feed or feed supplements.

16. *Reduce emissions from fertilizer use.* CAP measures support continued replacement of fossil-fuel based fertilizer with alternative fertilizer or agricultural practices. Measures in this area would not likely result in construction of new facilities.

- Advanced Climate Initiatives

17. *Protect and enhance the value of open and working lands.* CAP measures support conservation of open space and agricultural lands. CAP measures represent primarily a continuation of existing city and County preservation policies.

18. *Promote sustainable agriculture.* CAP measures support certification programs, local sustainable and organic foods and products, and urban agriculture. CAP measures represent primarily a continuation of existing County support for sustainable agriculture and local farmer's markets. Urban agricultural efforts would result in reuse of existing urban land.
19. *Increase carbon sequestration.* CAP measures support changes in farming and grazing practices to increase carbon sequestration. These measures could result in changes in land management practices.
20. *Educate residents about emissions from the consumption of goods and services*. The CAP would expand education about the lifecycle emissions of goods and services to support shifts to lower carbon goods and services. Education efforts would not result in construction of new facilities, but would likely in time shift demand to lower-carbon goods and services; this may result in changes in good and service supply chain practices.

This draft EIR evaluates whether any of the physical changes outlined above would potentially result in significant environmental effects.

2.4.6 Community Co-Benefits

Implementing the CAP would result in environmental and community "co-benefits" that surpass GHG emissions reductions. For example, many of the CAP actions would improve public health by reducing air pollutants like ozone, carbon monoxide, and fine particulates. CAP measures improving mobility and alternative modes of transportation would increase walking and biking, activities that substantially lower the incidence of disease. These changes can also complement and encourage other sustainable modes of transportation, including public transit.

The GHG-reduction measures in the CAP create community co-benefits in a variety of ways:

- GHG reduction measures in the Building Energy and Transportation and Land Use sectors would reduce electricity and gasoline usage, which can help lessen the impact of future energy cost increases on County businesses and residents.
- Reducing gasoline consumption also reduces dependence on foreign oil and the environmental impacts of oil exploration, production, and transportation.
- Recycling and waste diversion measures would also reduce material consumption and the need for landfill space.
- Water efficiency measures would reduce water use in a water-constrained future and would adapt to the long-term hydrological effects of climate change.
- Transportation and Land Use measures would conserve natural resources and protect the long-term viability of natural and working landscapes in the County.
- Open space preservation offers aesthetic and recreational benefits for community residents as well as habitat for native wildlife and plants.
- Sustainable agriculture and wine-making practices would help preserve agricultural soil fertility and protect water quality.

2.4.7 Implementing the CAP

This section is derived from Chapter 4 of the ~~draft~~ final CAP, which discusses implementation of the CAP.

2.4.7.1 Coordinated Implementation

The RCPA is committed to continuing its leadership role through the implementation of the CAP. RCPA will coordinate and facilitate implementation actions by aggregating funding opportunities to leverage federal, state, and regional grants; providing technical assistance to local partners; developing shared tools (such as case studies, model policy language, and new development consistency checklists); promoting inter-community efficiencies through communication and collaboration; and promoting accountability for CAP implementation through measurement and reporting.

As a part of the implementation process, each community would participate in the SWG and may also identify additional staff to bring specific expertise to the CAP implementation effort. Each community's SWG representative will be responsible for participating in RCPA efforts to support implementation, and for organizing, monitoring, and reporting on implementation in their community. RCPA will provide as many resources as possible on behalf of SWG members in order to maximize efficiency.

SWG members will coordinate and lead the implementation of measures specific to their communities, with the support from RCPA and one another. Local governments will use the CAP as a tool to communicate and solidify their priorities within their communities.

RCPA member communities will continue to pool resources essential to the success of RCPA, staff participation in coordination meetings and processes (such as data collection and status reporting), collaboration on grant applications, and active participation in other aspects of plan implementation. Given the breadth of measures, success will require engagement from key community departments that oversee different GHG-reduction strategies such as planning, engineering, public works, fleet management, facilities management, police, fire and emergency services, and parks and recreation.

The countywide approach of the CAP recognizes that the cost of implementation would be higher if each community developed and implemented measures on their own. RCPA staff contributions can help ensure that city- or county-specific investments can be most efficient and effective, and leveraged across multiple local governments.

The City of Santa Rosa adopted its own CAP in 2012 and will continue to implement the measures in its plan. Santa Rosa may coordinate and collaborate with RCPA and other cities throughout the implementation process.

Other local countywide public agencies that would implement the regional measures in the CAP include:

- Northern Sonoma County Air Pollution Control District (NSCAPCD)
- Sonoma Clean Power (SCP)
- Sonoma County Agricultural Preservation and Open Space District
- Sonoma County Energy Independence Office

- Sonoma County Waste Management Agency (SCWMA)
- Sonoma County Transportation Authority (SCTA)
- Sonoma County Water Agency (SCWA)

In addition, continued community involvement is vital to the implementation of the CAP, particularly given that many strategies depend on voluntary commitment, creativity, and participation. Community members will participate in the public process at individual cities and the County to help shape the details of local measure implementation. The community—including residents, businesses, and non-governmental organizations—will also play an important role in holding local governmental entities accountable for successful plan implementation.

2.4.7.2 Implementation Strategy

The RCPA would coordinate with the SWG to accomplish the following general implementation steps in support of implementing the emissions reduction strategies:

- Develop implementation plans for each emissions-reduction measure.
- Estimate project-specific costs.
- Review new development for consistency with the CAP.
- Draft ordinances and/or codes.
- Establish partnerships.
- Pursue funding sources and facilitate investments in solution at scale.
- Create monitoring/tracking processes and indicators.
- Engage the community and stakeholders.
- Lobby for state and federal action.

2.4.7.3 Implementation Schedule

Implementation of the emissions-reduction strategies would occur following adoption of the CAP to ensure that all GHG-reduction measures are in place as planned by 2020. The RCPA and member agencies would initially pursue strategies based the following three groupings to prioritize measures:

- Group 1 strategies are those that need to be developed early and/or require long lead times to achieve reduction targets by 2020.
- Group 2 strategies are those that do not need to be implemented immediately but still require time for development to meet 2020 reduction targets.
- Group 3 strategies are those that need only to be developed by 2020 and can be implemented later in the decade.

Measure prioritization would be based on several factors, including: expected GHG reductions, cost and availability of funding, co-benefits, consistency with existing programs, implementation effort, and the timing necessary to support meeting the 2020 target. However, measures may be implemented in a different order depending on funding or policy opportunities.

Figure 2-4. Implementation Timeline for CAP GHG Reduction Measures

2016	2016	2017-2018	2019	2019-2020	Post-2020
• Adopt the CAP • Identify funding mechanisms	• Implement Group 1 strategies • Develop protocols for monitoring, reporting, and responding to CAP progress	• Implement Group 2 strategies • Update emissions inventories • Examine CAP progress	• Implement Group 3 strategies	• Update emissions inventories • Examine CAP progress • Consider post-2020 targets	• Update emissions inventories • Report on CAP success • Adopt post-2020 targets

2.5 Required Permits and Approvals

The RCPA would use this draft EIR when deciding whether to certify the EIR, and whether to adopt the project (the CAP) and recommend its adoption by the local participating communities. The individual participating jurisdictions would then need to adopt specific local measures for their community. Most of the implementing actions of the CAP will involve other agencies and project-level CEQA review of the approving agency.