Master Environmental Assessment Guidelines for Greenhouse Gas Emissions Analysis

Final Draft

prepared by

City of Santa Barbara
Sustainability and Resilience Department
801 Garden Street, Suite 200
Santa Barbara, California 93101

prepared with assistance from

Rincon Consultants, Inc.
319 East Carrillo Street, Suite 105
Santa Barbara, California 93101

May 2024

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

Table of Contents

Tables

Figures

Appendices

1 Introduction

1.1 GHG Emissions Analyses Under CEQA

The California Environmental Quality Act (CEQA) requires discretionary plans and projects to undergo an environmental review process, which includes an evaluation of project-related[1] contribution of greenhouse gas (GHG) emissions. Section 15183.5 of the CEQA Guidelines establishes a framework for developing a qualified GHG emissions reduction plan to cumulatively reduce GHG emissions and allow CEQA lead agencies to analyze and mitigate the effects of plan- and project-level GHG emissions. This document is intended to provide methodological guidance and quantitative thresholds of significance for use by City planners, project applicants, consultants, agencies, and members of the public in the preparation of GHG emissions analyses under CEQA for projects located within the City of Santa Barbara (City).

The City prepared a Climate Action Plan (CAP) Update designed to be consistent with CEQA Guidelines Section 15183.5. See Appendix A Climate Action Plan Summary for more background information on the CAP Update process and the GHG emissions inventories, reduction strategies, and forecasts developed as part of the process. As required by Section 15183.5, the City updated the CAP with targets that are consistent with or exceed state goals. The CAP Update establishes a goal of achieving a 40 percent reduction in per capita GHG emissions compared to 1990 levels by 2030 (consistent with California Senate Bill [SB] 32) and a goal of achieving carbon neutrality by 2035 (ten years sooner than Assembly Bill [AB] 1279 goal of carbon neutrality by 2045).[2] The 2030 goal is set using efficiency metrics (i.e., GHG emissions expressed as a per-capita metric) translated to a total GHG emission reduction target. In California Air Resource Board's (CARB's) 2017 Scoping Plan Update, the State recommends using efficiency metrics for local targets to avoid penalizing cities which are experiencing population growth at significant rates.[3] Efficiency metrics still calculate GHG emissions on a per capita basis but are combined into a total GHG emission reduction goal. The State continues to recommend use of efficiency metrics in the 2022 Scoping Plan. The City's goals translate to a short-term target of reducing communitywide GHG emissions to 486,949 metric tons of carbon dioxide equivalent (MT of CO_2e)[4] by 2030 and zero MT CO_2e by 2035.[5]

In addition to meeting or exceeding State goals, a qualified GHG emissions reduction plan must undergo CEQA review and must be adopted by local decision makers. An Initial Study-Negative Declaration (IS-ND) was prepared for the CAP Update. With adoption of the CAP Update IS-ND and approval of the CAP Update by City Council, the CAP Update serves as a qualified GHG emissions

[1] Project refers to the definition of a project under the California Environmental Quality Act within the CEQA Guidelines Section 15378 and Public Resources Code Section 21065.

[2] Carbon neutrality is defined as net zero carbon emissions, which is achieved either by balancing carbon emissions with carbon removal or by completely eliminating carbon emissions.

[3] California Air Resources Board. 2017. California's Climate Change Scoping Plan, p. 99-102.

[4] Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas, CO_2, is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as carbon dioxide equivalent (CO_2e), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 25, meaning its global warming effect is 25 times greater than CO_2 on a molecule per molecule basis (Intergovernmental Panel on Climate Change 2007).

[5] The 2030 target was calculated by reducing 1990 per capita GHG emissions (i.e., 8.40 MT CO_2e/person) by 40 percent (providing a 2030 per capita target of 5.04 MT CO_2e/person) and multiplying the resulting 2030 per capita target by Santa Barbara's projected population in 2030 (i.e., 96,637 people). The result of the calculation provides a 2030 target for the City of 486,949 MT CO_2e.

reduction plan consistent with CEQA Guidelines Section 15183.5. Appendix B, Overview of GHG Emissions and Climate Change, offers an overview of relevant regulations and case law pertaining to the analysis of GHG emissions consistent with the CEQA Statute and Guidelines.

Projects that are substantially consistent with the underlying demographic projections (i.e., residents and employees) and land use assumptions used in the CAP Update will be able to tier from the adopted CAP Update IS-ND pursuant to CEQA Guidelines Section 15183.5. The CAP Update relied on the Santa Barbara County Association of Governments (SBCAG) Connected 2050 projections and the land use assumptions for existing uses and densities allowed by land use designations in the City of Santa Barbara General Plan, including the Land Use Element and any associated amendments current as of 2023, and the 2023-2031 Housing Element. In addition, the assumptions account for the maximum buildout allowed by existing zoning districts, zoning overlays, and municipal code ordinances that increase density on top of the baseline density. To streamline the CEQA GHG emissions analysis process, the City has prepared a CEQA GHG Checklist that can be used in CEQA review documents to confirm that such proposed projects are consistent with the CAP Update GHG emissions reduction strategy. Section 2 of this document, *Determining Consistency with the CAP Update* and Section 3 of this document, *CEQA GHG Checklist*, include guidance on how to navigate the consistency determination process.

For projects that exceed the CAP Update's demographic projections and assumptions based on existing land use designations and existing maximum densities allowed by zoning, including zoning ordinances as of 2023 related to housing overlays, multi-unit housing, and accessory dwelling units, a different methodology and assessment utilizing quantitative thresholds of significance would be necessary to evaluate GHG emissions impacts. Section 4 of this document, *Quantitative CEQA GHG Thresholds*, includes guidance on how to utilize the quantitative thresholds that were developed for purposes of evaluating the level of significance of GHG emissions impacts. Furthermore, Appendix C, Quantifying GHG Emissions, provides direction regarding how to quantify a project's GHG emissions for comparison to the applicable threshold of significance.

The CAP Update acknowledges that additional actions beyond those identified in the plan will be required to achieve its long-term goal of carbon neutrality by 2035. As a result, the plan provides mechanisms for monitoring CAP Update progress which include providing the Sustainability Committee an annual update on progress, conducting regular GHG emission inventories, and preparing a new CAP Update by 2030 in order to incorporate new strategies and technologies that will further move the City toward meeting its longer-term carbon neutrality target. Section 5 of this document, *Moving into the Future*, offers further explanation of how CEQA review of plans and projects could be affected by future updates of the CAP Update.

1.2 Qualified GHG Emissions Reduction Plan

According to CEQA Guidelines Section 15183.5, a CEQA Lead Agency can determine that a project consistent with the CAP Update has GHG impacts that were already assessed as part of the CAP Update's CEQA document. Project-specific environmental documents can tier from, or incorporate by reference, the CAP Update CEQA document when the project is deemed consistent with the GHG emissions reduction strategy included in the qualified GHG emissions reduction plan.

As shown in Table 1, the CAP Update meets the requirements of a qualified GHG emissions reduction plan per CEQA Guidelines Section 15183.5(b)(1) for projects with buildout years through 2030.

Table 1 CAP Consistency with CEQA Guidelines Section 15183.5(b)(1) for 2030

CEQA Guidelines Section 15183.5(b)(1) Requirement[1]	Climate Action Plan Consistency
1. Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area.	**Consistent.** The CAP Update includes a communitywide GHG emissions inventory for year 2019 and forecasts GHG emissions for years 2025, 2030, 2035, 2040 and 2045.
2. Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable.	**Consistent**. A key aspect of a qualified GHG emissions reduction plan is substantial evidence that the identified GHG emissions reduction target establishes a threshold where GHG emissions are not cumulatively considerable. The Association of Environmental Professionals' (AEP) 2016 Beyond Newhall and 2020 white paper identifies this threshold as being a local target that aligns with the State legislative targets.[1] The CAP Update establishes a long-term aspirational target of carbon neutrality by 2035 and short-term target equivalent to reducing GHG emissions 40 percent below 1990 per capita levels by 2030. As discussed in Appendix A, *Climate Action Plan Summary,* the plan's measures will exceed the short-term target and reduce total communitywide GHG emissions 47 percent below 1990 emissions levels by 2030. Therefore, this local target meets the state goals of a 40 percent emission reduction in 1990 levels by 2030.
3. Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area.	**Consistent.** The CAP Update divides its inventory and forecasts into sectors including transportation (passenger vehicles, commercial vehicles, buses, and off-road equipment), residential energy (electricity and natural gas), non-residential energy (electricity and natural gas), water and wastewater, and solid waste.
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.	**Consistent.** The CAP Update specifies measures and actions that the City will enact and implement between 2024 and 2030 to meet its 2030 GHG emissions target. As discussed in Appendix A, *Climate Action Plan Summary*, implementation of the plan will achieve a 47 percent reduction in total GHG emissions compared to 1990 emission levels by 2030, which exceeds the state goal of a 40 percent emission reduction in 1990 levels by 2030 and demonstrates substantial progress by 2030 toward achieving the City's longer-term goal of carbon neutrality by 2035.
5. 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.	**Consistent.** The CAP Update includes a process to complete community GHG emissions inventories every three years. The inventories will allow the City to measure progress towards meeting the CAP Update goals. If an inventory indicates that the City is not on track to meet the CAP Update GHG emissions targets, additional measures may be required at that time to increase emissions reduction strategies and maintain the CAP Update status as a CEQA qualified GHG emissions reduction plan.
6. Be adopted in a public process following environmental review.	**Consistent.** The City prepared an IS-ND for the CAP Update that was circulated for public review and comment and adopted prior to approval of the CAP Update Master Environmental Assessment Guidelines for Greenhouse Gas Emissions Analysis by City Council.

[1] AEP. Beyond Newhall and 2020: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets in California (October 2016). Accessed at: https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf.

Development projects can demonstrate consistency with a qualified GHG emissions reduction plan if they are consistent with the plan's assumptions regarding future growth projections and consistent with the plan's GHG emissions reduction strategies.[6] Projects consistent with the qualified GHG emissions reduction plan such as the CAP Update, including conformance with performance strategies applicable to the project, would not require additional GHG emissions analysis or mitigation under CEQA Guidelines Sections 15064(h) and 15183.5(b)(2). The City has developed the CEQA GHG Checklist to assist with determining project consistency with the CAP. The checklist is intended to provide individual projects the opportunity to demonstrate that they are minimizing GHG emissions while ensuring new development achieves its proportion of emissions reduction consistent with the assumptions of the CAP Update. Project consistency with a GHG emissions reduction plan can also be demonstrated through a quantitative analysis that demonstrates the project will not impede, or will facilitate, the City's ability to meet its GHG emissions reduction targets.

[6] CAPs typically use growth projections from the local jurisdiction's General Plan or applicable Metropolitan Planning Organization's regional demographic forecast.

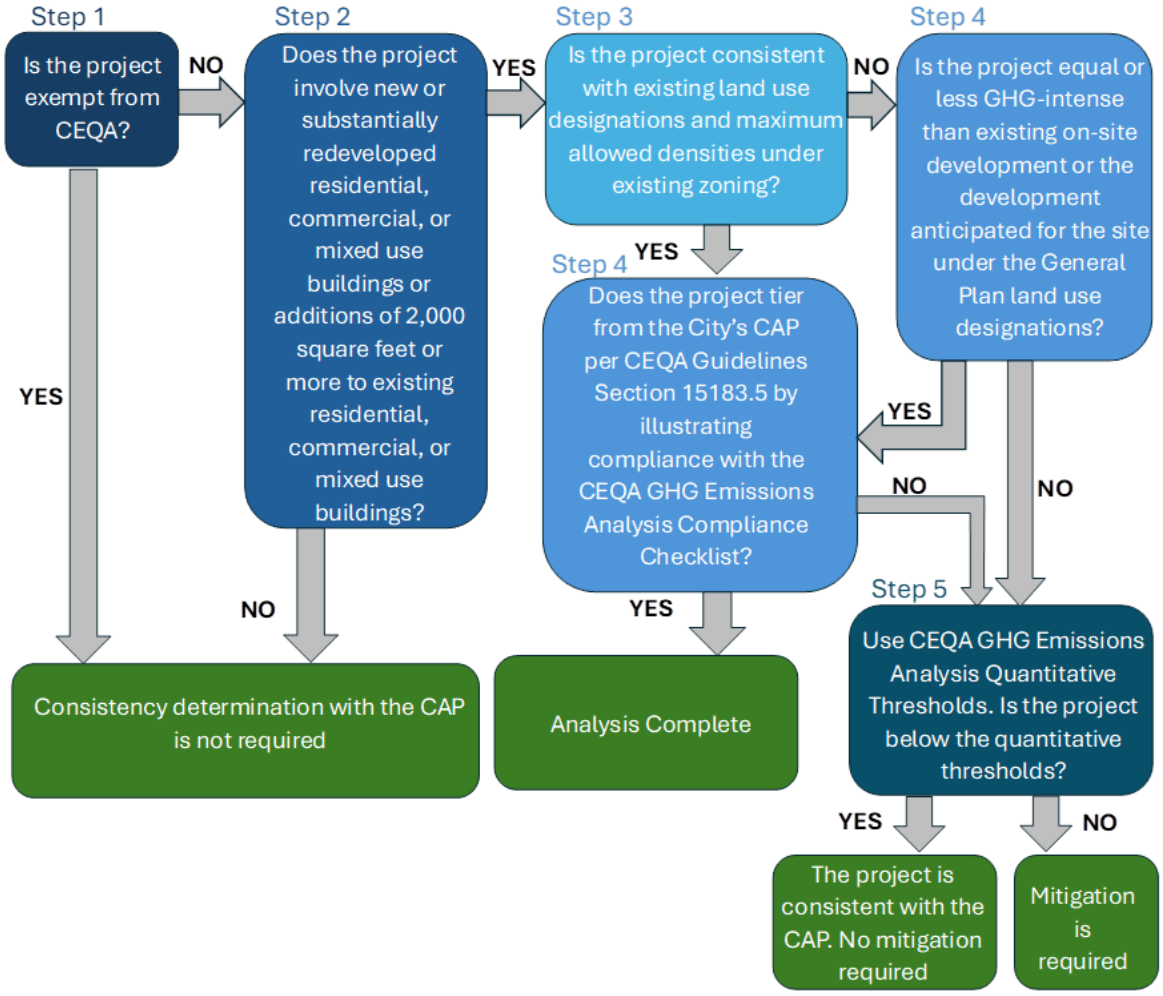
2 Determining Consistency with the CAP Update

Projects that are 1) not exempt from CEQA, and 2) consistent with the demographic forecasts and land use assumptions in the CAP Update can use the City's CEQA GHG Checklist to demonstrate consistency with the CAP Update measures and actions. If consistent, projects can tier from the environmental review contained in the CAP Update IS-ND. In doing so, these projects would result in less-than-significant GHG emissions and would not result in a cumulatively considerable GHG emissions impact. The following process (see .

Figure 1) shows how to demonstrate a project's consistency with the CAP Update's GHG emissions reduction plan and, thereby, tier from the IS-ND for the CAP Update. This approach is consistent with the recommendations of the AEP Climate Change Committee[7] for tiering from qualified GHG reduction plans that demonstrate substantial progress toward meeting the next milestone statewide planning reduction target (i.e., a 40 percent reduction below 1990 levels by 2030 as set forth by SB 32).

[7] Association of Environmental Professionals (AEP). 2015. Beyond 2020: The Challenge of Greenhouse Gas Reduction Planning by Local Governments in California. https://califaep.org/docs/AEP_White_Paper_Beyond_2020.pdf

Figure 1 Determining Consistency with the the CAP Update



The following sections provide guidance for each step to determine project consistency with the CAP Update.

2.1 Step 1: CEQA Exemption

Step 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA. If the project qualifies for an exemption, no further action is required. If the project does not qualify for an exemption, then the lead agency would move to Step 2. The State CEQA Statute and Guidelines define types of projects that may be exempt from environmental review. A project that is exempt from CEQA is not required to undertake a consistency determination with the CAP Update. Statutory exemptions are enacted by the State Legislature based on policy goals and apply regardless of whether the exempted project or class of projects may have environmental impacts. Statutory exemptions that do not require a CAP Update consistency determination include those in the State CEQA Guidelines, Sections 15194, 15195, 15196, and 15261-15285. Within the CEQA Statute, statutory exemptions that do not require a CAP Update consistency determination include, but are not limited to, Public Resources Code (PRC) Section 21080 et seq., Section 21159.20 et seq. for special housing exemptions, and Section 21155.1 for Senate Bill 375 transit priority projects. Categorical exemptions are granted to classes of projects that generally are considered not to have any potential impacts on the environment. Projects that meet criteria for an exemption under State CEQA Guidelines Sections 15301-15333 do not require a consistency determination with the CAP Update. Further, ministerial projects and categorical exemptions defined in the City CEQA Ordinance, Santa Barbara Municipal Code 22.100.070 do not require a consistency determination with the CAP Update. The State CEQA Guidelines also codify the "common sense" exemption. This exemption can be used for projects "[w]here it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment." Projects that meet criteria for an exemption under State CEQA Guidelines Section 15061[b][3]) do not require a consistency determination with the CAP Update and do not require completion of a CEQA GHG Checklist.

Please note projects subject to the following CEQA processes must proceed to Step 2:

1. Projects using the CEQA Streamlining process under CEQA Guidelines Section 15183, Projects Consistent with a Community Plan, General Plan, or Zoning.
2. Projects that require preparation of an Addenda to tier from a previously certified Environmental Impact Report or adopted Negative Declaration.
3. Projects that require preparation of an Initial Study or are not otherwise exempt from CEQA, including projects that require a Negative Declaration or Environmental Impact Report.

2.2 Step 2: New Development Project or Substantial Redevelopment Project

Step 2 consists of determining if the project involves new or substantially redeveloped residential, commercial, or mixed-use buildings, or additions of more than 2,000 square feet in building floor area to existing residential, commercial, or mixed-use buildings. If the project is considered one of the following criteria, then the project screening would continue to Step 3:

1. A new development project that includes a residential, commercial or mixed-use building(s), or

2. A substantial redevelopment project that includes a residential, commercial or mixed-use building(s), or
3. An addition of over 2,000 square feet in building floor area for residential, commercial or mixed-use building(s).

If the project does not meet the above criteria, then the project can qualitatively be assumed to be consistent with the CAP Update without using the CEQA GHG Checklist and completion of a CEQA GHG Checklist is not required. Industrial uses that are not otherwise exempt from CEQA (Step 1) must conduct a project specific GHG quantitative analysis to determine significance and cannot streamline review with this checklist.

2.3 Step 3: Consistency with Demographic Forecasts and Land Use Assumptions

The demographic forecasts of the CAP Update are based on both the SBCAG demographic forecasts and the growth projected in the City's General Plan. If a project is consistent with the existing General Plan land use designation and maximum densities allowed by existing zoning as identified in the Santa Barbara General Plan and Santa Barbara Municipal Code and as allowed by state density bonus[8], then the project is consistent with the business-as-usual demographic forecasts and land use assumptions of the CAP Update and can move on to Step 4. In such cases, the project's associated GHG emissions were accounted for in the GHG emissions forecasts included in the CAP Update and, therefore, are within the scope of this plan's analysis of communitywide GHG emissions. Accordingly, the analysis of the project's GHG emissions in its CEQA document should include a reference to the project's consistency with the existing General Plan land use designation and zoning, of the project site/area and should explain the aforementioned connection between the existing General Plan land use designation and the GHG emissions forecasts in the CAP Update. After this is completed, the lead agency can proceed to Step 4.

If a project is not consistent with the existing General Plan land use designations and densities allowed by zoning and the state, will require a zoning or general plan amendment, but would (1) result in equivalent or fewer GHG emissions as compared the development anticipated for the site under the City's existing General Plan and zoning[9], then the project would still be within the demographic forecasts and land use assumptions of the CAP Update and can move on to Step 4. To provide substantial evidence for this determination of fewer GHG emissions, GHG emissions generated under existing General Plan land use buildout and the proposed project need to be quantified and included in the CEQA analysis. See Appendix C, *Quantifying GHG Emissions*, for guidance on quantifying GHG emissions for existing General Plan land use buildout and the proposed project. In this case, the analysis of the project's GHG emissions in its CEQA document should include a quantitative comparison of the proposed project's GHG emissions and GHG emissions generated by the development anticipated for the site under the City's existing General Plan land use and zoning designations. The analysis should clearly explain how the project's emissions with the proposed General Plan Land Use or zoning changes are equivalent or less than those generated by the development anticipated for the site under the existing General Plan land

[8] Projects that use State Density Bonus Law retain consistency with the General Plan land use designation and are deemed consistent with the demographic forecasts and land use assumptions in the CAP Update.

[9] Most considerable causes for equivalent or fewer GHG emissions include less VMT and lower per capita energy use. See Appendix C Quantifying GHG Emissions, Operational Emissions for more operational emissions sources that can be reduced. Proponent should provide rationale for this determination.

use and zoning designations (whichever is higher). After this is completed, the lead agency can proceed to Step 4.

If a project is not consistent with the existing General Plan land use or zoning of the project site/area, would require a general plan or zoning amendment, and would result in either new development of undeveloped land or redevelopment with higher GHG emissions than the development anticipated for the site under the City's existing General Plan land use and zoning designation, the project cannot use the CEQA GHG Checklist to tier from the adopted IS-ND for the CAP Update. Instead, the project's GHG emissions can be evaluated using the quantitative GHG thresholds described in Section 4, *Quantitative CEQA GHG Thresholds*, to evaluate the significance of the project's GHG emissions.

2.4 Step 4: Consistency with CEQA GHG Checklist

The City has prepared the CEQA GHG Checklist for projects to ensure they are consistent with the strategies of the CAP Update. The City can use the checklist to show that a project includes all applicable strategies of the CAP Update. Projects that use the CEQA GHG Checklist are not required to quantify reductions from the strategies included on the checklist, because the reductions from applicable strategies have already been quantified at a programmatic level in the CAP Update.

This page intentionally left blank.

3 CEQA GHG Checklist

The purpose of the CEQA GHG Checklist is to assist with determining project consistency with the CAP Update and provide a streamlined review process for proposed future development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA. GHG reduction programs that are applicable to future development are summarized in the following CEQA GHG Checklist. This CEQA GHG Checklist identifies applicable regulations and monitoring and reporting required by those regulations.

This CEQA GHG Checklist contains measures that are required to be implemented on a project-by-project basis to ensure that the specified emissions targets identified in the CAP Update are achieved.

If a project is consistent with the applicable strategies on the CEQA GHG Checklist, then the project can tier from the programmatic GHG emissions environmental review included in the adopted IS-ND for the CAP Update pursuant to CEQA Guidelines Section 15183.5(b)(1). A project that is consistent with all applicable strategies of the CEQA GHG Checklist would result in less-than-significant GHG emissions and would not result in a cumulatively considerable impact related to GHG emissions and climate change.

Projects that are identified as not consistent with the CAP Update through the use of this CEQA GHG Checklist must prepare a project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions compared to the City's GHG emissions thresholds outlined in Section 4, *Quantitative CEQA GHG Thresholds*.

This CEQA GHG Checklist only applies to projects that require a consistency determination with the CAP under Steps 3 and 4 of Figure 1 (see also Sections 2.3 and 2.4).

This CEQA GHG Checklist may be periodically updated to incorporate new GHG reduction techniques, to comply with later amendments to the CAP Update, or to reflect changes in other sustainability-focused local, state, or federal laws, regulations, ordinances, and programs.

3.1 CEQA GHG Checklist Requirements

The CEQA GHG Checklist as depicted on the next two pages is required for all projects that are not otherwise exempt from CEQA and are considered new or substantially redeveloped residential, commercial, or mixed-use buildings, or additions of 2,000 square feet or more to residential, commercial, or mixed-use buildings, and proposed within the City limits. The CEQA GHG Checklist is designed to assist the City and applicant in identifying consistency with the CAP Update. However, it may be necessary to supplement the completed CEQA GHG Checklist with supporting materials, calculations, or certifications to demonstrate compliance with the CAP Update and other applicable sustainability-focused requirements. The completed CEQA GHG Checklist will be included as an appendix to the CEQA document.

General Project Information

Contact Information	
Project or Plan Name:	
Address:	
Applicant Name and Co.:	
Contact Phone:	**Contact Email:**
Was a consultant retained to complete this checklist? Yes☐ No☐ If Yes, complete the following:	
Consultant Name: _____ Company Name: _____	Contact Phone: _____ Contact Email: _____
Project Information	
What is the size of the project site or plan area (acres)? Gross: _____ Net: _____	
Identify all applicable proposed land uses: ☐ Residential (indicate # of single- dwelling units): _____ ☐ Residential (indicate # of multi-dwelling units): _____ ☐ Commercial (indicate total square footage, gross and net): _____ ☐ Municipal (indicate total square footage, gross and net): _____ ☐ Other (describe): _____	
Project Description	
This description should be consistent with the project description that will be used for the CEQA document. The description may be attached to the GHG Checklist if there are space constraints. _____ _____ _____ _____ _____ _____ _____ _____	

Compliance Checklist Table

Checklist Applicability	
Step 1 – The planner has confirmed that the project is not exempt from CEQA.	If the project is exempt from CEQA, then this compliance checklist does not apply and no further GHG analysis is required.
Step 2 – The planner has confirmed that the project involves new or substantially redeveloped residential, commercial, or mixed-use buildings, or additions of more than 2,000 square feet to existing residential, commercial, or mixed-use buildings.	If the project involves preparation of a CEQA Initial Study, Negative Declaration, Environmental Impact Report, Section 15183 Streamlining Analysis, or EIR/ND Addenda; but does not include 1) new buildings, or 2) substantial redevelopment, or 3) additions of more than 2,000 square feet of floor area, then this compliance checklist does not apply and no further GHG analysis is required.

Section 1: Land Use Consistency			
Regulation	**Requirements**	**Project/ Plan Compliance[1]**	**Required Explanation[2]**
General Plan	1a. Does the Project include a land use and/or zoning amendment? If "No", proceed to Section 2 – CAP Strategies Consistency. If "Yes", proceed to question 1b.	Yes ☐ No ☐	_____ _____ _____
General Plan	1b. Does the land use and/or zoning amendment result in a more GHG-intensive project when compared to the existing conditions?	Yes ☐ No ☐	_____ _____ _____

[1] If "Yes " to both questions 1a and 1b , the applicant must prepare a Project -specific analysis of GHG emissions, including quantification of existing and projected GHG emissions compared to City GHG emissions thresholds or other GHG emissions thresholds determined appropriate by the City and incorporation of the CAP Update measures in this CEQA GHG Checklist to the extent feasible.

[2] Every question included in this checklist is required to be answered with explanation of either: 1) how it will be achieved, 2) why it will not be achieved, or 3) why it is not applicable.

Section 2: CAP Update Measures Consistency			
Regulation	**Requirements**	**Project/Plan Compliance[1]**	**Required Explanation[2]**
Building Energy			
City CAP Update (Measure BE-4)	2. **All Project Types - Building Electrification.** Will the Project/Plan comply with CAP Update Measure BE-4 and be all-electric with no natural gas hookup?	Yes ☐ No ☐ N/A[3] ☐	_____ _____ _____
City CAP Update (Measure BE-7)	3. **All Project Types- Carbon Free Electricity.** Will the Project/Plan (whether all new construction, remodel, or combination thereof) retain Santa Barbara Clean Energy (SBCE) as the energy provider or otherwise utilize 100% carbon free electricity?[4]	Yes ☐ No ☐ N/A[3] ☐	_____ _____ _____ _____
City CAP Update (Measure T-6 and T-7)	4. **All Project Types - EV Charging Infrastructure.** Will the Project/Plan (whether all new construction, remodel, or combination thereof) meet or exceed the requirements of the California Green Building Standards Code, Title 24, Part 11, (CALGreen) **Tier II** for EV charging infrastructure?	Yes ☐ No ☐ N/A[5] ☐	_____ _____ _____
City CAP Update (Measure T-8)	5. **All Project Types - Off-Road Equipment Electrification.** Will the Project/Plan (whether all new construction, remodel, or combination thereof) commit[4] to the use of electrified off-road landscaping equipment (e.g., mowers, chippers, tractors) for ongoing operations and maintenance?	Yes ☐ No ☐ N/A[6] ☐	_____ _____ _____
Transportation			
City CAP Update (Measure TR-2)	6. **All Project Types Reduce VMT**. Will the Project/Plan demonstrate a Vehicle Miles Traveled (VMT) reduction consistent with the City's CEQA Transportation Analysis Guidelines?[7]	Yes ☐ No ☐ N/A[8] ☐	_____ _____ _____

[1] If "No", the applicant must prepare a Project/Plan-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions compared to City GHG emissions thresholds or other GHG emissions thresholds determined appropriate by the City and incorporation of the CAP Update measures in this CEQA GHG Checklist to the extent feasible.

[2] Every question included in this checklist is required to be answered with explanation of either: 1) how it will be achieved, 2) why it will not be achieved, or 3) why it is not applicable.

[3] N/A applies to projects that do not consist of buildings that require energy usage.

[4] Compliance with this measure will be included in the project's Conditions of Approval.

[5] N/A applies to projects that do not require electric vehicle infrastructure.

[6] N/A applies to projects that do not consist of off-road landscaping equipment and do not require a landscape plan where maintenance would be required.

[7] Only projects screened out from VMT analysis or mitigated sufficiently to meet the City's reduction target can demonstrate consistency with the CAP Update through this checklist.

[8] N/A applies to projects that would not generate VMT.

4 Quantitative CEQA GHG Thresholds

If the CEQA GHG Checklist does not demonstrate conformance with the CAP Update, a project can be evaluated using quantitative CEQA GHG thresholds derived from the assumptions of the CAP Update. If that project's GHG emissions are at or below the applicable quantitative threshold and it has an initial operation year before 2030, the City can determine that the plan would result in a less-than-significant GHG emissions impact. A CAP-specific project can tier from the existing programmatic environmental review contained in the adopted programmatic IS-ND for the CAP Update. In doing so, such plans/projects would result in less-than-significant GHG emissions and would not result in a cumulatively considerable impact related to GHG emissions and climate change.

Projects with post-2030 operation will need to demonstrate how they would achieve net zero MT of CO_2e per year due to AB 1279 to be considered less-than-significant and to not result in a cumulatively considerable GHG emissions impact. Note that the CEQA GHG thresholds will need to be updated for consistency when new General Plan land use designations and amendments to the CAP Update are adopted. The following sections provide an explanation of the methodology used to calculate the quantitative GHG emissions thresholds and guidance on how to utilize the thresholds.

4.1 Thresholds Calculation Methodology

CEQA Guidelines Section 15064.4 does not establish a specific quantitative threshold of significance for evaluating GHG emissions associated with a proposed project. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies, or suggested by other experts, as long as the threshold chosen is supported by substantial evidence (CEQA Guidelines Section 15064.7[c]). The following methodology is consistent with guidance provided by the AEP Climate Change Committee in 2016 for establishing GHG emissions efficiency thresholds using the local jurisdictional GHG inventory and demographic forecasts.[10]

An efficiency threshold is a threshold expressed as a per-person metric (e.g., per resident, per employee, or per service person). Efficiency thresholds are calculated by dividing the allowable GHG emissions inventory in a selected calendar year by the residents, employees, or service population in that year. The efficiency threshold identifies the quantity of GHG emissions that can be generated on a per-person basis without significantly impacting the environment.

Locally appropriate, plan- and project-specific GHG emissions efficiency thresholds were derived from the GHG emissions forecasts calculated for the CAP Update. These thresholds were created to comply with CEQA and the CEQA Guidelines and interpretive GHG emissions analysis case law, which are summarized in Appendix D Regulatory and Legal Setting. The City of Santa Barbara GHG emissions efficiency thresholds were calculated using the emissions forecasts with all emissions sectors included, because plans and projects would generate vehicle trips and equipment use, consume energy and water, and produce wastewater and solid waste, thereby generating emissions

[10] AEP. 2016. Final White Paper Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California. https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf.

in all categories. Efficiency thresholds were calculated for the year 2030 to provide GHG emissions thresholds for new development in line with the state's milestone target for year 2030.

GHG emissions efficiency thresholds would be used during the CEQA review process for new residential, commercial, mixed-use plans and projects, and any other project that is subject to CEQA. Forecasted GHG emissions in the CAP Update were disaggregated into residential and non-residential development for the threshold year of 2030 to calculate thresholds specific to residential, non-residential, and mixed-use projects. Forecasted GHG emissions are sometimes also disaggregated between new and existing development for the threshold year. For the City of Santa Barbara, a GHG threshold disaggregated between new and existing development places a disproportionately high emphasis on GHG emissions reduction from existing development, given the CAP Update measures. This necessitated applying the CAP Update emissions reduction across both new development and existing development to produce per capita GHG thresholds for residential projects, non-residential projects, and mixed-use projects. The results of the disaggregation of the GHG emissions forecast are presented in Figure 2, which summarizes the total amount of GHG emissions expected to be generated by existing, new residential, and new non-residential development for threshold year 2030.

Figure 2 Allowable GHG Emissions from Existing and New Development in 2030

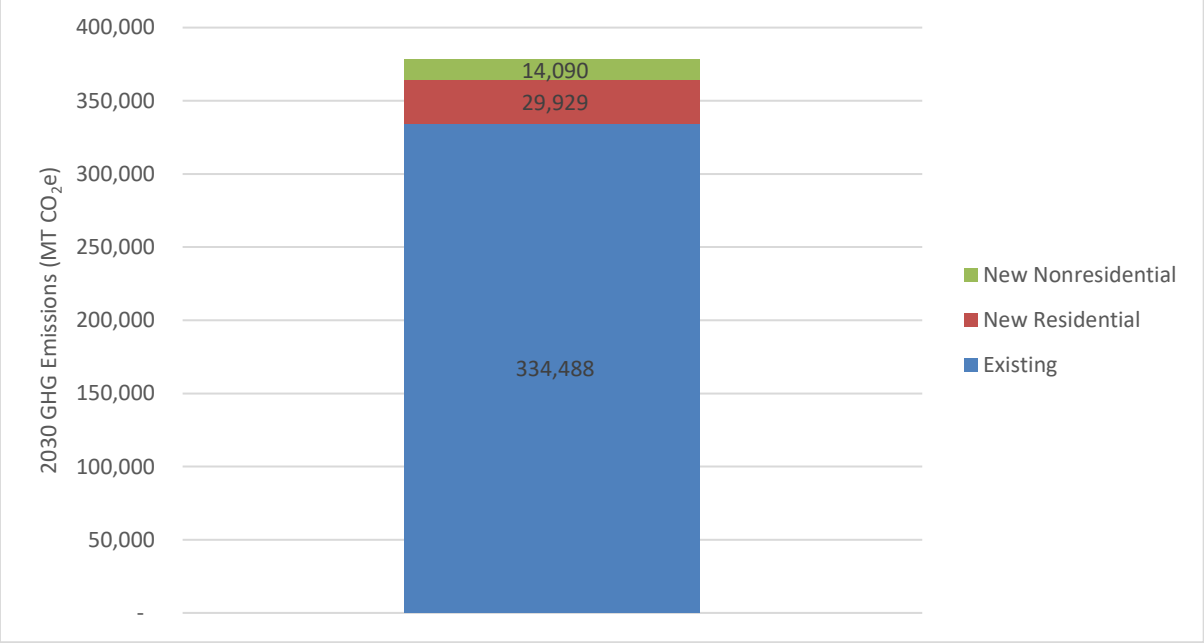


Table 2 summarizes the demographic projections for the City of Santa Barbara that were used in calculating GHG efficiency thresholds for the year 2030. As shown in the table, the numbers of residents, employees, and service persons are all anticipated to increase between 2019 and 2030.

Table 2 City of Santa Barbara Demographic Projections

Metric	2019 Estimate	2030 Forecast[2]	Net Increase from New Development (2019-2030)
Residents	87,670	96,637	8,967
Employees	76,772	80,963	4,190
Service Population[1]	164,442	177,600	13,158

[1] The service population is equal to the residential population plus the number of employees.

[2] The 2019 Community GHG Emissions Inventory and 2030 Forecast generally aligns with the projections from SBCAG. Due to a small difference in methodologies, the 2023-2031 Housing Element uses a forecast of 98,600. Both projections are estimates of the future. However, the per capita emissions target adopted by the City of Santa Barbara will allow for alignment around the actual future population numbers, allowing for consistency across these plans.

Source: Santa Barbara, City of. 2023. *2019 Community GHG Emissions Inventory and 2030 GHG Emissions Forecast*.

Table 3 shows how the remaining GHG emissions for existing and new development after implementation of CAP Update measures are reaggregated to create communitywide emissions thresholds for 2030, using the demographic projections from Table 2. The resulting GHG thresholds are specified in Table 3 while the allowable 2030 GHG emissions are specified in Table 4.

Table 3 City of Santa Barbara 2030 CAP Update-Adjusted Emissions and Communitywide GHG Thresholds

	Residential (Existing & New)	Non-Residential (Existing & New)	Mixed-Use[1] (Existing & New)
CAP Update-Adjusted 2030 Emissions (MT CO_2e)	210,684	167,823	378,507
Demographic Metric	96,637 residents	80,963 employees	177,600 service people[2]
GHG Efficiency Threshold (MT CO_2e per demographic metric per year)	2.18 per resident	2.07 per employee	2.13 per service person[2]

Notes: MT CO_2e = metric tons of carbon dioxide equivalent

[1]It is not practical to disaggregate CAP Update-adjusted emissions forecasts into mixed-use, residential, and non-residential due to data constraints. The combined residential and non-residential emissions are used along with service population to calculate a mixed-use GHG threshold.

[2] The service population is equal to the residential population plus the number of employees.

Source: Appendix E CEQA GHG Thresholds Calculations; and Appendix F Justification for Thresholds.

4.2 Thresholds and Use

The GHG efficiency thresholds for residential, commercial, and mixed-use projects that have an operational year before 2030 are presented in Figure 3 and Table 4. If a project's emissions do not exceed the applicable threshold, then it is considered consistent with the Santa Barbara CAP Update and its GHG emissions impacts (both project- and cumulative-level) would not result in a cumulatively considerable impact related to GHG emissions and would, therefore, be less than significant. If a project's emissions exceed the applicable threshold, then mitigation measures must be identified, and GHG emissions reduction calculations included within the respective CEQA review document in order to reduce project GHG emissions to at or below the applicable threshold level. These thresholds are applicable to the following project types proposed in Santa Barbara:

- **Residential.** Generally, all residential uses. Zones may include, but are not limited to, the following: Residential Single Unit, Two-Unit Residential, Residential Multi-Unit, Residential Multi-Unit and Hotel, Mobile Home Park Overlay, Planned Unit Development, Priority Housing Overlay.
- **Nonresidential.** Generally, all commercial uses. Zones may include, but are not limited to, the following: Office Restricted, Office Medical, Commercial Restricted, Commercial General, Manufacturing Commercial , Light Manufacturing, Hotel and Related Commerce, Ocean Related Commercial, Ocean Oriented Light Manufacturing, Harbor Commercial, Park and Recreation, ACS Overlay – (Auto, Commercial, and Services), Research and Development.
- **Mixed-use.** A combination of at least one residential and at least one non-residential land use specified above. Zones may include any zone where both commercial and residential uses are allowed.

Figure 3 City of Santa Barbara GHG Efficiency Thresholds

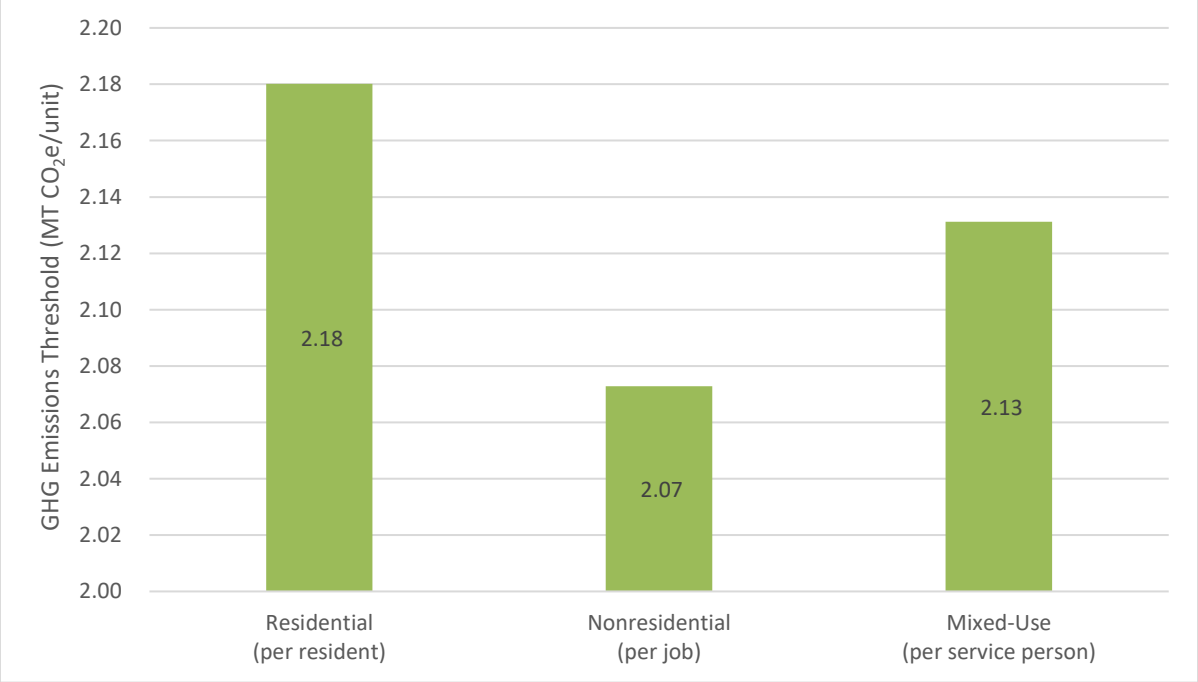


Table 4 City of Santa Barbara Locally Applicable Project CEQA GHG Emissions Thresholds

	2030 New Development		
	New Residential	New Non-Residential	New Mixed-Use[2]
GHG Emissions Forecasted (new MT CO_2e)[1]	29,929	14,090	44,019
Demographic Metric	8,967 new residents	4,190 new employees	13,158 new service people[3]
GHG Efficiency Threshold (MT CO_2e per demographic metric per year)	2.18 per resident	2.07 per employee	2.13 per service person[3]

Notes: MT CO_2e = metric tons of carbon dioxide equivalent

[1] GHG Emissions Forecasted represent the new GHG emissions forecasted between 2019 and 2030. This also represents the allowable GHG emissions for each sector.

[2] GHG emissions from new mixed-use development would count against the total remaining GHG emissions budget for both new residential and new non-residential development rather than as a function of the number of new service people expected in 2030. This avoids double counting.

[3] The service population is equal to the residential population plus the number of employees.

Source: Appendix F CEQA GHG Thresholds Calculations; and Appendix F Justification for Thresholds.

Typically, industrial uses that are subject to CEQA would increase jobs but also could increase GHG emissions in the City (such as manufacturing & processing, public facility, wholesaling, and other industrial uses) would not be able to utilize the GHG Efficiency Thresholds shown in Table 4 because 1) the City's GHG Inventory and Forecast does not account for industrial emissions and 2) these industrial projects may be subject to Santa Barbara County Air Pollution Control District (APCD) stationary source permitting or the State cap-and-trade program, or any combination of these uses. Some public works projects (such as facility upgrades and roadway improvement projects) that are subject to CEQA would also not be able to utilize the GHG Efficiency Thresholds because construction emissions[11] associated with those projects are not included in the City's GHG Inventory and Forecast. A different methodology and assessment would be necessary to evaluate GHG emissions impacts.

[11] Cumulative GHG emissions associated with construction from a project are generally orders of magnitude lower than the operational emissions from a project because construction emissions are generally short in duration compared to the project's overall lifetime, and thus can be assessed qualitatively as part of related CEQA GHG emissions analysis. However, some projects may have long construction periods or entail large quantities of cut and fill that could result in construction-related GHG emissions that may be considered significant. Thus, the City retains the discretion on a project-by-project basis to consider whether a project's construction-related GHG emissions could be cumulatively considerable and require more detailed quantitative CEQA GHG emissions analysis and respective mitigation.

This page intentionally left blank.

5 Moving into the Future

Full implementation of the CAP Update will reduce total communitywide GHG emissions by approximately 47 percent below 1990 levels by 2030 and 58 percent by 2035, which would leave a gap of approximately 297,689 MT CO_2e in 2035. This gap represents emissions that will need to be addressed with additional actions beyond those identified in the plan and laws, regulations, policies, programs, and ordinances set forth by the federal and state governments, regional agencies, and local partners. Consequently, the CAP Update includes monitoring and tracking mechanisms so the City can determine what additional actions may be necessary and when they should be employed to meet the City's carbon neutrality target.

Santa Barbara is committed to embracing that uncertainty, striving toward constant learning, engaging in systemic change using the tools and actions that local governments are uniquely suited to carry out, and positioning itself to take full advantage of future innovations, technologies, and policies and legislation that may be undertaken at the state and federal level. Technological innovation, clean-tech innovation, and changes to climate related policy and regulation occur rapidly. Several of the State's most successful environmental policy initiatives also had a gap between what was known at the time of adoption and eventual successful implementation. By committing to the ambitious target of carbon neutrality by 2035, Santa Barbara intends to catalyze innovation, invite resources from funding sources and partners, and provide climate leadership.

The CAP Update acknowledges that additional actions beyond those identified in the plan will be necessary to achieve carbon neutrality and, therefore, provides a mechanism for updating and adopting a new CAP Update every five to ten years (with regular assessment of progress) in order to incorporate new measures and innovative technologies that will further Santa Barbara toward meeting its goal of carbon neutrality. As the CAP is updated, the associated CEQA GHG Checklist will also be updated as needed to incorporate new measures and actions that discretionary development projects will need to incorporate, as applicable, to demonstrate consistency with the latest CAP. At the time at which the City identifies measures to achieve its carbon neutrality goal in totality, the City will adopt those measures in a public process following CEQA review, at which time that updated CAP will become a qualified GHG emission reduction plan for projects with post-2030 buildout years. However, the quantitative thresholds included in this guidance document will not need to be updated, because residential, non-residential, and mixed-use projects with post-2030 buildout years will need to achieve GHG emissions equivalent to zero MT CO_2e per year to demonstrate consistency with the CAP.

Finally, if future amendments or updates of the Santa Barbara Land Use Element occur, then such amendments or updates will be incorporated into future updates of the CAP Update to ensure that project applicants can continue to utilize the streamlining process, which is partly dependent on a project's consistency with the demographic forecasts and land use assumptions based on the General Plan Land Use Element to the greatest extent practicable.

This page intentionally left blank.

Appendix A

Climate Action Plan Summary

Climate Action Plan Summary

The following sections provide an overview of the CAP Update, including the 2019 communitywide GHG emissions inventory, the communitywide GHG emissions forecast, and the proposed GHG emission reduction strategy.

Communitywide GHG Emissions Inventories

The City has completed a communitywide GHG emissions inventory for the year 2019. The City's targets have been set based on the 2019 inventory. The City estimated 1990 emissions by back-casting the 2019 emissions to 1990 using the change in state emissions between the same time period as a proxy for change in the City. The 2019 inventory and 1990 estimate are summarized in Table 1**Error! Reference source not found.**. As shown therein, total communitywide GHG emissions declined by approximately 13 percent between 1990 and 2019.

Table 1 City of Santa Barbara 1990 and 2019 Communitywide GHG Emissions Levels

Sector	1990[1]	2019	Percent Change from 1990 to 2019 (%)
Electricity (MT CO_2e)	N/A	115,442	N/A
Natural Gas (MT CO_2e)	N/A	134,068	N/A
Transportation (MT CO_2e)	N/A	317,966	N/A
Solid Waste (MT CO_2e)	N/A	52,977	N/A
Water & Wastewater (MT CO_2e)	N/A	1,657	N/A
Total GHG Emissions (MT CO_2e)	**715,530**	**622,110**	**-13%**

MT = metric tons; CO_2e = carbon dioxide equivalents

Note: Mass emissions are rounded to the nearest integer and per capita emissions are rounded to the nearest tenth.

[1] 1990 GHG emissions were estimated by back-casting Santa Barbara's total 2019 GHG emissions based on the change in the State's GHG emissions between 2019 and 1990. 1990 GHG emissions were not estimated at the individual sector level.

Source: Santa Barbara, City of. 2023. Santa Barbara 2019 Community GHG Inventory, Forecast, and Targets.

GHG Emission Reduction Strategy

The CAP Update includes a series of measures and actions that are intended to reduce communitywide GHG emissions per capita by at least 40 percent below 1990 per capita levels by 2030. This provides substantial progress toward meeting the City's longer-term carbon neutrality goal while also meeting the State's 2030 goal. The CAP Update acknowledges that additional actions beyond those identified in the plan will be necessary to achieve the long-term target of carbon neutrality. Therefore, the CAP Update provides a mechanism for tracking performance over time, reporting annual progress to the City Council, conducting inventory updates at minimum every three years, and adopting a new CAP Update by 2030 (with the ability to adjust as needed based on progress), in order to incorporate new strategies and technologies that will further the City toward meeting its long-term aspirational goal of carbon neutrality.

As part of the CAP Update process, the City has developed a set of measures reducing communitywide GHG emissions in all sectors to exceed the City's 2030 GHG emission reduction target and make substantial progress towards the City's goal for carbon neutrality. Each measure is

supported by a set of actions that provide a measurable GHG emissions reduction that is supported by substantial evidence. The City has also developed measures and supportive actions for offsetting GHG emissions through carbon sequestration. Measures and actions are organized according to the following hierarchy:

1. **Sectors.** Sectors define the GHG emissions category in which the GHG emissions reduction will take place and include Building Energy, Transportation, Water, Waste, and Carbon Sequestration.
2. **Measures.** Measures identify specific goals (i.e., activity data targets by 2030 and 2035) to address GHG emissions in each sector. A single measure generally addresses a subsector; for example, three strategies may be established under the Transportation sector to address active transportation, shared/public transportation, and single-passenger vehicles.
3. **Actions.** Actions identify the programs, policies, funding pathways, and other specific commitments that the City will implement. Each strategy contains a suite of actions, which together have been designed to accomplish the measure goal.

Table 2**Error! Reference source not found.** summarizes the GHG emissions reduction that are anticipated to be achieved by 2030 by the identified measures in the CAP Update and existing local programs (e.g. Santa Barbara Clean Energy [SBCE] and Santa Barbara's ReSource Center waste management facility), in addition to state legislation and programs. As shown therein, implementation of state legislation and programs is expected to reduce 2030 total communitywide GHG emissions approximately 18 percent below 1990 emission levels. With current local programs, including continued enrollment in SBCE and the ReSource Center programs, 2030 total communitywide GHG emissions are further reduced by approximately 17 percent to 35 percent below 1990 levels. Implementation of the CAP Update measures would reduce 2030 total communitywide GHG emissions an additional 12 percent for a total reduction of approximately 47 percent below 1990 emission levels.

Table 2 City of Santa Barbara GHG Emissions Reductions by 2030

Source	Absolute Annual Emissions Reductions (MT of CO_2e)
1990 Baseline Emissions	715,530
Business-as-Usual (BAU) 2030 Emissions	698,596
State Laws/Programs	(112,176)
SBCE	(75,608)
ReSource Center	(44,690)
Buildings & Energy Strategies	(21,512)
Transportation Strategies	(63,081)
Waste Diversion Strategies[1]	(2,861)
Water & Wastewater Strategies	(1.72)
Natural Systems Strategies	(159)
Total Emissions Reduction (from BAU)	**(320,088)**
Remaining 2030 Emissions	**378,507**
Percent Reduction below 1990 Levels	**(47%)**

( ) denotes a negative number; numbers in table may not add to the total exactly due to rounding.

MT = metric tons; CO_2e = carbon dioxide equivalents

[1] Reductions listed here are those achieved in excess of SB 1383 compliance obligation for organic waste diversion and procurement requirements that have already been achieved with City enrollment at the ReSource Center beginning in 2021.

Source: City of Santa Barbara Climate Action Plan Update and GHG Emissions Reduction Measure Quantification and Evidence Appendix

GHG Emissions Forecast

Figure 1**Error! Reference source not found.** and Table 3 summarize the communitywide GHG emissions forecast under four scenarios: 1) business-as-usual, 2) implementation of state laws and programs [State Legislative Adjusted Forecast], 3) State Legislative Adjusted Forecast in addition to continued enrollment in SBCE and use of the ReSource Center to meet SB 1383 compliance, and 4) forecasted reductions from implementation of the CAP Update measures and actions in addition to State laws and programs and current local programs (i.e., SBCE and ReSource Center)

As shown therein, under the business-as-usual scenario, total communitywide GHG emissions are forecasted to increase by approximately 18 percent between 2019 and 2035 based on economic and population growth. However, with implementation of state laws and programs, total communitywide GHG emissions would decline by approximately 14 percent between 2019 and 2035. With continued enrollment in existing programs, specifically SBCE and use of the ReSource Center, total communitywide GHG emissions in 2035 are forecasted to decline by an additional 11 percent for a total decline of 25 percent below 2019 levels. Furthermore, full implementation of the CAP Update alongside state laws and programs and continued enrollment in current local programs (e.g., SBCE and ReSource Center), total communitywide GHG emissions are anticipated to decline 52 percent below 2019 levels by 2035. This trajectory equates to a 47 percent below 1990 emission levels by 2030 and 58 percent below 1990 emission levels by 2035.[12]

[12] This represents significant progress towards the City's long-term goal of carbon neutrality by 2035. The City will rely on new measures in the form of regular CAP updates, new state legislation and new technological advances to achieve this target.

Figure 1 City of Santa Barbara GHG Emissions Forecast and GHG Emission Reduction Pathway, 2019 to 2045

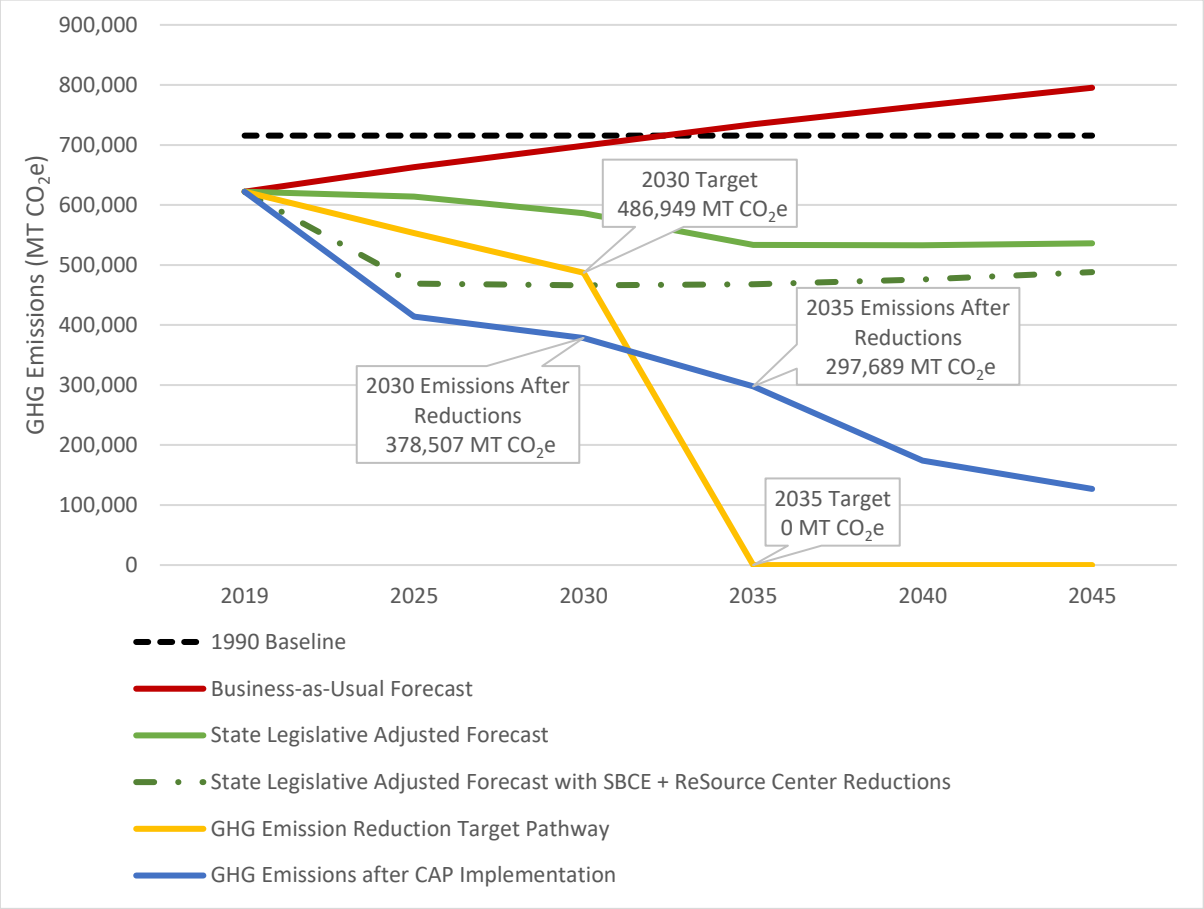


Table 3 City of Santa Barbara GHG Emissions Forecast Through 2045

Sector	2019 (MT of CO_2e)	2025 (MT of CO_2e)	2030 (MT of CO_2e)	2035 (MT of CO_2e)	2040 (MT of CO_2e)	2045 (MT of CO_2e)
Business-as-Usual GHG Emissions						
Electricity	115,442	119,973	123,748	127,524	130,031	132,431
Natural Gas	134,068	140,306	145,504	150,703	152,898	154,856
Transportation	317,966	345,687	370,338	395,247	420,077	444,944
Solid Waste	52,977	55,289	57,216	59,142	60,301	61,134
Water & Wastewater	1,657	1,730	1,790	1,850	1,887	1,913
Total	**622,110**	**662,984**	**698,596**	**734,467**	**765,193**	**795,278**
State Legislative Adjusted Forecast (GHG Emissions After Implementation of State Laws/Programs)						
Electricity	115,442	107,269	79,587	20,617	10,580	–
Natural Gas	134,068	139,975	144,898	149,822	151,959	153,869
Transportation	317,966	309,941	303,012	302,203	308,367	319,253
Solid Waste	52,977	55,289	57,216	59,142	60,301	61,134
Water & Wastewater	1,657	1,705	1,706	1,637	1,648	1,649
Total	**622,110**	**614,180**	**586,420**	**533,421**	**532,854**	**535,905**
GHG Emissions After Implementation of State Laws/Programs, SBCE, and ReSource Center						
Electricity	115,442	5,363	3,979	1,031	529	–
Natural Gas	134,068	139,975	144,898	149,822	151,959	153,869
Transportation	317,966	309,941	303,012	302,203	308,367	319,253
Solid Waste	52,977	12,119	12,526	12,933	13,198	13,399
Water & Wastewater	1,657	1,705	1,706	1,637	1,648	1,649
Total	**622,110**	**469,104**	**466,122**	**467,625**	**475,700**	**488,170**
GHG Emissions After Implementation of State Laws/Programs, SBCE, ReSource Center, and Santa Barbara CAP[1]						
Electricity	115,442	5,363	3,979	1,031	529	–
Natural Gas	134,068	133,569	123,387	113,130	107,621	102,830
Transportation	317,966	261,244	239,931	175,033	66,395	24,455
Solid Waste	52,977	12,119	9,665	7,018	(1,877)	(1,885)
Water & Wastewater	1,657	1704.05	1704.65	1636.41	1647.15	1648.54
Carbon Sequestration	N/A	(18)	(159)	(159)	(159)	(159)
Total	**622,110**	**413,982**	**378,507**	**297,689**	**174,156**	**126,890**

( ) denotes a negative number

[1] The 2019 Santa Barbara GHG Inventory and Forecasts do not include carbon sequestration; however, the CAP Update has quantitative measures to increase carbon sequestration.

MT = metric tons; CO_2e = carbon dioxide equivalents

Source: Santa Barbara, City of. 2023. Santa Barbara Forecasts through 2045.

At this time, the State has codified a target of reducing emissions to 40 percent below 1990 emissions levels by 2030 (SB 32) and has developed the 2022 Climate Change Scoping Plan to demonstrate how the State will achieve the 2030 target and make substantial progress toward the 2045 goal of carbon neutrality established by AB 1279.

While state and regional regulations related to energy and transportation systems, along with the State's Cap and Trade program, are designed to be set at limits to achieve most of the GHG emissions reductions needed to achieve the State's long-term goals, local governments can do their

fair share toward meeting the State's goals by siting and approving projects that accommodate planned population growth and projects that are GHG-efficient. The Association of Environmental Professional (AEP) Climate Change Committee recommends that CEQA GHG analyses evaluate project emissions in light of the trajectory of state climate change legislation and assess their "substantial progress" toward achieving long-term reduction targets identified in available plans and legislation.

The City has adopted a longer-term target of achieving carbon neutrality by 2035 and has proposed the CAP Update as a pathway to make progress toward this target. Implementation of the CAP Update, in addition to state laws and continued enrollment in local programs (e.g., SBCE and ReSource Center), would achieve an approximately 47 percent reduction in total communitywide GHG emissions below 1990 emission levels by 2030—to 378,507 MT CO_2e—and a 58 percent reduction below 1990 emission levels by 2035—to 297,689 MT CO_2e in 2035). Therefore, the City's longer-term target of carbon neutrality and the associated CAP Update establish a trajectory that provides GHG emissions reductions equal to or greater than those required by SB 32 for 2030. Because SB 32 is considered an interim target toward meeting the State's long-term goals, implementation of the CAP Update would make substantial progress toward meeting the State's long-term goal. Avoiding interference with, and making substantial progress toward, these long-term state goals is important because these goals have been set at levels that achieve California's fair share of international emissions reduction goals that will stabilize global climate change effects and avoid the adverse environmental consequences described in Appendix B Overview of GHG Emissions and Climate Change (AB 1279).

Appendix B

Overview of GHG Emissions and Climate Change

Overview of GHG Emissions and Climate Change

Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term "climate change" is often used interchangeably with the term "global warming," but "climate change" is preferred to "global warming" because it helps convey other changes in addition to rising temperatures. The baseline against which these changes are measured originates from historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate changes continuously, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed substantial acceleration in the rate of warming during the past 150 years. The United Nations Intergovernmental Panel on Climate Change (IPCC) expressed that the rise and continued growth of atmospheric CO_2 concentrations is unequivocally due to human activities in the IPCC's Sixth Assessment Report from 2021. Human influence has warmed the atmosphere, ocean, and land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that between the period of 1850 through 2019, that a total of 2,390 gigatonnes of anthropogenic CO_2 was emitted. It is likely that anthropogenic activities have increased the global surface temperature by approximately 1.07 degrees Celsius between the years 2010 through 2019.[13] Furthermore, since the late 1700s, estimated concentrations of carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O) in the atmosphere have increased by over 43 percent, 156 percent, and 17 percent, respectively, primarily due to human activity.[14] Emissions resulting from human activities are thereby contributing to an average increase in Earth's temperature.

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. The gases widely seen as the principal contributors to human-induced climate change include CO_2, CH_4, N_2O, fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere, and natural processes, such as oceanic evaporation, largely determine its atmospheric concentrations.

GHGs are emitted by natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are usually by-products of fossil fuel combustion, and CH_4 results from off-gassing associated with agricultural practices and

[13] Intergovernmental Panel on Climate Change (IPCC). 2021. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)] Cambridge University Press. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf

[14] United States Environmental Protection Agency (U.S. EPA). 2021. Climate Change Indicators: Atmospheric Concentrations of Greenhouse Gases. Last updated April 2021. https://www.epa.gov/climate-indicators/climate-change-indicators-atmospheric-concentrations-greenhouse-gases

landfills. Human-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6.[15]

Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, CH_4 has a GWP of 30, meaning its global warming effect is 30 times greater than CO_2 on a molecule per molecule basis.[16,17]

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat-trapping effect of GHGs, the earth's surface would be about 33 degrees Celsius (°C) cooler.[18] However, since 1750, estimated concentrations of CO_2, CH_4, and N_2O in the atmosphere have increased by 36 percent, 148 percent, and 18 percent, respectively, primarily due to human activity.[19] GHG emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, are believed to have elevated the concentration of these gases in the atmosphere beyond the level of concentrations that occur naturally.

Greenhouse Gas Emissions Inventories

Global Emissions Inventory

In 2015, worldwide anthropogenic GHG emissions totaled 47,000 MMT of CO_2e, which is a 43 percent increase from 1990 GHG levels. The largest source of GHG emissions were energy production and use (includes fuels used by vehicles and buildings), which accounted for 75 percent of the global GHG emissions. Agriculture uses and industrial processes contributed 12 percent and six percent, respectively. Waste sources contributed three percent. These sources account for approximately 96 percent.[20]

15 U.S. EPA. 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019. April 2021. https://www.epa.gov/system/files/documents/2022-02/us-ghg-inventory-2022-main-text.pdf

16 The IPCC's *Sixth Assessment Report* from 2021 determined that methane has a GWP of 30. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change's *Fourth Assessment Report* from 2007. Therefore, this analysis utilizes a GWP of 25.

17 IPCC. 2021. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)] Cambridge University Press. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf

18 World Meteorological Organization. 2020. "Greenhouse Gases." https://public.wmo.int/en/our-mandate/focus-areas/environment/greenhouse%20gases

19 Forster, P., V. Ramaswamy, P. Artaxo, T. Berntsen, R. Betts, D.W. Fahey, J. Haywood, J. Lean, D.C. Lowe, G. Myhre, J. Nganga, R. Prinn, G. Raga, M. Schulz and R. Van Dorland. 2007. Changes in Atmospheric Constituents and in Radiative Forcing. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-chapter2-1.pdf

20 U.S. EPA. 2023. Climate Change Indicators: Global Greenhouse Gas Emissions. Available at: https://www.epa.gov/climate-indicators/climate-change-indicators-global-greenhouse-gas-emissions

United States Emissions Inventory

United States GHG emissions were 6,347.7 MMT of CO_2e in 2021 (or 5,593.5 MMT CO_2e after accounting for sequestration), a 6.8 percent increase from 2020 emissions. The increase from 2020 to 2021 was driven by an increase in CO_2 emissions from fossil fuel combustion which increased 7 percent relative to previous years and is primarily due to the economic rebounding after the COVID-19 pandemic. In 2020, the energy sector (including transportation) accounted for 81 percent of nationwide GHG emissions while agriculture, industrial and waste accounted for approximately 10 percent, 6 percent, and 3 percent respectively.[21]

California Emissions Inventory

Based on a review of the CARB California Greenhouse Gas Inventory for the years between 2000-2020, California produced 369.2 MMT of CO_2e in 2020, which is 35.3 MMT of CO_2e lower than 2019 levels. The 2019 to 2020 decrease in emissions is likely due in large part to the impacts of the COVID-19 pandemic. The major source of GHG emissions in California is the transportation sector, which comprises 37 percent of the state's total GHG emissions. The industrial sector is the second largest source, comprising 20 percent of the state's GHG emissions while electric power accounts for approximately 16 percent. The magnitude of California's total GHG emissions is due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions as compared to other states is its relatively mild climate. In 2016, the state of California achieved its 2020 GHG emission reduction target of reducing emissions to 1990 levels as emissions fell below 431 MMT of CO_2e.[22] The annual 2030 statewide target emissions level is 260 MMT of CO_2e.[23]

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Long-term trends have found that each of the past four decades has been warmer than all the previous decades in the instrumental record and the decade from 2011 through 2020 has been the warmest. The observed global mean surface temperature (GMST) for the decade from 2011 to 2020 was approximately 1.09°C (0.95°C to 1.20°C) higher than the average GMST over the period from 1850 to 1900. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, the latest IPCC report states that "human-induced climate change is already affecting many weather and climate extremes in every region across the globe."[24] These climate change impacts include climate change

[21] U.S. EPA. 2023. Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2021. Available at: https://www.epa.gov/system/files/documents/2023-04/US-GHG-Inventory-2023-Main-Text.pdf

[22] CARB. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. Available at: https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf

[23] CARB. 2017. California's 2017 Climate Change Scoping Plan. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf

[24] IPCC. 2021. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)] Cambridge University Press. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf

sea level rise, increased weather extremes, and substantial ice loss in the Arctic over the past three decades.

According to *California's Fourth Climate Change Assessment*, statewide temperatures from 1986 to 2016 were approximately 0.6 to 1.1°C higher than those recorded from 1901 to 1960. Potential impacts of climate change in California may include reduced water supply from snowpack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years.[25] In addition to statewide projections, *California's Fourth Climate Change Assessment* includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the State and regionally-specific climate change case studies.[26] However, while there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. A summary follows of some of the potential effects that could be experienced in California as a result of climate change.

Hydrology and Sea Level Rise

Climate change could affect the intensity and frequency of storms and flooding.[27] Furthermore, climate change could induce substantial sea level rise in the coming century. Rising sea level increases the likelihood of and risk from flooding. The rate of increase of global mean sea levels between 1993 to 2020, observed by satellites, is approximately 3.3 millimeters per year, double the twentieth century trend of 1.6 millimeters per year.[28,29] Global mean sea levels in 2013 were about 0.23 meter higher than those of 1880.[30] Sea levels are rising faster now than in the previous two millennia, and the rise will probably accelerate, even with robust GHG emission control measures. The most recent IPCC report predicts a mean sea level rise of 11 to 21.5 inches by 2100 under the lowest emissions scenario and a rise of 25 to 40 inches by 2100 under the very high emissions scenario.[31]

A rise in sea levels could erode 31 to 67 percent of California beaches and cause flooding of approximately 370 miles of coastal highways during 100-year storm events. This would also jeopardize California's water supply due to saltwater intrusion and induce groundwater flooding and/or exposure of buried infrastructure.[32] Furthermore, increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

[25] California, State of. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. August 27, 2018. https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf

[26] Ibid.

[27] Ibid.

[28] World Meteorological Organization. 2013. A summary of current and climate change findings and figures: a WMO information note. March 2013. https://library.wmo.int/opac/index.php?lvl=notice_display&id=15892#.Wt9-Z8gvzIU

[29] National Aeronautics and Space Administration. 2020. "Global Climate Change – Vital Signs of the Planet – Sea Level." https://climate.nasa.gov/vital-signs/sea-level/

[30] Ibid.

[31] IPCC. 2021. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)] Cambridge University Press. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf

[32] California, State of. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. August 27, 2018. https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf

Air Quality

Scientists project that the annual average maximum daily temperatures in California could rise by 2.4 to 3.2°C in the next 50 years and by 3.1 to 4.9°C in the next century.[33] Higher temperatures are conducive to air pollution formation, and rising temperatures could therefore result in worsened air quality in California. As a result, climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. In addition, as temperatures have increased in recent years, the area burned by wildfires throughout the State has increased, and wildfires have occurred at higher elevations in the Sierra Nevada Mountains.[34] If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality could worsen. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the State. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains could tend to temporarily clear the air of particulate pollution, which would effectively reduce the number of large wildfires and thereby ameliorate the pollution associated with them.[35]

Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies in California. Year-to-year variability in statewide precipitation levels has increased since 1980, meaning that wet and dry precipitation extremes have become more common.[36] This uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The average early spring snowpack in the western U.S., including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 0.15 meter along the central and southern California coasts.[37] The Sierra snowpack provides the majority of California's water supply as snow that accumulates during wet winters is released slowly during the dry months of spring and summer. A warmer climate is predicted to reduce the fraction of precipitation that falls as snow and the amount of snowfall at lower elevations, thereby reducing the total snowpack.[38] Projections indicate that average spring snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from its historical average by 2050.[39]

[33] Ibid.

[34] Ibid.

[35] California Natural Resources Agency. 2009. 2009 California Climate Adaptation Strategy. March 2009. http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf

[36] California Department of Water Resources. 2018. Indicators of Climate Change in California. May 2018. https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf

[37] California, State of. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. August 27, 2018. https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf

[38] Ibid.

39 Ibid.

Agriculture

California has an over $51 billion annual agricultural industry that produces over a third of the country's vegetables and three-quarters of the country's fruits and nuts.[40] Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent, which would increase water demand as hotter conditions lead to the loss of soil moisture. In addition, crop yield could be threatened by water-induced stress and extreme heat waves, and plants may be susceptible to new and changing pest and disease outbreaks (California Natural Resource Agency 2019). Temperature increases could also change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality.[41]

Ecosystems and Wildlife

Climate change and the potential resultant changes in weather patterns could have ecological effects on the global and local scales. Soil moisture is likely to decline in many regions as a result of higher temperatures, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: timing of ecological events; geographic distribution and range of species; species composition and the incidence of nonnative species within communities; and ecosystem processes, such as carbon cycling and storage.[42,43]

[40] California Department of Food and Agriculture. 2022. California Agricultural Production Statistics. Available at: https://www.cdfa.ca.gov/Statistics/

41 California Climate Change Center (CCCC). 2006. Climate Scenarios for California.

[42] Parmesan, C. August 2006. Ecological and Evolutionary Responses to Recent Climate Change.

[43] California, State of. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. August 27, 2018. https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf

Appendix C

Quantifying GHG Emissions

Quantifying GHG Emissions

There are a variety of analytical tools available to estimate project-level GHG emissions, including the California Emissions Estimator Model (CalEEMod),[44] which is a free, publicly available computer model developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with various air quality districts throughout the State. Alternative tools may be used to quantify emissions if they can be substantiated. In general, the most current version of CalEEMod should be used to calculate total emissions for discretionary development projects. The analysis should focus on carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), because these are the GHGs that most development projects would generate in the largest quantities. Fluorinated gases, such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluorides, should also be considered for the analysis. Emissions of all GHGs should be converted into their equivalent global warming potential in terms of CO_2 (CO_2e). Calculations should be based on the current methodologies recommended by the CAPCOA and the APCD.[45, 46]

Construction GHG Emissions

Construction activities emit GHGs primarily though combustion of fuels (mostly diesel) in the engines of off-road construction equipment and in on-road construction vehicles and in the commute vehicles of the construction workers. Smaller amounts of GHGs are emitted indirectly through the energy required for water used for fugitive dust control and lighting for the construction activity. Every phase of the construction process, including demolition, grading, paving, and building, emits GHG emissions in volumes proportional to the quantity and type of construction equipment used. Heavier equipment typically emits more GHGs per hour than lighter equipment because of their engine design and greater fuel consumption.

The APCD recommends quantifying and disclosing construction related GHG emissions for informational purposes.[47] CalEEMod generates a default construction schedule and equipment list based on the plan-/project-specific information, including land use, project size, location, and construction timeline.[48] In general, if specific applicant-provided information is unknown, the default construction equipment list and phase lengths are the most appropriate inputs. However, if

[44] The most current available version of CalEEMod should be used. As of August 2023, CalEEMod version 2022.1 is the most current version and should be used to quantify project-level emissions.

[45] California Air Pollution Control Officers Association. 2008. *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA)*. January 2008.

[46] Santa Barbara APCD. 2021. Environmental Thresholds and Guidelines Manual. Accessed at https://www.sblafco.org/files/f2915ea5d/Information_Item_No_1___Attachment_B_Environmental_Thresholds_Amended_January_2021.pdf.

[47] Cumulative GHG emissions associated with construction from a land use development project are generally orders of magnitude lower than the operational emissions from a project because construction emissions are generally short in duration compared to the project's overall lifetime, and thus can be assessed qualitatively as part of related CEQA GHG emissions analysis. However, some projects may have long construction periods or entail large quantities of cut and fill that could result in construction-related GHG emissions that may be considered significant. Thus, the City retains the discretion on a project-by-project basis to consider whether a project's construction-related GHG emissions could be cumulatively considerable and require more detailed quantitative CEQA GHG emissions analysis and respective mitigation.

[48] CAPCOA. 2022. California Emissions Estimator Model User Guide: Version 2022.1. Prepared by ICF in collaboration with Sacramento Metropolitan Air Quality Management District, Fehr & Peers, STI, and Ramboll. http://www.aqmd.gov/caleemod/user's-guide.

more detailed site-specific equipment and phase information (i.e., data from the project applicant) is available, the model's default values can (and should) be overridden.[49]

Operational GHG Emissions

CalEEMod estimates operational emissions of CO_2, N_2O, and CH_4 generated by area sources, energy use, vehicle trips (i.e., mobile sources), waste generation, and water use and conveyance. Operational emissions should be calculated for the year 2030, rather than the project buildout year, in order to provide an appropriate comparison of project emissions to the year 2030 threshold.

Area Source Emissions

Area sources include GHG emissions that would occur from the use of landscaping equipment, hearths, and woodstoves, which emit GHGs associated with the equipment's fuel combustion. The landscaping equipment emission values in CalEEMod are derived from CARB's Small Off-Road Engines Model v1.1 (SORE2020).[50] Emission rates for combustion of wood and natural gas for wood stoves and fireplaces are based on those published by the U.S. EPA. Typically, no adjustments to landscaping equipment inputs are necessary. The number of hearths and woodstoves should be adjusted in CalEEMod to reflect the project design.

Energy Use Emissions

GHGs are emitted on-site during the combustion of natural gas for cooking, space and water heating, and decorative uses and off-site during the generation of electricity from fossil fuels in power plants. CalEEMod estimates GHG emissions from energy use by multiplying average rates of residential and non-residential energy consumption by the quantities of residential units and non-residential square footage entered in the land use module to obtain total projected energy use. This value is then multiplied by electricity and natural gas GHG emission factors applicable to the project location and utility provider. Building energy use is typically divided into energy consumed by the built environment and energy consumed by uses that are independent of the building, such as plug-in appliances. Non-building energy use, or "plug-in energy use," can be further subdivided by specific end-use (refrigeration, cooking, office equipment, etc.). In California, Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting.

Electricity emissions are calculated by multiplying the energy use by the carbon intensity of the utility district per kilowatt hour.[51] Projects would be served either by Santa Barbara Clean Energy [SBCE] or SCE. The specific energy intensity factors (i.e., the amount of CO_2, CH_4, and N_2O per kilowatt-hour) for the applicable utility should be used in the calculations of GHG emissions.

As of publication of this guidance document, the current iteration of Title 24 includes the 2022 Building Energy Efficiency Standards. In accordance with Section 150.1(b)14 of the 2022 Building Energy Efficiency Standards, all new residential uses three stories or less must install photovoltaic (PV) solar panels that generate an amount of electricity equal to the expected electricity usage. The calculation method contained in Section 150.1(b)14 of the 2022 Building Energy Efficiency Standards should be utilized to estimate the number of kilowatts of PV solar panels that would be required for a residential project three stories or less. In addition, modeling should account for any local

[49] Ibid.
[50] Ibid.
[51] Ibid.

regulations pertaining to mandatory solar provisions. Online resources can be used to determine the kilowatt-hours that would be generated per year by the required solar PV system.[52] The energy reduction achieved by on-site PV solar panels should be included in CalEEMod. Future updates to Title 24 as they relate to the Building Energy Efficiency Standards should be incorporated into CalEEMod as applicable.

Mobile Source Emissions

CalEEMod quantifies mobile source emissions generated by vehicle trips associated with the proposed project. If available, project-specific trip generation rates or Vehicle Miles Travelled (VMT) data should be input in CalEEMod.

Water and Wastewater Emissions

The amount of water used, and the amount of wastewater generated by a project generate indirect GHG emissions. These emissions are a result of the energy used to supply, convey, and treat water and wastewater. In addition to the indirect GHG emissions associated with energy use, the wastewater treatment process itself can directly emit both CH_4 and N_2O.

CalEEMod calculates indoor residential water consumption based on per capita daily water use rates from the Residential End Uses of Water published by the Water Research Foundation in 2016. For non-residential land uses, indoor water use comes from the Pacific Institute's (2003) *Waste Not, Want Not: The Potential for Urban Water Conservation in California*.[53] Outdoor water use is based on the Maximum Applied Water Allowance Method established under the Model Water Efficient Landscape Ordinance. Wastewater generation is based on a reported percentage of total indoor water use.

Future updates to Title 24 as they relate to CALGreen water efficiency requirements should be incorporated into CalEEMod as applicable.

Solid Waste Emissions

The disposal of solid waste produces GHG emissions from the transportation of waste, anaerobic decomposition in landfills, and incineration. To calculate the GHG emissions generated by solid waste disposal, the total volume of solid waste is calculated using waste disposal rates identified by CalRecycle. The methods for quantifying GHG emissions from solid waste are based on the IPCC method, using the degradable organic content of waste. CEQA document preparers should contact the City's Public Works Department to obtain the City's most recent solid rate diversion rate to be included in the calculation of solid waste GHG emissions.

Project Design Features

CEQA document preparers should use the "Mitigation" tabs in CalEEMod to include project design features applicable to the project.[54] These features often include increased density, improved destination accessibility, proximity to transit, integration of below market rate housing, unbundling

[52] Lane, Catherine. 2023." How much electricity does a solar panel produce?" Last updated: June 13, 2023. https://www.solarpowerrocks.com/solar-basics/how-much-electricity-does-a-solar-panel-produce/.

[53] CAPCOA. 2022. California Emissions Estimator Model User Guide: Version 2022.1. Prepared by ICF in collaboration with Sacramento Metropolitan Air Quality Management District, Fehr & Peers, STI, and Ramboll. http://www.aqmd.gov/caleemod/user's-guide.

[54] "Mitigation" is a term of art for the modeling input and is not equivalent to mitigation measures that may apply to the CEQA impact analysis.

of parking costs, provision of transit subsidies, implementation of alternative work schedules, use of energy- and/or water-efficient appliances, use of reclaimed and/or grey water, and installation of water-efficient irrigation system. Users should consider the applicability of these features to the project and review the CAPCOA *Quantifying Greenhouse Gas Mitigation Measures* (2010) publication to ensure that the chosen features are relevant and feasible in light of the project.[55]

Residents, Employees, and Service Populations

The quantitative thresholds presented in Section 4, Quantitative CEQA GHG Thresholds, are expressed in terms of per resident for residential projects, per employee for non-residential projects, and per service person for mixed-use projects. Estimates of the resident, employee, or service population for a project should be based on substantial evidence. Data provided by the applicant as well as the following resources may be utilized in estimating resident and employee populations:

- **Persons per Household.** Users should refer to the California Department of Finance website (https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/) for the most recent estimate of persons per household in the City of Santa Barbara. This estimate can be multiplied by the number of proposed residential units to estimate a project's resident population.
- **Proposed Number of Beds.** For projects such as group homes, assisted living facilities, nursing homes, or similar uses, the number of beds can be used to determine the resident population.
- **United States Green Building Council.** The United States Green Building Council has published a summary of building area per employee by business type. These rates, which are expressed in terms of square feet per employee, can be utilized to estimate the number of employees a project would require. This document is included as Appendix G.

Modeling GHG Emissions from Existing Land Use

For a project that would result in a change in the plan area/project's site General Plan land use designation, emissions anticipated for the existing General Plan land use designation must be calculated in conjunction with emissions for the proposed project to demonstrate whether the project would be more or less GHG-intensive than development anticipated for the existing General Plan land use designation for the site. In this case, GHG emissions should be reported for both the existing and proposed scenarios. If there is a land use designation that allows multiple uses, the project could model the most intensive permitted use from the GHG perspective and compare the project to that as the baseline.

Emissions anticipated for the existing land use should be quantified using the methods described in *Construction Emissions*, and *Operational Emissions* with consistent assumptions between the two scenarios as applicable. Any emission reduction credits applied to the proposed project scenario that are related to state legislation/policies (e.g., the RPS, vehicle standards, Title 24) or the plan area/project site location (e.g., proximity to transit, destination accessibility, etc.) should also be applied to the existing scenario.

Emission reduction credits that are specific to the proposed project (e.g., use of recycled water, increased density, installation of energy and/or water-efficient appliances, integration of below market rate housing, etc.) should only be included for the proposed project scenario. In addition,

[55] CAPCOA. 2010. Quantifying Greenhouse Gas Mitigation Measures. August 2010. http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf.

care should be taken to identify any emission reduction credits that might be unique to the existing land use designation that would not apply to the proposed project. For example, if the existing land use designation allows for single-family residences and the proposed land use designation would allow for only commercial uses, then the existing scenario should include the emission reduction credit associated with the 2022 Building Energy Efficiency Standards requirements for PV solar panels on residential uses that are three stories or less whereas the proposed project scenario should not include this credit unless PV solar panels are included as a project design feature.

This page intentionally left blank.

Appendix D

Regulatory and Legal Setting

Regulatory and Legal Setting

The following regulations, executive orders, and case law pertain to the analysis of GHG emissions consistent with CEQA and the CEQA Guidelines.

Relevant CEQA Guidelines Sections

Pursuant to the requirements of SB 97, the California Natural Resources Agency has adopted amendments to the CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted CEQA Guidelines provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG emissions and climate change impacts.

Based on Appendix G of the CEQA Guidelines, impacts related to GHG emissions generated by a proposed project would be significant if the project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

The vast majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. As discussed in Appendix B, the adverse environmental impacts of cumulative GHG emissions, including sea level rise, increased average temperatures, more drought years, and more frequent and larger forest fires, are already occurring. As a result, cumulative impacts related to GHG emissions and climate change are significant. Therefore, per CEQA Guidelines Section 15064.4(b), the analysis of GHG emissions under CEQA typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines Section 15064[h][1]).

The following sections of the CEQA Guidelines pertain to the creation of significance thresholds and the analysis of a project's GHG emissions.

CEQA Guidelines Section 15064(b)

(1) The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data. An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area.

(2) Thresholds of significance, as defined in Section 15064.7(a), may assist lead agencies in determining whether a project may cause a significant impact. When using a threshold, the

lead agency should briefly explain how compliance with the threshold means that the project's impacts are less than significant. Compliance with the threshold does not relieve a lead agency of the obligation to consider substantial evidence indicating that the project's environmental effects may still be significant.[56]

CEQA Guidelines Section 15064.4

(a) The determination of the significance of GHG emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to

(1) Quantify GHG emissions resulting from a project; and/or

(2) Rely on a qualitative analysis or performance-based standards.

(b) In determining the significance of a project's GHG emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. A lead agency should consider the following factors, among others, when determining the significance of impacts from GHG emissions on the environment:

(1) The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting.

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (see, e.g., section 15183.5[b]). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an Environmental Impact Report (EIR) must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

(c) A lead agency may use a model or methodology to estimate GHG emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a

[56] 2023 CEQA Guidelines. Available at: https://www.califaep.org/docs/CEQA_Handbook_2023_final.pdf

model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.[57]

CEQA Guidelines Section 15064.7

(a) A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant.

(b) Each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects. Thresholds of significance to be adopted for general use as part of the lead agency's environmental review process must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence. Lead agencies may also use thresholds on a case-by-case basis as provided in Section 15064(b)(2).

(c) When adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.

(d) Using environmental standards as thresholds of significance promotes consistency in significance determinations and integrates environmental review with other environmental program planning and regulation. Any public agency may adopt or use an environmental standard as a threshold of significance. In adopting or using an environmental standard as a threshold of significance, a public agency shall explain how the particular requirements of that environmental standard reduce project impacts, including cumulative impacts, to a level that is less than significant, and why the environmental standard is relevant to the analysis of the project under consideration. For the purposes of this subdivision, an "environmental standard" is a rule of general application that is adopted by a public agency through a public review process and that is all the following:

(1) a quantitative, qualitative or performance requirement found in an ordinance, resolution, rule, regulation, order, plan or other environmental requirement;

(2) adopted for the purpose of environmental protection;

(3) addresses the environmental effect caused by the project; and,

(4) applies to the project under review.[58]

CEQA Guidelines Section 15183.5

(a) Lead agencies may analyze and mitigate the significant effects of GHG emissions at a programmatic level, such as in a general plan, a long-range development plan, or a separate plan to reduce GHG emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an EIR containing a programmatic analysis of GHG emissions as provided in section 15152 (tiering), 15167 (staged EIRs) 15168 (program EIRs),

[57] Ibid.

[58] Ibid.

15175–15179.5 (Master EIRs), 15182 (EIRs Prepared for Specific Plans), and 15183 (EIRs Prepared for General Plans, Community Plans, or Zoning).

(b) Plans for the Reduction of GHG Emissions. Public agencies may choose to analyze and mitigate significant GHG emissions in a plan for the reduction of GHG emissions or similar document. A plan to reduce GHG emissions may be used in a cumulative impacts analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.

(1) Plan Elements. A plan for the reduction of GHG emissions should:

(A) Quantify GHG 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 GHG emissions from activities covered by the plan would not be cumulatively considerable;

(C) Identify and analyze the GHG 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;

(F) Be adopted in a public process following environmental review.

(2) Use with Later Activities. A plan for the reduction of GHG emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later projects. An environmental document that relies on a GHG reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project. If there is substantial evidence that the effects of a particular project may be cumulatively considerable, notwithstanding the project's compliance with the specified requirements in the plan for the reduction of GHG emissions, an EIR must be prepared for the project.

(c) Special Situations. As provided in Public Resources Code sections 21155.2 and 21159.28, environmental documents for certain residential and mixed use projects, and transit priority projects, as defined in section 21155, that are consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in an applicable sustainable communities strategy or alternative planning strategy need not analyze global warming impacts resulting from cars and light duty trucks. A lead agency should consider whether such projects may result in GHG emissions resulting from other sources, however, consistent with these Guidelines.[59]

[59] Ibid.

CEQA Guidelines Section 15126.4(c)

Consistent with section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of GHG emissions. Measures to mitigate the significant effects of GHG emissions may include, among others:

(1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;

(2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F of the CEQA Guidelines;

(3) Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions;

(4) Measures that sequester GHGs;

(5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of GHG emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.[60]

Relevant State and Regional GHG Reduction Targets

Executive Order S-03-05

On June 1, 2005, the governor issued EO S-03-05, which established a statewide goal of reducing GHG emissions to 1990 levels by 2020 and created the Climate Action Team. The 2020 GHG emission reduction target contained in EO S-03-05 was later codified by Assembly Bill (AB) 32.

Assembly Bill 32

California's major initiative for reducing GHG emissions is outlined in AB 32, the "California Global Warming Solutions Act of 2006," which was signed into law in 2006. AB 32 codifies the State's goal of reducing statewide GHG emissions to 1990 levels by 2020 and requires the California Air Resources Board (CARB) to prepare a Scoping Plan that outlines the main state strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 limit of 427 million metric tons (MMT) of CO_2e. The Scoping Plan was approved by CARB on December 11, 2008, and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since approval of the Scoping Plan.[61]

In May 2014, CARB approved the first update to the AB 32 Scoping Plan. The 2013 Scoping Plan update defined CARB's climate change priorities for the next five years and set the groundwork to

[60] Ibid.

[61] CARB. 2008. *Climate Change Scoping Plan*. December 2008. https://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf.

reach post-2020 statewide goals. The update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's longer-term GHG reduction strategies with other state policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use. [62]

Senate Bill 32

On September 8, 2016, the governor signed SB 32 into law, extending AB 32 by requiring the statewide reduction of GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). In November 2022, CARB published California's 2022 Scoping Plan for Achieving Carbon Neutrality (Third Update). This update extends the previous Scoping Plans and lays out a path to achieve carbon neutrality no later than 2045, as directed by AB 1279. The previous 2017 Scoping Plan lays out a technologically feasible and cost-effective path to achieve the 2030 GHG reduction target by leveraging existing programs such as the Renewables Portfolio Standard, Advanced Clean Cars, Low Carbon Fuel Standard, Short-Lived Climate Pollutant (SLCP) Reduction Strategy, Cap-and-Trade Program, and Mobile Source Strategy that includes strategies targeted to increase zero emission vehicle fleet penetration. The 2022 Scoping Plan looks toward the 2045 climate goals and the deeper GHG reductions needed to meet the State's statutory carbon neutrality target specified in AB 1279 and EO B-55-18.[63]

Senate Bill 375

SB 375, signed in August 2008, enhances the State's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO's Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy categorized as "transit priority projects" would receive incentives to streamline CEQA processing.

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Association of Bay Area Governments (ABAG) was assigned targets of a 7 percent reduction in GHGs from transportation sources by 2020 and a 15 percent reduction in GHGs from transportation sources by 2035. ABAG adopted the 2050 RTP (Plan Bay Area 2050) in October 2021, which includes the region's SCS and meets the requirements of SB 375.[64]

Assembly Bill 1279

AB 1279, signed in September 2022, builds upon EO B-55-18, which originally established California's 2045 goal of carbon neutrality and tasked CARB with including a pathway toward the EO B-55-18 carbon neutrality goal in the 2022 Scoping Plan. AB 1279 codified the statewide carbon neutrality goal into a legally binding requirement for California to achieve carbon neutrality no later

[62] CARB. 2014. *First Update to the Climate Change Scoping Plan*. May 15, 2014. Available at: https://ww3.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

[63] CARB. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. Available at: https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf

[64] Association of Bay Area Governments. October 2021. Plan Bay Area 2050.

than 2045 and ensure 85 percent[65] GHG emissions reduction under that goal. This goal is in addition to the existing statewide GHG emission reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

Senate Bill 100

Adopted in September 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's Renewables Portfolio Standard Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Senate Bill 1383

Adopted in September 2016, SB 1383 (Lara, Chapter 395, Statutes of 2016) requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

Relevant GHG Emissions Analysis Case Law

Friends of Oroville v. City of Oroville (Case No. 070448)

The Third District Court of Appeal decision in the *Friends of Oroville v. City of Oroville* case was published on August 19, 2013. This decision evaluated the methodology used to analyze GHG emissions in an EIR prepared for a Wal-Mart Supercenter development project that included replacing an existing Wal-Mart store with a Wal-Mart Supercenter in Oroville in Butte County. The EIR used consistency with the AB 32 emissions reduction target as its significance threshold for evaluating the project's GHG emissions and compared the magnitude of the proposed project's emissions to statewide 2004 emission levels as part of the analysis. The Court found that EIR applied "a meaningless, relative number to determine insignificant impact" rather than evaluating the project's emissions in light of the AB 32 emissions reduction target. The Court also found that the EIR "misapplied the [AB] 32 threshold-of-significance standard by [1] failing to calculate the GHG emissions for the existing Wal-Mart and [2] failing to quantitatively or qualitatively ascertain or estimate the effect of the Project's mitigation measures on GHG emissions." The Court determined that the EIR could and should have performed these quantifications to adequately evaluate the project's GHG emissions using the AB 32 emissions reduction target.

[65] To achieve carbon neutrality, the remaining 15 percent of GHG emissions would be achieved through carbon capture and sequestration efforts.

Sierra Club v. County of San Diego (Case No. 37-2018-00043084-CU-TT-CTL)

The Fourth District Court of Appeal decision in the *Sierra Club v. County of San Diego* case was published on October 29, 2014. This decision evaluated the adequacy of the CAP Update prepared by the County of San Diego to satisfy Mitigation Measure CC-1.2 of the program EIR prepared for its 2011 General Plan. To reduce GHG emissions impacts of the 2011 General Plan to a less-than-significant level, Mitigation Measure CC-1.2 required the preparation of a CAP Update that would include "more detailed GHG emissions reduction targets and deadlines" and that would "achieve comprehensive and enforceable GHG emissions reduction of 17 percent (totaling 23,572 MT of CO_2e) from County operations from 2006 by 2020 and 9 percent reduction (totaling 479,717 MT of CO_2e) in community emissions from 2006 by 2020." The Court found the CAP Update did not include enforceable and feasible GHG emission reduction measures that would achieve the necessary emissions reduction; therefore, the CAP Update did not meet the requirements of Mitigation Measure CC-1.2 and would not ensure that the mitigation measure would reduce GHG emissions to a less-than-significant impact. In addition, the Court found that the County failed to evaluate the environmental impacts of the CAP Update and its associated thresholds of significance under CEQA.

Center for Biological Diversity v. California Department of Fish and Wildlife (Case No. 217763)

The California Supreme Court's decision in the *Center for Biological Diversity v. California Department of Fish and Wildlife* case was published on November 30, 2015. This decision evaluated the methodology used to analyze GHG emissions in an EIR prepared for the Newhall Ranch development project that included approximately 20,885 dwelling units with 58,000 residents on 12,000 acres of undeveloped land in Los Angeles County. The EIR used a business-as-usual approach to evaluate whether the project would be consistent with the AB 32 Scoping Plan. The Court found there was insufficient evidence in the record of that project to explain how a project that reduces its GHG emissions by the same percentage as the business-as-usual reduction identified for the State to meet its statewide targets supported a conclusion that project-level impacts were below the level of significance.

The California Supreme Court suggested regulatory consistency as a pathway to compliance by stating that a lead agency might assess consistency with the State's GHG reduction goals by evaluating for compliance with regulations designed to reduce GHG emissions. This approach is consistent with CEQA Guidelines Section 15064.4(b), which provides that a determination of an impact is not cumulatively considerable to the extent to which the project complies with regulations or requirements implementing a statewide, regional, or local plan to reduce or mitigate GHG emissions. The Court also found that a lead agency may rely on numerical and efficiency-based thresholds of significance for GHG emissions, if supported by substantial evidence.

Golden Door Properties, LLC v. County of San Diego/Sierra Club, LLC v. County of San Diego (Case No. 072406)

The Fourth District Court of Appeal decision in the Golden Door Properties, LLC v. County of San Diego case (published on September 28, 2018) evaluated the County of San Diego's 2016 Guidance Document's GHG efficiency metric, which establishes a generally applicable threshold of significance for proposed projects. The Court held that the County of San Diego is barred from using its 2016 Guidance Document's threshold of significance of 4.9 MT CO2e per service person per year for GHG analysis. The Court stated that the document violated CEQA because it was not adopted formally by ordinance, rule, resolution, or regulation through a public review process per CEQA Guidelines

Section 15064.7(b). The Court also found that the threshold was not supported by substantial evidence that adequately explained how a service population threshold derived from statewide data could constitute an appropriate GHG metric to be used for all projects in unincorporated San Diego County. Nevertheless, lead agencies may make plan- or project-specific GHG emissions threshold determinations.

This page intentionally left blank.

Appendix E

CEQA GHG Threshold Calculations

CEQA GHG Threshold Calculations

1. Business-as-Usual Forecast Summary

		Annual 2030 GHG Emissions (MT CO2e)			
Forecast Scenario	**Sector**	**Existing (2019)**	**New (2030-2019)**	**Total (2030)**	
Business-as-Usual	Residential Energy	99,387	10,612	109,999	Residential
	Nonresidential Energy	114,675	6,261	120,936	Nonresidential
	Commercial Onroad Transportation	10,000	576	10,576	Nonresidential
	Leakage and T&D Loss	34,709	2,735	37,444	Residential/Nonresidential
	Passenger Onroad Transportation	256,408	48,392	304,800	Residential/Nonresidential
	Bus Onroad Transportation	7,591	(245)	7,346	Residential/Nonresidential
	Electric Vehicles	738	136	874	Residential/Nonresidential
	Offroad Equipment	43,967	3,648	47,616	Residential/Nonresidential
	Water & Wastewater	1,657	133	1,790	Residential/Nonresidential
	Solid Waste	52,977	4,239	57,216	Residential/Nonresidential
		-		-	

2. Demographics Forecast Summary

		Annual 2030 Demographics		
Category	**Sector**	**Existing (2019)**	**New (2030-2019)**	**Total (2030)**
Demographics	Residents	87,670	8,967	96,637
	Jobs	76,772	4,190	80,963
	Service Population	164,442	13,158	177,600

3. Emissions Savings Summary - Legislative savings + CAP savings

		2030 GHG Emissions (MT CO2e)		
Category	**Measure**	**Residential**	**Nonresidential**	**Residential/ Nonresidential**
State Legislation	Transportation Legislation	(4,270)	1,171	65,962
	California Green Building Code (Title 24)	2,470	1,210	65
	California RPS (SB 100)	15,555	28,205	1,806
Santa Barbara Clean Energy (SBCE)	SBCE Participation	25,523	46,279	3,806
CAP Update	BE-4 Expand NG Prohibition Ordinance for New Construction	5,869	2,049	-
	BE-5 Reduce Existing Residential NG Consumption	8,306	-	-
	BE-6 Reduce Commercial NG Consumption	-	5,288	-
	T-3 Active Transportation	-	-	952
	T-4 Public Transportation	-	-	3,547
	T-6 Passenger ZEVs	-	-	53,948
	T-7 Commercial ZEVs	-	1.777	-
	W-3 Reduce Potable Water Consumption	-	-	1.72
	W-4 Reduce Organic Waste	-	-	45,773
	CS-1 Increase Carbon Sequestration	-	-	159
	CS-4 Apply Compost Annually	-	-	1,778

4. Allocate savings between existing/new and residential/nonresidential
* Savings are allocated to existing and new using the existing, new, and total demographics breakdown in section 2 and based on the logic in the Allocation column below
* Residential + Nonresidential savings are allocated to residential and nonresidential separately the population, job, and service population demographics breakdown in section 2

Category	Allocation between Existing and New	2030 Emissions (MT CO2e)			
		Existing		New	
		Residential	Nonresidential	Residential	Nonresidential
Business-as-Usual Forecast					
Business-as-Usual Forecast	See F4:F13	311,600	310,510	50,847	25,638
State Reductions					
Transportation Legislation	Both	28,688	29,624	2,934	1,617
California Green Building Code (Title 24)	New Only	-	-	2,515	1,231
California RPS (SB 100)	Both	15,004	27,526	1,535	1,502
Santa Barbara Clean Energy					
SBCE Participation	Both	25,034	45,529	2,561	2,485
CAP Reductions					
BE-4 Expand NG Prohibition Ordinance for New Constructi	New Only	-	-	5,869	2,049
BE-5 Reduce Existing Residential NG Consumption	Existing Only	8,306	-	-	-
BE-6 Reduce Commercial NG Consumption	Existing Only	-	5,288	-	-
T-3 Active Transportation	Both	470	412	48	22
T-4 Public Transportation	Both	1,751	1,533	179	84
T-6 Passenger ZEVs	Both	26,631	23,321	2,724	1,273
T-7 Commercial ZEVs	Both	-	1,685	-	92
T-8 Decarbonize Offroad Equipment	Both	1,410	1,235	144	67
W-3 Reduce Potable Water Consumption	Both	1	1	0	0
W-4 Reduce Organic Waste	Both	22,595	19,786	2,311	1,080
CS-1 Increase Carbon Sequestration	Both	79	69	8	4
CS-4 Apply Compost Annually	Both	878	769	90	42
CAP-Adjusted Forecast					
CAP-Adjusted Forecast	BAU Forecast - State Reductions - CAP Reductions	180,755	153,734	29,929	14,090

5. 2030 GHG Thresholds

Category	2030 New Growth GHG Threshold	"Existing GHG Thresholds"	2030 Total Population - Per Capita Threshold
Residential (per resident)	3.34	2.06	2.18
Nonresidential (per job)	3.36	2.00	2.07
Mixed-Use (per service person)	3.35	2.03	2.13

6. Summary Table

	Existing	New Residential	New Nonresidential	Total
Business-as-Usual Forecast	622,110	50,847	25,638	698,596
State Laws/Programs & SBCE Reductions	171,404	9,544	6,835	187,783
CAP Building Energy Measure Reductions	13,594	5,869	2,049	21,512
CAP Transportation Measures	58,448	3,095	1,538	63,081
CAP Water Measures	2	0	0	2
CAP Waste Measures	42,381	2,311	1,080	45,773
CAP Carbon Sequestration Measures	1,794	98	46	1,937
Total Emissions Reductions from Business-as-Usual	287,622	20,918	11,549	320,088
Remaining Total GHG Emissions	334,488	29,929	14,090	378,507

Appendix F

Justification for Thresholds

Justification for Thresholds

Per CEQA Guidelines Section 15064(b)(1), "the determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data." In addition, CEQA Guidelines Section 15064(b)(2) states, "When using a threshold, the lead agency should briefly explain how compliance with the threshold means that the project's impacts are less than significant." Furthermore, CEQA Guidelines Section 15064.7(b) states "Thresholds of significance to be adopted for general use as part of the lead agency's environmental review process must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence." Therefore, the key considerations when developing thresholds of significance are 1) the thresholds' basis on scientific and factual data; 2) demonstration of how compliance with the thresholds reduces project impacts to a less-than-significant level; 3) support of the thresholds by substantial evidence; and 4) adoption of the thresholds by ordinance, resolution, rule, or regulation, and developed through a public review process. The following subsections address these four key considerations.

Basis of Scientific and Factual Data

As discussed in Appendix C Quantifying GHG Emissions, the quantitative thresholds were developed using data from the City's 2019 communitywide GHG inventory and the GHG emissions forecasts for year 2030. The inventory and forecasts were developed by the City in compliance with all relevant protocols and guidance documents, including the U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, the Global Protocol for Community Scale GHG Emissions, and the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National GHG Inventories. Furthermore, the inventory and forecasts are based on locally appropriate data for the City of Santa Barbara provided by SBCAG, Southern California Edison (SCE), Southern California Gas (SoCalGas), Iteris, Inc., CARB, and the City of Santa Barbara.[66] Therefore, the GHG emission inventory and forecast data underlying the thresholds is both scientific and factual.

As discussed in Appendix A Climate Action Plan Summary, implementation of the Santa Barbara CAP Update will achieve a 47 percent reduction in total communitywide GHG emissions below 1990 emissions levels by 2030. Therefore, this local target is aligned with the State's goal of a 40 percent emission reduction in 1990 levels by 2030 and makes substantial progress toward achieving the State's long-term goal of carbon neutrality by 2045. The quantitative thresholds are tied directly to the level of GHG emissions anticipated for new development in the CAP Update for year 2030. As a result, because the CAP Update is consistent with the State's 2030 GHG emission goal, the quantitative thresholds are also consistent with the state milestone GHG emission reduction goal for 2030. The State's GHG emission reduction goals for 2030 and 2045 are set at the levels scientists say are necessary to meet the Paris Agreement goals to reduce GHG emissions and limit global temperature rise below two degrees Celsius by 2100 in order to avoid dangerous climate change (CARB 2017; EO B-55-18). Therefore, the City's GHG emission reduction targets that inform the CAP Update and the associated quantitative thresholds are based on scientific and factual data on the

[66] Santa Barbara, City of. 2023. Community Greenhouse Gas Inventory, Forecast, and Target Analysis.

level of emissions reduction necessary to avoid a cumulatively considerable contribution to the cumulative impact of climate change.

Reduction of Project Impacts to a Less-than-Significant Level

The quantitative GHG thresholds shown in Appendix A Climate Action Plan Summary, are tied directly to the level of GHG emissions anticipated for new development in the CAP Update for year 2030. Therefore, the thresholds are consistent with the City's local GHG emission reduction target, which is consistent with the State's GHG emission reduction goals. Since the quantitative thresholds are set at the level necessary to ensure the City does not have a cumulatively considerable contribution to the cumulative impact of climate change, plans and projects with GHG emissions at or below the quantitative thresholds would also not have a cumulatively considerable contribution to the cumulative impacts of climate change, and project impacts would be less than significant.

Support of Substantial Evidence

Substantial evidence regarding the calculation of the quantitative GHG emissions thresholds is provided in Appendix E CEQA GHG Threshold Calculations. The following subsections provide additional evidence of how the GHG emissions thresholds are locally appropriate and plan- or project-specific and how the thresholds distinguish between existing and new development.

Use of Local Data

The quantitative thresholds were developed using the City's communitywide GHG emissions forecast for year 2030 and are therefore specific to the City of Santa Barbara. The thresholds are directly tied to the population and employment growth anticipated by SBCAG Connected 2050 projections, and in alignment with the Santa Barbara General Plan as well as to the City-specific GHG emission reduction measures that the City has proposed to reduce communitywide and per capita emissions. In addition, the magnitude of local GHG emission reduction achieved by state legislation/policies (i.e., vehicle fuel efficiency standards, the Renewable Portfolio Standard [RPS], and Title 24) was estimated based on City-specific growth and vehicle VMT forecasts. As a result, these locally appropriate thresholds directly address the concerns raised in the *Golden Door Properties, LLC v. County of San Diego/Sierra Club, LLC v. County of San Diego* (2018) case, because they are based on local GHG emissions data rather than statewide GHG emissions data.

Disaggregation of Existing versus New Development

For the City of Santa Barbara, a GHG threshold disaggregated between new and existing development places a disproportionately high emphasis on emissions reduction from existing development, given the proposed CAP Update measures. This necessitated applying the emissions reduction across both new development and existing development to produce per capita GHG thresholds. CAP-adjusted emissions for existing and new development were combined to create communitywide GHG emissions thresholds. This approach is more conservative than disaggregating by new versus existing development as it accounts for the relative ease for new development to be decarbonized and builds in some buffer for emissions reduction required of existing development to achieve CAP Update reductions. Therefore, these thresholds directly address the concerns raised in the *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) case regarding

the different rates of GHG emissions reduction anticipated for new development as compared to existing development in order to meet the specified GHG reduction target.

Selection of Sector-Specific Thresholds

The quantitative thresholds are separated into three categories – residential, non-residential, and mixed-use – which are intended to apply to the three main types of development projects in Santa Barbara. These thresholds were calculated by disaggregating the City's business-as-usual GHG emissions forecasts for residential and non-residential development. The emissions reduction specific to residential and non-residential development achieved by state legislation/policies and the CAP Update were then subtracted from the business-as-usual forecast to determine "caps" of emissions for new residential and new non-residential development for year 2030. These emissions "caps" were then divided by the numbers of residents and employees forecast for the year 2030 to determine efficiency thresholds for residential and non-residential projects, respectively. For mixed-use development, the residential and non-residential emissions "caps" were summed, then divided by the service population forecast for 2030 to determine an efficiency threshold for mixed-use projects. As a result, these project-specific thresholds directly address the concerns raised in the *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) case, because they are specific to each development project type.

Adoption via Public Review Process

In compliance with CEQA Guidelines Section 15064.7(b), this guidance document and the quantitative thresholds contained herein was presented to the City Council for formal adoption via resolution through a public review process, which included an opportunity for public input. The public review process for this City of Santa Barbara Master Environmental Assessment Guidelines for Greenhouse Gas Emissions Analysis afforded the public to the ability to comment on the draft resolution item during a public meeting (i.e., City Council meeting) considering adoption of the Master Environmental Assessment Guidelines for Greenhouse Gas Emissions and CAP Update IS-ND. This process directly addresses the concerns raised in the *Golden Door Properties, LLC v. County of San Diego/Sierra Club, LLC v. County of San Diego* (2018) case regarding formal adoption of new CEQA thresholds and how lead agencies should afford the opportunity for public review and input prior to adoption and use.

This page intentionally left blank.

Appendix G

United States Green Building Council Building Area per Employee by Business Type Rates

United States Green Building Council Building Area per Employee by Business Type Rates[67]

BUILDING AREA PER EMPLOYEE BY BUSINESS TYPE

	ITE		USDOE	SANDAG
Land-Use	Land-Use Code	Sq.Ft./ Employee	Sq.Ft./ Employee	Sq.Ft./ Employee
Commercial Airport	21	224		
General Aviation Airport	22	392		
Truck Terminal	30	427		
General Light Industrial	110	463		
Heavy Industrial	120	549		
Industrial Park	130	500		
Manufacturing	140	535		
Warehousing	150	781	2114	
Elementary School	520	1250	1131	
High School	530	1587		
Hospital	610	372	486	
General Office - Suburbs	710	304		
Corporate HQ - Suburbs	714	260		
Single Tenant Office	715	295		
Medical-Dental Building	720	207		
U.S. Post Office	732	230		
Office Park	750	278		
Research & Development Center	760	405		
Business Park	770	332		249
Building Material - Lumber Store	812	806		
Specialty Retail Store	814	549		
Discount Store	815	654		
Hardware Store	816	1042		
Nursery-Garden Center	817	529		
Quality Restaurant (Sit Down)	831	134		
High Turnover (Sit Down)	832	100		
Fast Food w/o drive-thru	833	70		
Fast Food w/ drive-thru	834	92		
Grocery			938	
Lodging			1124	917
Bank				317
Office under 100,000 sq.ft.				228
Office over 100,000 sq.ft.				221
Neighborhood Retail				588
Community Retail				383

Sources:
ITE -- Institute of Transportation Engineers
USDOE -- U.S. Department of Energy
SANDAG -- San Diego Assn of Governments

5/13/2008

[67] United States Green Building Council. 2008. "Building Area per Employee by Business Type." May 13, 2008.

This page was intentionally left blank.