



County of San Diego

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2016 CLIMATE CHANGE ANALYSIS GUIDANCE

RECOMMENDED CONTENT AND FORMAT FOR CLIMATE CHANGE ANALYSIS REPORTS IN SUPPORT OF CEQA DOCUMENTS

County of San Diego
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Background

The California Environmental Quality Act (CEQA) requires public agencies to review the environmental impacts of proposed projects and consider feasible alternatives and mitigation measures to reduce significant adverse environmental effects. As part of this analysis, agencies must consider potential adverse effects from a proposed project's greenhouse gas (GHG) emissions. The California Natural Resources Agency adopted amendments to the CEQA Guidelines to address GHG emissions, consistent with Legislature's directive in Public Resources Code section 21083.05 (enacted as part of Senate Bill (SB) 97 [Chapter 185, Statutes 2007]). These amendments took effect in 2010.

This Climate Change Analysis guidance is being provided by the County of San Diego to assist in project-level analyses of GHGs for discretionary projects. The guidance will be modified as needed if and when more specific guidance is provided by the California Air Resources Board (ARB), the Governor's Office of Planning and Research (OPR), or in response to legislative or judicial action pertaining to this issue.

Instigated by Governor Schwarzenegger's Executive Order S-3-05, the Global Warming Solutions Act of 2006, also known as Assembly Bill 32 (AB 32), requires reduction of statewide GHG emissions to 1990 emissions levels by 2020. In 2008, ARB adopted a *Climate Change Scoping Plan* to identify the next steps in reaching AB 32 goals. ARB adopted an update to the Scoping Plan in 2014. California Governor Brown signed Executive Order B-30-15, which established a reduction target of 40 percent below 1990 levels by 2030 to reflect the need for continued pursuit of GHG reductions necessary to avoid the most environmentally damaging aspects of climate change. ARB is currently working on an update to the Scoping Plan to address this target. However, no specific emission reduction goal beyond 2020 has been formally adopted by ARB or the California State Legislature.

Project analyses prepared consistent with this guidance document will need to be reviewed and verified by the County and is subject to County staff approval. The guidance provided in this document does not supersede the County's discretionary authority. It is important to note that alternative approaches to evaluating GHG emissions may be utilized; however, any approach must be supported by fact-based rationale and substantial evidence to demonstrate compliance with applicable CEQA Guidelines.

Determination of Need for Climate Change Analysis

Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment. While the County encourages CEQA analyses to focus on the GHG efficiency of a proposed project, it also acknowledges that some projects are sufficiently small such that it is highly unlikely they would generate a level of GHGs that would be cumulatively considerable.

Thus, the County encourages the use of the project size-based screening levels published by the California Air Pollution Control Officers Association (CAPCOA), and presented here in Table 1, to determine whether Climate Change Analysis is needed to examine the GHG impacts of a proposed project.

The annual 900 metric ton carbon dioxide equivalent (MT CO₂e) screening level referenced in the CAPCOA white paper¹ is recommended by the County as a conservative screening criterion for determining which projects require further analysis and identification of project design features or potential mitigation measures with regard to GHG emissions. The CAPCOA white paper reports that the 900 metric ton screening level would capture more than 90 percent of development projects, allowing for mitigation towards achieving the State’s GHG reduction goals. Table 1 shows the sizes of projects that would generally require additional analysis and mitigation.

Table 1 Project Sizes that Would Typically Require a Climate Change Analysis *	
Project Type**	Project Size Equivalency
Single Family Residential	50 units or more
Apartments/Condominiums	70 units or more
General Commercial Office Space	35,000 square feet or more
Retail Space	11,000 square feet or more
Supermarket/Grocery Space	6,300 square feet or more
Source: The screening levels are published in California Air Pollution Control Officers Association. 2008 (January). <i>CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act</i> . Available at http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-White-Paper.pdf	
*A determination on the need for a climate change analysis for project types not included in the table will be made on a case-by-case basis considering the 900 metric ton criterion.	
**A project with a combination of types may demonstrate compliance with the screening threshold through addition of the ratios of each contribution by the associated equivalency threshold.	

If a proposed project is the same type and smaller than the project sizes listed in the table above, it is presumed that the construction and operational GHG emissions for that project would not exceed 900 MT CO₂e per year, and there would be a less-than-cumulatively considerable impact. It should be noted that the screening level assumes that the project does not involve unusually extensive construction activities and does not involve operational characteristics that would generate unusually high GHG emissions. The applicability of the screening criteria presented in Table 1 will be evaluated by County staff on a project-by-project basis to determine if there is evidence to suggest that a project’s

¹ California Air Pollution Control Officers Association. 2008 (January). *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. Available at <http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-White-Paper.pdf>.

unique attributes would lead to emissions that are higher than 900 MT CO₂e per year, thus justifying the need for a complete Climate Change Analysis.

Though CAPCOA's recommended project size-based screening criteria are based on the mass emissions level of 900 MT CO₂e per year, it does not mean that project-generated GHG levels greater than 900 MT CO₂e per year are automatically deemed cumulatively considerable. Instead, the screening levels presented in Table 1 are to be used to determine whether it is necessary to conduct further analysis to quantify a project's GHG emissions and evaluate its GHG efficiency.

Contents of Climate Change Analysis Reports

The following are the minimum recommended components of a Climate Change Analysis consistent with CEQA, prepared for discretionary projects in the County that exceed the screening level identified in Table 1 above.

Introduction and Project Description. This section explains the purpose of the report and a summary of the most current scientific information related to climate change. A brief project description and general location is required, and it must include all elements of the project that would or could generate GHG emissions, with an estimated timeframe for project implementation. This section would also identify the project design and location features that have the effect of reducing GHG emissions.

Environmental Setting. This section includes a description of the existing environmental conditions or setting, without the project, which constitutes the baseline physical conditions for determining the project's impacts. Existing uses onsite that generate GHG emissions under baseline conditions must be disclosed and associated GHG emissions should be quantified to establish the baseline conditions.

Regulatory Setting. This section includes a discussion of the existing regulatory environment pertaining to climate change such as AB 32 and the California Building Efficiency Standards. In addition, a description of implementing plans, programs and policies including but not limited to the County General Plan, the San Diego Association of Governments (SANDAG) Regional Transportation Plan and associated Sustainable Communities Strategy, Executive Orders S-3-05 and B-30-15, ARB Scoping Plan (including any adopted and ongoing updates), and Advanced Clean Cars Program should be addressed as they relate to the proposed project. The list presented here is not all inclusive and the regulatory setting should address all regulations, programs, and policies directly relevant to the project.

Emissions Inventory. The Climate Change Analysis must provide a detailed accounting of the project's estimated construction and operational GHG emissions. Construction GHG emissions include an inventory of emissions associated with the use of heavy construction equipment, construction worker vehicle miles traveled (VMT), and truck trips required to deliver construction materials to the project site. Operational GHG emissions include energy use (including electricity, natural gas and other fuels) from land use development, water distribution, and wastewater treatment processes, off-gassing from solid waste generation, transportation VMT, and area sources (such as landscaping equipment and fireplaces). Emissions associated with other sectors, such as agricultural uses or industrial operations, should be quantified depending upon the individual project's proposed uses.

The analysis must also quantify the loss in sequestered carbon, expressed in CO₂e that would result from any vegetation permanently removed as a result of project development. The total loss of sequestered carbon can be estimated using the Vegetation module in CalEEMod.

The GHG inventory must include justification and references to document the assumptions that are made about the emissions calculations. Activity data, such as trip distances, and emission factors

specific to the County must be used, where available. The County suggests the use of modeling tools such as the current version of CalEEMod. Alternatively, emissions may be estimated using emission factors from EMFAC or OFFROAD, provided the current versions are used and the sources are appropriately cited. The URBEMIS model is no longer acceptable for use by the County.

Because some GHG emissions models build in different statewide programs and mitigation measures, it is important to coordinate with County staff to ensure that the correct approach is being used to estimate the effects of statewide efforts, particularly since new statewide programs, regulations and mitigation measures are likely to be established over time and certain actions are likely to be included in updates to the various GHG emissions models.

Significance Criteria

Guidelines for Determining Significance. This section includes identification and justification of the selected significance criteria used to assess impacts. The report must discuss the reasons for choosing the significance criteria, referencing State legislation and implementing strategies that have been developed to reduce GHG emissions to meet statewide reduction targets. This section should explain that climate change is not generally considered a direct impact, but should be analyzed as a potential cumulative impact under CEQA. The significance criteria used in the Climate Change Analysis should include a statement and supporting analysis as to whether the subject project complies with GHG reduction requirements under AB 32, the Global Warming Solutions Act of 2006 for the year 2020; and whether the subject project is on the trajectory towards GHG emission reduction goals of Executive Orders S-3-05 and B-30-15 at buildout. Additional detail on the process to make the latter determination is provided below. Due to the range of project types processed by the County, significance criteria and analysis approaches may vary. The following sections identify one potential set of criteria and methodologies, along with supporting evidence that would be appropriate for a Climate Change Analysis.

This section should discuss the suggested questions referenced in the *CEQA Guidelines*, Appendix G, VII. Greenhouse Gas Emissions.

Would the project:

Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The Study should describe how the appropriate significance criteria are used to address the above-referenced questions.

Significance Determination

The County Efficiency Metric is the recognized and recommended method by which a project may make impact significance determinations. The County is recommending a quantitative GHG analysis be conducted and the significance of the impact determined for project emissions at 2020 and buildout year (if post-2020). For a Climate Change Analysis to be considered adequate, the County recommends quantification of GHG emissions at 2020 and project buildout. The determination of a project's efficiency may be determined by using applicable efficiency metrics derived for those specific years, e.g. 2020 and project buildout (if post-2020). Other methods to determine the significance of

impacts relative to project emissions at 2020 and buildout will be considered on a case-by-case basis. All analysis (significance determination) results must be supported with substantial evidence.

Horizon Year 2020. For projects that exceed the screening criterion of 900 MT CO₂e, as determined through the screening levels in Table 1 or emissions quantification, and that would be operational (buildout) on or before 2020, the Climate Change Analysis must analyze and determine the significance of project emissions in 2020. The County recognizes the quantitative efficiency metric for 2020 to be 4.9 MT CO₂e/SP/year (where SP refers to the project's service population [residents + employees]).

Buildout Year. The County anticipates that some projects would have buildout dates beyond 2020. The County recommends quantification of project emissions for the year the project is anticipated to be fully constructed (buildout), in addition to 2020, and make a significance determination relative to the emissions reduction downward direction.

ARB has indicated in their 2030 Target Scoping Plan, October 1, 2015, that State GHG emissions would need to be reduced at an annual average rate of 5.2 percent between 2020 and 2050, representing an emission reduction downward direction ⁽²⁾ necessary to meet the goals advocated in Executive Orders S-3-05 and B-30-15.

Efficiency Metric Background

The Efficiency Metric assesses the GHG efficiency of a project on a "service population (SP)" basis (Efficiency Metric = project emissions divided by the sum of the number of jobs and the number of residents provided by a project). The metric represents the rate of emissions needed to achieve a fair share of the State's emissions mandate embodied in AB 32 and Executive Orders B-30-15 and S-3-05. The use of "fair share" in this instance indicates the GHG efficiency level that, if applied statewide, would meet the AB 32 emissions target and support efforts to reduce emissions beyond 2020.

The Efficiency Metric is based on the AB 32 GHG reduction target and GHG emissions inventory prepared for ARB's 2008 Scoping Plan. To develop the efficiency metric for 2020, land-use driven sectors in ARB's 1990 GHG inventory were identified and separated to tailor the inventory to land use projects. This process removes emission sources not applicable to land use projects. The land-use driven sector inventory for 1990 was divided by the service population projections for California in 2020. The Efficiency Metric allows the threshold to be applied evenly to most project types (residential, commercial/retail and mixed use) and employs an emissions inventory comprised only of emission sources from land-use related sectors. The Efficiency Metric allows lead agencies to assess whether any given project or plan would accommodate population and employment growth in a way that is consistent with the emissions limit established under AB 32.

If a project includes a use that would not be covered by the adjusted land use-driven inventory, a tailored efficiency metric may be derived. For example, a project that proposes agricultural uses onsite may not use the efficiency metrics shown above because the inventory used to develop the metric did not include agricultural emissions. Coordination with County staff is recommended to develop the appropriate efficiency metric for such projects.

² 2030 Target Scoping Plan Workshop Slides. Page 10 – Path to 2050 Greenhouse Gas Target. Available: http://www.arb.ca.gov/cc/scopingplan/meetings/10_1_15slides/2015slides.pdf. It should be noted that ARB did not establish interim year reduction targets using the 5.2 percent annual reduction rate; rather it was used to illustrate the average annual emissions reduction needed to achieve the long-term targets for 2030 and 2050. The 2030 Target Scoping Plan has not been adopted as of this writing and this information is considered preliminary (from the first public workshop for the 2030 Target Scoping Plan) and used only to establish interim year efficiency metrics for CEQA analyses.

2020 Efficiency Metric

The GHG efficiency metric is 4.9 MT CO₂e/SP/year for 2020.

<u>California Service Population in 2020</u>	
2020 Population Projection* =	40,619,346
2020 Employment Projection** =	<u>18,511,200</u>
2020 Service Population =	59,130,546 SP

<u>ARB's 1990 California GHG Inventory</u>	
1990 Total Emissions =	431 MMT CO ₂ e
1990 Non-land Use Emissions =	<u>144.3 MMT CO₂e</u>
1990 Land Use Emissions =	286.7 MMT CO ₂ e

1990 Land Use Emissions/2020 SP, or 286.7 MMT/59,130,546 SP = 4.9 MT/SP
where MMT = million metric tons

Sources:

*California Department of Finance, Demographic Research Unit
Report P-2, State and County Population Projections by Race/Ethnicity and Age (5-year groups)
2010 through 2060 (as of July 1); December 15, 2014

**California Department of Finance, Employment Development Department
Industry Employment Projections, Labor Market Information Division, 2010-2020; May 23, 2012

Post-2020 Efficiency Metric

ARB has indicated that an average statewide GHG reduction of 5.2 percent per year between 2020 and 2050 is necessary to achieve the 2030 and 2050 emissions reduction goals of Executive Orders B-30-15 and S-3-05 (ARB 2015). Efficiency metrics can be derived for each year between 2020 and 2050 based on this identified reduction downward direction, or based on other sources if supported by substantial evidence. As previously noted, the intent of the 5.2 percent annual reduction data is not to establish interim year reduction targets for the State; rather it is meant to allow projects to develop and apply interim year Efficiency Metrics at their buildout year and demonstrate consistency with the overall State reduction downward direction.

In *Center for Biological Diversity v. California Department of Fish and Wildlife and Newhall Land and Farming* (2015) 224 Cal.App.4th 1105 (*CBD vs. CDFW*), the California Supreme Court, citing the above-referenced Executive Orders, cautioned that those Environmental Impact Reports taking a goal-consistency approach to CEQA significance may “in the near future” need to consider the project’s effects on meeting emission reduction targets beyond 2020. ARB is currently working on a second update to the Scoping Plan to reflect the 2030 target established in Executive Order B-30-15. Even though State policy for post-2020 GHG reduction is expressed in executive orders and programs, rather than legislation, CEQA impact evaluation in the context of longer term goals is advised. Additionally, certain regulations that are relevant to land use development will continue to be phased in after 2020 (e.g., Advanced Clean Cars, Renewables Portfolio Standard [RPS], SB 375) and result in additional GHG reductions. Thus, projects that are built out after 2020 should analyze consistency with the State’s longer-term GHG reduction goals to provide a good-faith CEQA analysis.

For these reasons, the County requests a significance determination for a project’s anticipated buildout year. Analysis of project emissions at buildout is consistent with current CEQA practice and available guidance from air districts on analyzing emissions from the first fully operational year (SMAQMD 2015:6-5, BAAQMD 2011:4-6). Operational emissions for a land use development project would be

highest during the first year and continue to decline due to fleet turnover to cleaner vehicles and implementation of additional regulations at the State level.

Service Population

Recommended sources of information to determine a proposed project's service population are provided below. Other sources for this data will be considered on a case-by-case basis and should be from credible sources. Applicants are advised that use of different data sources from those listed below, should be approved by County staff prior to their use for an impact determination. Alternative sources of data such as State (Department of Finance), regional (SANDAG) or local government agencies (City of San Diego), industry groups or professional associations (Institute of Traffic Engineers), with clearly disclosed assumptions and limitations will be considered; provided the analysis clearly substantiates the representativeness of the data in terms of county-wide averages, planning area averages, census tracts, and others as applicable.

Alternative data sources should have San Diego region applicability and be supported with substantial evidence, including a discussion with fact based rationale explaining why the data source and its geographic representation are the most appropriate for the proposed project.

Service Population Data Sources

SANDAG Demographics and Other Data:

<http://www.sandag.org/index.asp?classid=26&fuseaction=home.classhome>

SANDAG Data Surfer for existing and forecasted socio-economic data:

<http://datasurfer.sandag.org/>

Mitigation Measures

Projects may be able to mitigate GHG emissions sufficiently to render impacts less than cumulatively significant. Such mitigation measures would be in addition to all project design features and may include measures that are not required by existing regulations (e.g., rooftop solar).

Mitigation measures must include specific, enforceable actions to reduce project emissions, and would need to provide some analysis about the emission reductions that would be achieved from each measure. To the extent feasible, each mitigation measure should include references or a logical, fact based explanation as to why a specific mitigation measure would achieve the stated reductions. While it will generally be possible to quantify reductions associated with energy and water related mitigation measures, other mitigation may require a qualitative discussion of reductions achieved.

Mitigation measures must be supported with substantial evidence. For example, a potential approach that can be considered is the inclusion of mitigation that requires certain GHG efficiency measures upon buildout of each development phase for projects that would develop over multiple phases across an extended period of time.

Many local, regional, and state agencies have produced lists of feasible mitigation measures and strategies that can be used to reduce GHG emissions. These lists can be consulted when developing feasible mitigation measures for projects within the County, including, but not limited to:

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Governor’s Office of Planning and Research. 2008. Technical Advisory. CEQA AND CLIMATE CHANGE: Addressing Climate Change through California Environmental Quality Act (CEQA) Review. See Attachment 3, “Examples of GHG Reduction Measures.” Available: <http://opr.ca.gov/docs/june08-ceqa.pdf>.

California Air Pollution Control Officers Association (CAPCOA). 2008 (January). CEQA & Climate Change. Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. See page 79, “Mitigation Strategies for GHG.” Available: <http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-White-Paper.pdf>.

California Air Pollution Control Officers Association (CAPCOA). 2010 (August). Quantifying Greenhouse Gas Mitigation Measures. A Resource for Local Government to Assess Emission Reduction from Greenhouse Gas Mitigation Measures. Available: <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>.

Attorney General of the State of California. 2008 (December). The California Environmental Quality Act. Addressing Global Warming Impacts at the Local Agency Level. Available: http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf.

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