

6 GREENHOUSE GAS EMISSIONS

6.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that lead agencies consider the environmental effects of projects they are considering for approval. Greenhouse gas (GHG) emissions adversely affect the environment by contributing, on a cumulative basis, to global climate change. In turn, global climate change will increase sea levels, which can inundate low-lying areas; affect rain and snow fall, leading to changes in water supply; exacerbate the intensity of storms and other extreme weather, endangering human life and infrastructure; and increasing temperatures, leading to adverse effects on public health, agriculture, habitats, and biological and other resources. Thus, GHG emissions require consideration in CEQA documents.

Climate change is a global problem. GHGs are global pollutants, unlike criteria pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere for time periods long enough to cause them to be dispersed around the globe, and they cause global effects. The atmospheric concentration of GHGs determines the intensity of global warming, with current levels already leading to dangerous increases in global temperatures, accompanied by sea level rise, severe weather, and other environmental impacts. The continued increase in atmospheric GHG concentrations will only worsen the severity and intensity of climate change, locking in perhaps irrevocable environmental changes. Therefore, from the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

Prominent GHGs of primary concern from land use development projects include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Other GHGs such as hydrofluorocarbons (HFC), chlorofluorocarbons, and sulfur hexafluoride are of less concern because construction and operational activities associated with land use development projects are not likely to generate substantial quantities of these GHGs. HFCs are primarily used in air-conditioning and refrigeration systems and are getting increased attention with the passage of [SB 1383](#). SB 1838 requires a 40 percent reduction of HFC emissions from 2013 levels by 2030. A discussion of measures to reduce HFCs is included in the California Air Resources Board's [Short-Lived Climate Pollutant Reduction Strategy](#) (March 2017). Other pollutants being addressed by the *Short-Lived Climate Pollutant Reduction Strategy* include methane and black carbon, which can be reduced by diverting organic material from landfills, reducing residential wood burning, and reducing diesel fuel combustion.

Land use development projects typically include the following sources of GHG emissions:

- Construction activities that result in exhaust emissions of GHGs from fuel combustion for mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, material delivery trucks, and worker commuter trips;
- Motor vehicle trips generated by the particular land use (i.e. vehicles arriving and leaving the project site), including those by residents, shoppers, workers, and vendors;
- Onsite fuel combustion for space and water heating, landscape maintenance equipment, and fireplaces/stoves; and
- Offsite emissions at utility providers associated with the project's demand for electricity, water conveyance, and wastewater processing.

Generally, the District agrees that GHG emissions are best analyzed and mitigated at the program level; however, since not all jurisdictions in Sacramento County have conducted program level GHG analyses, such as a GHG reduction plan or climate action plan, the District offers the guidance contained in this chapter for addressing the GHG emissions associated with individual development projects. Please refer to [Chapter 9, Program Level Analysis of Plans](#), for recommendations for assessing and mitigating GHG emissions-related impacts at the program level.

The guidance presented in this chapter takes into consideration the following bodies of work produced by other agencies and organizations in the state:

- California Air Pollution Control Officers Association's (CAPCOA) white paper titled [CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act](#) (January 2008);
- California Air Resources Board's (ARB) [Climate Change Scoping Plan](#) (December 2008, re-approved August 24, 2011);
- ARB's [First Update to the Climate Change Scoping Plan](#) (May 2014);
- ARB's [California's 2017 Climate Change Scoping Plan, The strategy for achieving California's 2030 greenhouse gas target](#) (November 2017);
- Governor's Office of Planning and Research's (OPR) technical advisory, [CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review](#) (June 2008);
- The California Natural Resources Agency's [CEQA Guidelines](#);
- California Air Pollution Control Officers Association's (CAPCOA) white paper titled [Model Policies for Greenhouse Gases in General Plans](#) (June 2009); and

- California Air Pollution Control Officers Association's (CAPCOA) [Quantifying Greenhouse Gas Mitigation Measures](#) (August 2010).

In November 2008, Governor Arnold Schwarzenegger issued [Executive Order S-13-08](#) to enhance the state's management of climate impacts from sea level rise, increased temperatures, shifting precipitation, and extreme weather events. The Executive Order directs the state agencies to request that the National Academy of Sciences convene an independent panel to complete the first California Sea Level Rise Assessment Report. The agencies involved in the project include the California Resources Agency; the Department of Water Resources; the California Coastal Commission; the California Ocean Protection Council; California State Parks; and the California Energy Commission (CEC). The Executive Order directed OPR to provide state land-use planning guidance related to sea level rise and other climate change impacts. In addition, SB 379, approved in 2015, asked that local governments address their vulnerabilities to climate impacts and adaptation strategies in their general plans or their local hazard mitigation plans. **Therefore, the District recommends that lead agencies address the impacts of climate change on a proposed project and its ability to adapt to these changes in CEQA documents.** It is anticipated that guidance on addressing this issue will be provided by the state agencies identified above and not the District. OPR's [website](#) contains resources and links related to adaptation. Additional resources include [Cal-Adapt](#), the [Safeguarding California and Climate Change Adaptation Policy](#), and [California's Fourth Climate Change Assessment](#). The Sacramento Area Council of Governments (SACOG) 2016 update to the [2035 Metropolitan Transportation Plan and Sustainable Communities Strategy](#) (MTP/SCS) included a climate adaptation action plan providing an overview of climate vulnerabilities for the region and establishing strategies to help the region's transportation system adapt to climate change impacts. The [2020 MTP/SCS](#) continues to provide resiliency policies.

The District acknowledges that the warming trends associated with climate change in the Sacramento region are expected to result in more episodes of unhealthy levels of ground-level ozone which will adversely affect residents and workers of proposed projects, among other impacts. Nevertheless, the primary focus of this chapter is to provide guidance about evaluating whether the GHG emissions associated with a proposed project will be responsible for making a cumulatively considerable contribution to global climate change.

REGULATORY SETTING

In September 2006, Governor Arnold Schwarzenegger signed [Assembly Bill \(AB\) 32](#), the California Global Warming Solutions Act of 2006. AB 32 established regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 required that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 also included guidance to institute emission reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the

reductions. AB 32 demonstrated California's commitment to reducing GHG emissions without intent to limit population or economic growth. On April 29, 2015, Governor Edmund Brown Jr. issued [Executive Order B-30-15](#). Executive Order B-30-15 required greenhouse gas emissions in California be reduced by 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. On September 8, 2016, Governor Brown signed Senate Bill 32 (SB 32) into law which codified the mandate to reduce GHG emissions by 40 percent below 1990 levels by 2030.

CEQA requires lead agencies to identify the potentially significant effects on the environment of projects they intend to carry out or approve, and to mitigate significant effects whenever it is feasible to do so. Although AB 32 did not amend CEQA, it identifies the myriad environmental problems in California caused by global warming ([Health and Safety Code, Section 38501\(a\)](#)).

[Senate Bill \(SB\) 97](#), enacted in 2007, amended the CEQA statute to establish that GHG emissions and their effects are a prominent environmental issue that require analysis and identification of feasible mitigation under CEQA. GHG emissions were incorporated into the CEQA Guidelines on March 18, 2010.

In June of 2008, OPR published a technical advisory entitled [CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review](#). OPR recommends that the lead agencies under CEQA make a good-faith effort, based on available information, to estimate the quantity of GHG emissions that will be generated by a proposed project, including the emissions associated with vehicular traffic, energy consumption, water usage, and construction activities, to determine whether the emissions have the potential to result in a cumulative impact and to mitigate the impacts where feasible. In that document, OPR acknowledged that "perhaps the most difficult part of the climate change analysis will be the determination of significance," and noted that "OPR has asked the California Air Resources Board (ARB) technical staff to recommend a method for setting thresholds which will encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the state." To date, ARB has not adopted thresholds.

In December 2008, ARB adopted its [Climate Change Scoping Plan](#) (*Scoping Plan*), which is the State's plan to achieve GHG reductions in California required by AB 32. The *Scoping Plan* includes ARB-recommended GHG reductions for each emission sector of the state's GHG inventory. The largest proposed GHG reductions recommended are from improving emission standards for light-duty vehicles, implementation of the Low-Carbon Fuel Standard, employing energy efficiency measures in buildings and appliances, the widespread development of combined heat and power systems, and applying a renewable portfolio standard for electricity production. ARB has not determined what statewide reduction in GHG emissions shall be achieved from changes in local government (municipal) operations; however, the *Scoping Plan* does state that land use planning and urban growth decisions will play an important role in the state's GHG reductions because

local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions. ARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. The *Scoping Plan* was re-approved by the ARB on August 24, 2011, after ARB updated its Functional Equivalent Document. ARB adopted the [First Update to the Climate Change Scoping Plan](#) on May 22, 2014. The update reports on the progress made towards meeting the 2020 GHG reduction goals; lays groundwork for longer term reduction goals; and discusses opportunities to leverage funds to drive additional GHG reductions. In December 2017, ARB adopted [California's 2017 Climate Change Scoping Plan, the strategy for achieving California's 2030 greenhouse gas target](#), setting the path towards the ultimate reduction goal of 2050.

A comprehensive discussion of regulatory actions taken by federal and state agencies related to GHG is included in the District's [Greenhouse Gas Thresholds in Sacramento County](#) document supporting updated thresholds of significance, released March 4, 2020.

Regional GHG reduction targets are aligned with regional transportation planning efforts and land use and housing allocations through SB 375, signed into law in September 2008. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS), which will prescribe land use allocations in that MPO's Regional Transportation Plan (RTP). On April 19, 2012, SACOG adopted its 2035 Metropolitan Transportation Plan and associated SCS (MTP/SCS), the first plan to meet the requirements of SB 375. Updated MTP/SCSs were adopted by SACOG on February 18, 2016 and November 18, 2019.

With the passage of Senate Bill 743 in 2013, the Governor's Office of Planning and Research (OPR) amended the State CEQA Guidelines providing alternative criteria to level of service (LOS) for evaluating transportation impacts. The goal of the new criteria is to promote the reduction of GHG, the development of multimodal transportation networks, and a diversity of land uses. OPR provides [documents](#) to evaluate vehicle miles traveled (VMT) as the alternative to LOS. Local jurisdictions must implement SB 743 by July 1, 2020 or do additional transportation analysis on a project by project basis.

The 2017 Climate Change Scoping Plan notes that SB 375 efforts, if fully implemented, do not provide enough light-duty transportation sector reductions for the state to meet the 2050 GHG targets. As such, land use and transportation projects consistent with the MTP/SCS may still need additional GHG reductions to be consistent with state climate change goals. In January 2019, ARB released the [California Air Resources Board 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals](#), which provides additional information on

what level of statewide VMT reduction would promote achievement of statewide GHG emissions reduction targets.

6.2 ANALYSIS EXPECTATIONS

The District recommends that CEQA analyses addressing the potential impacts of project-generated GHG emissions include the following:

- A summary of the current state of the science with respect to GHGs and climate change. [U.S. Global Change Research Program](#), [NASA](#), [California Climate Change Assessments](#), and [OEHHA's Indicators of Climate Change in California](#) provide good resources;
- A description of the existing environmental conditions or setting, without the project, which constitutes the baseline physical conditions for determining the project's impact;
- A discussion of the existing regulatory environment pertaining to GHGs;
- Identification of the thresholds of significance applicable to the proposed project. The District provides [recommended thresholds](#), including required Best Management Practices for operational emissions, for agencies without adopted GHG reduction plans (climate action plans) or their own adopted thresholds and for projects that are inconsistent with an agency's adopted GHG reduction plan;
- A discussion of the GHG emission sources associated with the project's construction and operational activities;
- Discussion of whether the project's size qualifies it to be analyzed using the District's construction screening level for GHG emissions, discussed in Section 6.3.1;
- If the analysis cannot be completed using the District's construction screening level, a quantification of the annual mass emissions of GHGs that will be generated by project construction, and the input parameters and assumptions used to estimate these values;
- Identification of the earliest year in which operational emissions of GHGs are anticipated to commence;
- Discussion of whether the project's scope and size qualify it to be analyzed using the District's [Operational Screening Levels table](#) (which lists sizes of land uses not expected to exceed 1,100 metric tons of CO₂e per year), including implementation of required tier 1 Best Management Practices;
- If the analysis cannot be completed using the District's operational screening levels table, including implementation of required tier 1 Best

Management Practices, a quantification of the annual mass emissions of GHGs that will be generated by project operations, and the input parameters and assumptions used to estimate these values, including implementation of required tier 2 Best Management Practices;

- A discussion of whether project construction- and operations-related GHG emissions will exceed the established significance thresholds and the resulting determination of whether the construction and operational GHG emissions, without mitigation, will represent a cumulatively considerable contribution to the significant cumulative impact;
- A discussion of feasible construction mitigation necessary to reduce impacts and make a determination whether the mitigation will be sufficient to reduce the project's construction GHG contribution to the significant cumulative impact to a less than considerable level;
- A discussion of operational mitigation, including implementation of required tier 1 and tier 2 operational Best Management Practices (or equivalent on-site or off-site mitigation) necessary to reduce impacts and make a determination whether the mitigation will be sufficient to reduce the project's operational GHG contribution to the significant cumulative impact to a less than considerable level; and
- With state-wide GHG reduction targets established in 2030 and 2050, and carbon free electricity targeted in 2045, analysts are advised to include a discussion of how the project will be consistent with these targets.

6.3 METHODOLOGIES

The evaluation of GHG emissions considers the following questions regarding Greenhouse Gas Emissions from the Environmental Checklist Form, [Appendix G of the State CEQA Guidelines](#):

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

The State CEQA Guidelines [Section 15064.4](#) states that a lead agency must make a good faith effort, based on available information, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. The guidelines give the lead agency the discretion to select the most appropriate tools based on substantial evidence. The District's recommendations on appropriate methodology and tools for analyzing GHG emissions are provided in the following sections. Additionally, the District created an [applicability flow chart](#) to assist lead agencies

and project proponents with properly evaluating operational GHG emissions, thresholds, and best management practices.

6.3.1 ASSESSING MASS EMISSIONS

LAND USE DEVELOPMENT PROJECTS

Screening

The District assumes that projects described in CEQA's categorical and statutory exemption provisions ([Articles 18 and 19 of the California Code of Regulations, Title 14](#)) will not interfere with achieving emission reductions from new projects subject to CEQA. The District also assumes that GHG emissions from residential and commercial projects that are described in the categorical exemption language appear to be relatively small from a GHG perspective and may be considered less-than-cumulatively considerable.

For projects within the District's jurisdiction not described in CEQA's categorical and statutory exemption provisions, the District has developed screening levels to help lead agencies analyze operational and construction GHG emissions. The [GHG Operational Screening Levels table](#) shows the size of development (by land use type) at which 1,100 metric tons of GHG per year would not be exceeded. If a project is less than or equal to 1,100 metric tons of GHG per year and implements the District's tier 1 operational GHG Best Management Practices (noted in Section 6.4.1), the District's operational GHG threshold of significance would not be exceeded. In addition, the District has determined that projects below the GHG Operational Screening Levels would not exceed the District's construction GHG threshold of significance if the project meets the parameters in Chapter 3, Section 3.3.1 for the construction NO_x screening level.

Therefore, operational and construction emissions from projects that are smaller than the land use sizes in the Operational Screening Levels table, implement the District's tier 1 operational GHG Best Management Practices, and also meet the parameters outlined in Chapter 3, Section 3.3.1 regarding construction may be considered less-than-cumulatively considerable.

[CEQA Guidelines Section 15183.5](#) includes the provision for tiering and streamlining the analysis of GHG emissions in CEQA documents. Under this provision, lead agencies may analyze and mitigate the 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 such as a Climate Action Plan developed by a local jurisdiction, or a sustainable communities strategy developed by the metropolitan planning organization. Later project-specific CEQA documents may tier and/or incorporate by reference that existing programmatic review if the proposed project is consistent with the applicable regional or local plan that adequately addresses GHG emissions, and that plan has been evaluated pursuant

to CEQA and has a certified or approved environmental document. More guidance on program-level GHG emissions analysis is included in [Chapter 9](#).

Pursuant to CEQA Guidelines 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. CEQA Guidelines Section [15183.5\(b\)\(2\)](#) provides additional detail regarding use of an adopted GHG emissions reduction plan with later projects.

Quantification of GHG Emissions

CEQA is a public disclosure law that requires lead agencies to make a good-faith, reasoned effort, based upon available information, to identify the potentially significant direct and indirect environmental impacts - including cumulative impacts - of a proposed project. The District recommends the lead agency quantify the GHG emissions anticipated to be generated by a proposed project that does not meet the requirements of a categorical or statutory exemption, that cannot show consistency with the jurisdiction's adopted climate action plan or GHG reduction plan (if applicable), or that exceeds the screening levels in the [GHG Operational Screening Levels table](#) (projects below the screening levels must also implement required tier 1 Best Management Practices to avoid quantification). Direct and indirect emissions of GHGs from the project, which include construction emissions, area- and mobile-source emissions, and indirect emissions from in-state energy production and water consumption (energy for conveyance, treatment, distribution, and wastewater treatment), must be quantified and disclosed in the CEQA document. Operational calculations must also include vehicle miles traveled per resident and per worker. The annual and total amount of a project's construction related GHG emissions and the operational GHG emissions generated per year over the lifetime of the project should be disclosed separately. The most recent version of the [California Emissions Estimator Model \(CalEEMod\)](#) is the recommended analysis tool to quantify project GHG emissions. Lead agencies should discuss the use of other analysis tools with the District prior to use.

Construction Emissions

District-recommended methodologies for quantifying construction GHG emissions include using [CalEEMod](#) for proposed land use development projects and the [Roadway Construction Emissions Model](#) for proposed projects that are linear in nature.

Please note that sources of construction-related GHG emissions only include exhaust, for which the lead agency can follow the same detailed guidance as described in [Chapter 3, Construction-Generated Criteria Air Pollutant and Precursor Emissions](#) for criteria air pollutants and precursors. CalEEMod output for construction related GHG emissions must be disclosed in the CEQA document and treated as a net increase in emissions.

For linear construction projects such as construction of a new roadway, road widening, roadway overpass, levee, or pipeline, the District recommends the use of the most current version of the Roadway Construction Emissions Model. This model is a spreadsheet-based tool that uses basic project information (e.g., total construction months, project type, total project area) to estimate a construction schedule and quantify GHG emissions from heavy-duty construction equipment, haul trucks, and worker commute trips associated with linear construction projects. Lead agencies should refer to Chapter 3 for guidance on using the Roadway Construction Emissions Model.

Operational Emissions

Operational GHG emissions from a project should be calculated and reported for the first full year of operation in annual metric tons of carbon dioxide equivalents (CO₂e). Vehicle miles traveled per resident and per worker should also be calculated for comparison to tier 2 Best Management Practices, if applicable. Direct and indirect emissions from the project must be estimated using the most current version of [CalEEMod](#) in accordance with the CalEEMod User's Guide and the District's [User Tips](#). Section 5 of the District's [Greenhouse Gas Thresholds for Sacramento County](#) describes methods to modify CalEEMod inputs for operational emissions calculations (electricity, natural gas, and trip generation rate adjustments). The District encourages the use of project-specific information whenever possible.

If project emissions exceed the District's GHG operational screening levels table, the project would then apply the District's tier 1 and tier 2 Best Management Practices to reduce GHG emissions from the project. The Best Management Practices are fully described in Section 6.4, Mitigation.

STATIONARY-SOURCE FACILITIES

An emissions unit consists of a single emission source with an identified emission point, such as a stack, at a facility. Facilities can have multiple emission units located on-site and sometimes the facility as a whole is referred to as a "stationary source." Stationary sources are typically associated with industrial processes. Examples include boilers, heaters, flares, cement plants, and other types of combustion equipment.

AB 32 required ARB to adopt regulations that require the monitoring and annual reporting of GHG emissions from the sources that "contribute the most to statewide emissions", and account for the GHG emissions from all electricity consumed in California, including transmission and distribution line losses from electricity generated within the state or "imported from outside the state." Pursuant to AB 32, ARB adopted the [Greenhouse Gas Mandatory Reporting Regulation](#) in December 2007. The regulations require certain stationary sources, including, but not limited to, cement plants, petroleum refineries, and operators, retail providers and marketers involved in electric generation within California or the import or export of electricity across California borders, to comply with

monitoring and reporting guidelines associated with their GHG emissions. The rule also applies to operators of other facilities in California that emit greater than or equal to 25,000 metric tons CO₂/year from stationary combustion sources.

GHG Emissions Reporting Tool

The [California Electronic Greenhouse Gas Reporting Tool](#), or Cal e-GGRT, is a web-based annual reporting tool managed by ARB. The tool facilitates tracking and reporting of annual data required under the ARB Mandatory Reporting Regulation. It provides for the assignment of reporting personnel, set-up of source inventory information, and annual reporting of emissions and other data in a manner that directly addresses the requirements of the regulation. Additional elements of the same tool provide for tracking and certification of emission reports and data verification by third-party verifiers. Reporters subject to California's [Greenhouse Gas Mandatory Reporting Regulation](#) must submit their data to ARB using Cal e-GGRT. The Reporting Tool can be used to disclose a stationary source's GHG emissions in a CEQA document.

Manual Estimation

Stationary source GHG emissions may be estimated manually. District staff should be consulted to ensure the emission factors and calculation methods are appropriate for CEQA and permitting purposes.

6.3.2 DETERMINING LEVEL OF SIGNIFICANCE

LAND USE DEVELOPMENT PROJECTS

AB 32 demonstrated California's commitment to reducing GHG emissions and the state's associated contribution to climate change, without intent to limit population or economic growth within the state. To meet AB 32 goals, California must reduce GHG emissions to 1990 levels by 2020. To meet the goals of [Executive Order B-30-15](#), California must reduce GHG emissions 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. On September 8, 2016, Governor Brown signed Senate Bill 32 (SB 32) into law which codified the mandate to reduce emissions by 40 percent below 1990 levels by 2030. The District recognizes that although there is no known level of emissions that determines if a single project will substantially impact the environment, a threshold must be set to trigger review and to assess the need for mitigation.

Lead agencies shall compare the project's estimated GHG emissions to the [District's recommended thresholds of significance](#):

- Construction phase of all project types - 1,100 metric tons of CO₂e per year.
- Stationary source operational emissions - 10,000 metric tons of CO₂e per year.

- Land development project operational emissions are reviewed in the context of consistency with ARB's 2017 Climate Change Scoping Plan (which pertains to the second GHG-related question from appendix G).

If a project's emissions exceed the thresholds of significance for construction or stationary source emissions, then the project emissions may have a cumulatively considerable contribution to a significant cumulative environmental impact, answering Appendix G's first GHG-related question on whether the project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

For projects that exceed the District's thresholds of significance, lead agencies shall implement all feasible mitigation to reduce GHG emissions, discussed in Section 6.4, Mitigation.

The second GHG-related question in Appendix G asks if the project will conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. In order to answer this question, project emissions should be evaluated with respect to consistency with the following plans and policies, if applicable, that have been adopted to reduce GHG emissions:

- A jurisdiction's qualified climate action plan or GHG reduction plan.
- The Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS).
- ARB's 2017 Climate Change Scoping Plan (including State climate goals beyond 2030).

In April 2020, the District adopted an update to the land development project operational GHG threshold, which requires a project to demonstrate consistency with ARB's 2017 Climate Change Scoping Plan. The District's technical support document, [Greenhouse Gas Thresholds for Sacramento County](#), identified operational measures that should be applied to a project to demonstrate consistency. The measures target GHG emissions inventory areas where State measures did not fully achieve reductions, allowing for local supportive measures. These measures, known as tier 1 and tier 2 Best Management Practices are discussed in Section 6.4, Mitigation. The District's [applicability flow chart](#) is a good reference to ensure the required best management practices are included in the project.

Construction Emissions

Lead agencies shall estimate and report a land use development or stationary source project's construction GHG emissions for each year of construction. Lead agencies shall compare the project's annual construction GHG emissions to the District's 1,100 metric ton per year threshold of significance. If the threshold is exceeded, then the project may have a cumulatively considerable contribution to

a significant cumulative environmental impact, and all feasible mitigation is required.

Operational Emissions

Lead agencies shall estimate and report a project's annual operational GHG emissions in the first year of full operation (or if various phases, for each phase of operation) for projects that cannot screen out by comparing to the District's operational screening levels table (equivalent to 1,100 metric tons of CO₂e per year), including implementation of tier 1 Best Management Practices. If the project emissions exceed the screening level, or the project fails to implement tier 1 Best Management Practices, the project may have a cumulatively considerable contribution to a significant cumulative environmental impact, and all feasible mitigation is required. Projects exceeding the screening level, must implement tier 1 and tier 2 Best Management Practices, or provide equivalent on-site or off-site mitigation measures.

For purposes of evaluating a project's consistency with the 2045 statewide carbon neutrality goal, a project would need to eliminate natural gas completely (BMP 1) or require all pre-wiring necessary so that the buildings are ready for a future retrofit to all-electric. Additionally, for a project located in an area with relatively high vehicle miles traveled per capita (resident and worker) the project would need to provide sufficient electrical capacity that 100% of project vehicles have the potential to be zero emission vehicles. Qualitatively, the project would be required to show that it is not otherwise impeding the 2045 statewide carbon neutrality goal.

STATIONARY SOURCE FACILITIES

Lead agencies shall compare the stationary source project's annual direct operational GHG emissions to the District's 10,000 metric ton per year threshold of significance for stationary sources. If the project's annual direct GHG emissions will exceed the District's threshold of significance, then the project may have a cumulatively considerable contribution to a significant cumulative environmental impact.

Stationary source GHG emissions shall also be evaluated in the context of the applicable regulatory environment that is in place under the mandates of AB 32, SB 32, ARB's Climate Change Scoping Plan and Executive Order B-30-15.

6.4 MITIGATION

The State CEQA Guidelines [Section 15126.4\(c\)](#) requires lead agencies to consider feasible means of mitigating the significant effects of GHG emissions, supported by substantial evidence and subject to monitoring and reporting. Mitigation measures may include, but are not limited to:

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 CEQA Guidelines [Appendix F - Energy Conservation](#);
3. Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions;
4. Measures that sequester greenhouse gases; and
5. In the case of the adoption of a plan, such as a general plan, long range development plan, or GHG reduction plan, 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.

GHG mitigation measures could also be included in a Climate Action Plan or similar plan-level document adopted by a lead agency.

The lead agency must impose all mitigation measures that are necessary to reduce GHG emissions to a less-than-cumulatively considerable level. CEQA does not require mitigation measures that are infeasible for specific legal, economic, technological, or other reasons. A lead agency is not responsible for wholly eliminating all GHG emissions from a project; the CEQA standard is to mitigate to a level that is “less than significant” or, in the case of cumulative impacts, less than cumulatively considerable.

For every GHG emission reduction measure included in a CEQA document, the District recommends that the text shall be as detailed as possible and shall clearly identify who is responsible for implementation, funding, monitoring, enforcement, and any required maintenance activities. The lead agency shall also explain why the measure will be effective in reducing emissions and why each measure is considered to be feasible. In the case that GHG emission reduction measures relate directly or indirectly to policies in the local jurisdiction's General Plan, the District encourages the explanation of these relationships also be included.

If, after the identification of all feasible mitigation measures, a project is still deemed to have a cumulatively considerable contribution to a significant cumulative environmental impact, the lead agency can approve a project, but must adopt a Statement of Overriding Consideration to explain why further mitigation measures are not feasible, and why approval of a project with significant unavoidable impacts is warranted.

6.4.1 REDUCING MASS EMISSIONS FROM LAND USE DEVELOPMENT PROJECTS

When a lead agency does not have a previously approved community-wide GHG Reduction Plan or Climate Action Plan from which it can tier subsequent CEQA analyses for land use development projects, the project GHG emissions exceed the

threshold of significance for construction emissions, and/or the project size exceeds the operational land use screening levels table, which are equivalent to 1,100 metric tons of CO₂e per year, the District recommends the project proponent include all feasible measures to reduce GHG emissions.

Construction Emissions

The District provides [Recommended Measures](#) for Reducing GHG emissions from construction activities. These measures are best management practices, and some do not produce easily quantifiable GHG emission reductions. Other options for reducing GHG emissions from construction activities include obtaining emission reduction offsets or amortizing the construction emissions along with the operational emissions prior to applying mitigation.

Lead agencies may decide to amortize the level of short-term construction emissions over the expected (long-term) operational life of a project. Operational life of a building can be estimated to be 40 years for new residential and 25 years for conventional commercial. These estimates are derived from the State of California Executive Order D-16-00 and the US Green Building Council's October 2003 report on [The Costs and Financial Benefits of Green Buildings](#). The US Green Building Council's report provides longer operational life estimates for LEED certified buildings. Other operational life estimates can be used if justification is provided.

Operational Emissions

All projects must implement tier 1 Best Management Practices to demonstrate consistency with the Climate Change Scoping Plan. After implementation of tier 1 Best Management Practices, project emissions are compared to the operational land use screening levels table (equivalent to 1,100 metric tons of CO₂e per year). If a project's operational emissions are less than or equal to 1,100 metric tons of CO₂e per year after implementation of tier 1 Best Management Practices, the project will result in a less than cumulatively considerable contribution. Tier 1 Best Management Practices (fully described in [Greenhouse Gas Thresholds for Sacramento County](#)) include:

- BMP 1 - no natural gas: projects shall be designed and constructed without natural gas infrastructure.
- BMP 2 - electric vehicle (EV) ready: projects shall meet the current CalGreen Tier 2 standards, except all EV capable spaces shall be instead EV ready.

Project's that do not implement the tier 1 Best Management Practices must conduct additional calculations to determine excess emissions and provide measures either on-site or off-site to provide equivalent mitigation. Failure to implement tier 1 Best Management Practices may also require additional

environmental review, especially if a Statement of Overriding Consideration is needed.

If project emissions exceed the land use screening levels table (equivalent to 1,100 metric tons of CO₂e per year) after implementation of tier 1 Best Management Practices, the project is required to implement tier 2 Best Management Practices (fully described in [Greenhouse Gas Thresholds for Sacramento County](#)). Tier 2 Best Management Practices consists of BMP 3 - reductions in vehicle miles traveled (VMT) that meet the following requirements (or equivalent local agency's adopted SB 743 targets):

- Residential projects must achieve a 15% reduction in VMT per resident compared to existing average VMT per capita in the county.
- Office projects must achieve a 15% reduction in VMT per worker compared to existing average VMT per capita for the county.
- Retail projects must achieve no net increase in total VMT.

If the project meets the de minimis criteria for VMT in the Office of Planning and Research's SB 743 [Technical Advisory on Evaluating Transportation Impacts in CEQA](#), document the qualifying criteria to satisfy the BMP3 requirement.

Projects that do not meet tier 2 Best Management Practices (BMP 3) are required to implement additional measures to further reduce VMT to achieve the target. The District's [Recommended Guidance for Land Use Emissions Reductions](#) (District Guidance) provides a description of the most current feasible mitigation measures to reduce a project's operational GHG emissions. The District Guidance provides detailed information on how to utilize CalEEMod to select the most appropriate mitigation measures for the project and quantify GHG mitigation measures selected. All of the measures in the District Guidance include information about the reductions that might be achieved by each measure. The measures and reductions have been substantiated through research identified by a comprehensive literature review including the California Air Pollution Control Officers Association's [Quantifying Greenhouse Gas Mitigation Measures](#) document. Lead agencies and project proponents can also research and develop additional measures, in consultation with the District, that have reductions that are both quantifiable and substantiated. Potential alternative measures include use of natural refrigerants, sequestration, installation of vehicle charging stations, solar water heaters (to reduce electricity use), or offsite mitigation, including offsets, if on-site reduction measures are not sufficient to meet reduction targets. Offsite mitigation measures are required to demonstrate with substantial evidence that the project, credit, or registry being used provides GHG offsets that are real, permanent, quantifiable, verifiable, enforceable, and additional. Alternative measures are discussed further in Section 5 of the District's [Greenhouse Gas Thresholds for Sacramento County](#).

To assist in documenting, quantifying, and monitoring the mitigation measures selected by the project proponent, the District has prescribed that the selected GHG mitigation measures be explained in the context of a project-specific GHG Reduction Plan. The GHG Reduction Plan can be a standalone document or incorporated into the environmental document. During the environmental review process, and before certification of the CEQA environmental document by the lead agency, the District independently verifies the benefits of the selected measures in the GHG Reduction Plan with a letter. The GHG Reduction Plan shall then be referenced in the CEQA document as a GHG mitigation measure, appended to the document, and referenced as a condition of approval by the lead agency.

6.4.2 REDUCING EMISSIONS FROM STATIONARY SOURCES

Mitigation measures for reducing GHG emissions from stationary-source facilities shall be developed on a case-by-case basis in consultation with the District's permitting staff. Area- and mobile-source emissions shall be mitigated in the same way as land use development projects, as discussed in Section 6.4.1. Additional offsets could be implemented, including, but not limited to, the purchase of verified emission reduction credits, to ensure that a facility's GHG emissions are reduced to a less-than-cumulatively considerable level.