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## ADDRESSING THE SIGNIFICANCE OF GREENHOUSE GAS EMISSIONS UNDER CEQA: CALIFORNIA'S SEARCH FOR REGULATORY CERTAINTY IN AN UNCERTAIN WORLD

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## ARTICLE

# ADDRESSING THE SIGNIFICANCE OF GREENHOUSE GAS EMISSIONS UNDER CEQA: CALIFORNIA'S SEARCH FOR REGULATORY CERTAINTY IN AN UNCERTAIN WORLD

ALEXANDER G. CROCKETT, ESQ.\*

*“If a man will begin with certainties, he shall end in doubts;  
but if he will be content to begin with doubts, he shall end in  
certainties.”*

*Sir Francis Bacon*

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## I. INTRODUCTION

The California Environmental Quality Act (CEQA) has long been heralded as a groundbreaking environmental law. CEQA has been called “an all-purpose environmental protection workhorse” and is credited with protecting thousands of acres of prime wildlife habitat, farmland, forests, parks, and wetlands.<sup>1</sup> But CEQA has also been criticized as impeding sound economic growth and good planning through additional costs and delay arising from uncertain or inconsistent regulatory requirements.<sup>2</sup> CEQA’s greatest challenge throughout its forty-year history has been achieving these environmental benefits while minimizing such burdens.

The magnitude of this challenge has never been greater than it is now, as California works to develop its response to global climate change. Global climate change is unquestionably a significant environmental problem, and one that can and should be addressed through CEQA. But CEQA does not provide any clear direction on how to do so. The statute addresses development projects that cause “significant” environmental impacts, but it is far from clear what constitutes a “significant” contribution to this global problem. All greenhouse gas emissions contribute incrementally, so should any new emissions be considered significant, no matter how small? Is there a level below which new emissions should not be treated as significant? And what are the legal, technical and policy considerations that go into making such a determination? CEQA gives us the concept of “significance,” but it provides virtually no specific guidance on how to address these questions in the context of global climate change. In order for CEQA to remain a beneficial environmental policy tool without becoming an unreasonable regulatory burden, lead agencies, project developers, and others need a workable solution that will help achieve substantive climate protection benefits while providing some certainty in what is, at this point, a highly uncertain regulatory landscape.

In recent years, California has been working hard to find a solution to this regulatory problem, and the State’s air-quality agencies have been at the forefront of these efforts. Based on their technical and policy expertise, regional air-quality management districts have taken a leadership role and have developed guidance on when a project’s

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<sup>1</sup> Mark A. Massara & Deborah A. Sivas, *CEQA Is Worth a Goal-Line Stand*, SACRAMENTO BEE, July 30, 2010, at 15A.

<sup>2</sup> See ELISA BARBOUR & MICHAEL TEITZ, PUBLIC POLICY INSTITUTE OF CALIFORNIA, CEQA REFORM: ISSUES & OPTIONS, PUBLIC POLICY INSTITUTE OF CALIFORNIA at iii (2005) available at [www.ppic.org/content/pubs/op/OP\\_405EBOP.pdf](http://www.ppic.org/content/pubs/op/OP_405EBOP.pdf).

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greenhouse gas emissions should be considered significant under CEQA. The results of their work have been something of a mixed bag, however. On one hand, there is emerging consensus on some general approaches to the question, such as assessing a project's significance based on its consistency with California's Global Warming Solutions Act of 2006 (AB 32).<sup>3</sup> On the other hand, different agencies have come up with widely differing ideas on how these general approaches should be implemented. These differences have left CEQA practitioners unsure of what guidance to follow for specific development projects.

This Article explores the efforts of California's air agencies in addressing how to determine the significance of a project's greenhouse gas emissions under CEQA, focusing on the recent guidance adopted by three of California's largest regional air-quality agencies – the South Coast Air Quality Management District, the San Joaquin Valley Air Pollution Control District, and the Bay Area Air Quality Management District. It also addresses work done by the California Air Pollution Control Officers Association and the California Air Resources Board (ARB), which laid the foundations for these agencies' actions. In Section II, the Article provides a brief review of the legal concept of "significance" under CEQA, and discusses why it is so important that California develop a clear and consistent method for analyzing significance in the greenhouse gas context. In Section III, the Article provides a summary of the emerging areas of consensus among California's air-quality regulatory agencies on some general principles regarding how to approach the issue. This general overview is followed by a discussion in Section IV of the details of each agency's approach, which identifies areas where individual agencies differ in the specifics of how they address the question. In Section V, the Article concludes with a commentary on what has been gained from these agencies' efforts to develop thresholds of significance for greenhouse gases.

The Article contends that although these recent efforts by local air-quality management districts have not established absolute certainty in this area, to the disappointment of many observers, they have provided significant first steps on the journey towards a workable solution to the problem of assessing the significance of a project's greenhouse gas emissions under CEQA. The air districts have developed a number of viable conceptual approaches, supported by a great deal of technical and policy analysis, that give lead agencies and others the tools they need to conduct a defensible significance analysis. Many uncertainties remain,

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<sup>3</sup> See California Global Warming Solutions Act of 2006, CAL. HEALTH & SAFETY CODE § 38500 et seq. (Westlaw 2011).

but they are simply a reflection of the thorny nature of the problem, not of how it has been tackled by the air districts. Importantly, lead agencies no longer have to face the vague concept of significance in the greenhouse gas context without any guideposts. Instead, the air districts have provided foundations for significance determinations that are technically sound, practically workable, and environmentally protective, and that will ultimately be able to obtain judicial approval – which is the only way to establish true certainty.

## II. CEQA'S \$64,000 QUESTION: WHEN WILL A PROJECT'S GREENHOUSE GAS EMISSIONS MAKE A "CUMULATIVELY CONSIDERABLE" CONTRIBUTION TO GLOBAL CLIMATE CHANGE?

To set the regulatory stage for the air districts' efforts to address the issue of significance in the greenhouse gas context, it is worth reviewing exactly how CEQA frames the question.

The fundamental principle embodied in CEQA is that governmental agencies should avoid or minimize significant environmental impacts resulting from development projects they approve.<sup>4</sup> The statute requires the agency responsible for granting discretionary approval for a project to evaluate the project's potential for significant environmental impacts.<sup>5</sup> If the project would cause a significant environmental impact, the agency may not approve it unless it finds that the project incorporates all feasible mitigation measures, and that there are specific overriding economic, legal, social, technological, or other benefits that outweigh the project's significant environmental impacts.<sup>6</sup>

The framework for undertaking this analysis involves two principal steps. First, the agency must conduct an "initial study" to determine if the project has the potential to cause a significant effect on the environment.<sup>7</sup> If the agency finds any substantial evidence that the project could have a significant effect, it must prepare an environmental impact report (EIR) to evaluate the project in more detail and determine conclusively whether it will cause a significant environmental impact.<sup>8</sup>

Both steps are critically important to project proponents, local agencies, and other stakeholders. The EIR's ultimate conclusion is crucial because a determination of significance means that the project

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<sup>4</sup> See CAL. PUB. RES. CODE § 21002 (Westlaw 2011); *Mountain Lion Found. v. Fish & Game Comm'n*, 939 P.2d 1280, 1298 (Cal. 1997).

<sup>5</sup> See PUB. RES. § 21080(c),(d).

<sup>6</sup> See *id.* § 21081.

<sup>7</sup> See CEQA Guidelines § 15063, CAL. CODE REGS. tit. 14, § 15063 (Westlaw 2011).

<sup>8</sup> See CEQA Guidelines § 15064, CAL. CODE REGS. tit. 14, § 15064.

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cannot be approved absent a finding that overriding considerations outweigh the negative environmental impacts. The preliminary question of whether an EIR needs to be prepared at all is also important, because the EIR process is time-consuming and expensive. It is not uncommon for EIRs to run to thousands of pages and take many months to complete.<sup>9</sup> Therefore, whether a project will be considered significant is a critical question both in determining whether the project can be approved (or whether it will need a “Statement of Overriding Considerations”),<sup>10</sup> and in determining how lengthy and expensive the CEQA process will be.

An additional wrinkle makes consideration of global climate change impacts particularly complex. For climate impacts, it is difficult to consider any single project by itself as making any significant contribution to what is indisputably a global problem. But CEQA requires the lead agency<sup>11</sup> to evaluate whether the project will contribute to a significant environmental impact that is caused by multiple projects in conjunction with each other.<sup>12</sup> In this context, projects have a significant environmental impact if their effects “are individually limited but cumulatively considerable.”<sup>13</sup> The CEQA Guidelines define “cumulatively considerable” as meaning that “the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effect of other current projects, and the effects of probable future projects.”<sup>14</sup> With respect to climate change, an

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<sup>9</sup> See John Wildermuth, *Panels Approve Hunters Point Shipyard Report*, SFGATE.COM (June 4, 2010), [articles.sfgate.com/2010-06-04/bay-area/21656683\\_1\\_shipyard-project-environmental-impact-planning-commission](http://articles.sfgate.com/2010-06-04/bay-area/21656683_1_shipyard-project-environmental-impact-planning-commission) (the recent EIR for the redevelopment of San Francisco’s Hunters Point shipyard was 7,700 pages long); see, e.g., CALIFORNIA DEPARTMENT OF FISH & GAME, NEWHALL RANCH RESOURCE MANAGEMENT AND DEVELOPMENT PLAN AND THE SPINEFLOWER CONSERVATION PLAN FINAL EIS/EIR, (2010), *available at* [www.dfg.ca.gov/regions/5/newhall/final/](http://www.dfg.ca.gov/regions/5/newhall/final/); CITY OF LOS ANGELES, VILLAGE AT PLAYA VISTA FINAL ENVIRONMENTAL IMPACT REPORT, (2004), *available at* [cityplanning.lacity.org/eir/PlayaVista/PlayavistaFEIR/issues/home.htm](http://cityplanning.lacity.org/eir/PlayaVista/PlayavistaFEIR/issues/home.htm). EIRs for most other large projects are of similar length.

<sup>10</sup> A Statement of Overriding Considerations is a finding adopted by the lead agency under CEQA section 21081(b) that there are specific beneficial elements of the project that outweigh the significant effects on the environment. Such a statement is required under CEQA for approval of a project with significant impacts.

<sup>11</sup> See CEQA Guidelines § 15050 et seq., CAL. CODE REGS. tit. 14, § 15050 et seq. (Westlaw 2011) (“lead agency” under CEQA is the governmental agency with the primary approval authority for the project and the one that prepares the CEQA environmental review document; any other agencies that must give regulatory approval for the project are called “responsible agencies,” and they rely on the CEQA document prepared by the lead agency).

<sup>12</sup> CEQA Guidelines § 15064(h), CAL. CODE REGS. tit. 14, § 15064(h).

<sup>13</sup> CEQA Guidelines §§ 15064(h)(1), 15065(a)(3), CAL. CODE REGS. tit. 14, §§ 15064(h)(1), 15065(a)(3).

<sup>14</sup> CEQA Guidelines § 15065(a)(3), CAL. CODE REGS. tit. 14, § 15065(a)(3).

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individual project's emissions will most likely not have any appreciable impact on the global problem by themselves, but they will contribute to the significant cumulative impact caused by greenhouse gas emissions from other sources around the globe. The question therefore becomes whether the project's incremental addition of greenhouse gases is "cumulatively considerable" in light of the global problem, and thus significant.

Because these terms are so vague, CEQA practitioners face a question that it is relatively simple to frame, but difficult to answer. It is clear that CEQA does not require every incremental contribution to a cumulative problem to be treated as cumulatively considerable. To the contrary, it is possible that a project's incremental contribution to the cumulative problem is so minimal that it does not rise to the level of being cumulatively considerable.<sup>15</sup> But beyond this truism, CEQA offers virtually no guidance on how to gauge how much of an incremental contribution is too much. Rather, CEQA purposefully couches the concept of significance in vague terms to provide agencies the flexibility necessary to address the myriad environmental impacts that a project could implicate.<sup>16</sup>

This inherent vagueness means that there are no bright lines from which one can determine with any certainty how this concept should be applied when it comes to particular projects. Indeed, no less than a former General Counsel of the California Natural Resources Agency – the agency that writes the CEQA Guidelines – has observed that "[a]bsolutely nobody knows what 'cumulatively considerable' means."<sup>17</sup> The importance of this issue, coupled with the lack of any clear guidance in the statute on how to address it, has made greenhouse gas significance the "\$64,000 question" for CEQA practitioners in the early years of the twenty-first century.

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<sup>15</sup> See *Communities for a Better Env't v. Cal. Res. Agency*, 126 Cal. Rptr. 2d 441, 457 (Ct. App. 2002) ("This does not mean, however, that *any* additional effect in a nonattainment area for that effect *necessarily* creates a significant cumulative impact; the 'one [additional] molecule rule' is not the law.").

<sup>16</sup> See Massara & Sivas, *supra* note 1, at 4-5; see also *Berkeley Keep Jets Over the Bay Comm. v. Bd. of Port Comm'rs*, 111 Cal. Rptr. 2d 598, 625 (Ct. App. 2001) ("[A]n ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting . . .") (internal quotation marks omitted).

<sup>17</sup> PAUL SHIGLEY, CEQA RULING CONFOUNDS PLANNERS, CALIFORNIA PLANNING & DEVELOPMENT REPORT, Vol. 18, No. 1 (Jan. 2003), available at [www.cp-dr.com/node/813](http://www.cp-dr.com/node/813) (quoting Maureen Gorsen, former Resource Agency Chief Counsel).

### III. THE CALIFORNIA AIR DISTRICTS' EFFORTS TO PROVIDE AN ANSWER

Given the importance of this question and the lack of any bright-line, objective means of divining a definitive answer, many have looked to California's regulatory agencies for direction. In response, the state's regional air districts, and others with expertise in air-quality matters, have taken steps to provide guidance. These efforts have resulted in the adoption of specific policies by three of the largest such districts – the South Coast Air Quality Management District, the San Joaquin Valley Air Pollution Control District, and the Bay Area Air Quality Management District – presenting their considered policy positions as to how this issue should best be addressed. Known as “Thresholds of Significance” in CEQA parlance,<sup>18</sup> these policies provide useful starting points to grapple with CEQA's inherent uncertainty in this area.

The agencies differ in their individual methodologies for addressing the significance of greenhouse gas emissions, but a “30,000-foot” overview of the various approaches makes apparent a certain level of consensus. In particular, two general themes have emerged: (i) assessing significance through a project's consistency with implementing AB 32, California's Global Warming Solutions Act of 2006; and (ii) treating the smallest of projects as less than significant, based on the relatively small cumulative contribution they will make to the overall problem.

The first concept uses AB 32 as a yardstick for determining significance. As a legal and policy matter, California has determined that its solution to the problem of global climate change is through AB 32, which requires the state to reduce its greenhouse gas emissions to 1990 levels by the year 2020. This 2020 emissions target is based on policy determinations that enjoy broad public support, and it has been adopted by the Legislature as the policy of the people of the State of California.<sup>19</sup>

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<sup>18</sup> The CEQA Guidelines encourage lead agencies to adopt thresholds of significance for use in determining whether an environmental impact should be treated as significant. *See* CEQA Guidelines § 15064.7(a), CAL. CODE REGS. tit. 14, § 15064.7(a) (Westlaw 2011). A threshold of significance provides a presumptive yardstick for determining significance, although each significance determination must be made on a project-by-project basis. *Id.* (a threshold provides the level above which an impact will “normally” be treated as significant and below which an impact will “normally” be less than significant). The original language in Guidelines Section 15064.7 explicitly referenced only thresholds adopted by lead agencies for their own use, although expert agencies such as air districts often adopted thresholds for use by lead agencies such as cities and counties. OPR's recent Guideline updates explicitly clarified that a lead agency can adopt or use a threshold developed by another agency. *See* CEQA Guidelines §§ 15064.4(b)(2), 15064.7(c), CAL. CODE REGS. tit. 14, §§ 15064.4(b)(2), 15064.7(c).

<sup>19</sup> Support for AB 32 is by no means unanimous, and some would argue that AB 32's goal of achieving 1990 levels of greenhouse gas emissions by 2020 falls short of what is necessary to solve

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If a project is consistent with AB 32, one can argue that it is not part of the problem, it is part of the solution to the problem. Thus if a project is consistent with achieving AB 32's emission reduction target – that is, any new emissions from the project will not hinder the state's ability to reduce overall emissions to 1990 levels by 2020 – then one can argue that the project's impact is not "cumulatively considerable," because it is helping to solve the cumulative problem of greenhouse gas emissions as envisioned by California law.

AB 32 consistency is also attractive because it is supported, at least by analogy, by provisions of the Resources Agency's CEQA Guidelines regarding cumulative significance. For example, Guidelines Section 15064(h)(3), provides that a project can be found less than cumulatively significant if it "will comply with the requirements in a previously approved plan or mitigation program (including, but not limited to, water quality control plan, air-quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, plans or regulations for the reduction of greenhouse gas emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem."<sup>20</sup> Similarly, Section 15130(a)(3) states that "a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact."<sup>21</sup> Further, a recent Guidelines update adopted specifically to address greenhouse gas issues, Section 15064.4, provides that for greenhouse gases, significance can be based on "[t]he 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 greenhouse gas emissions."<sup>22</sup> These provisions demonstrate an inherent recognition in CEQA that if a plan is in place to address a cumulative problem, a new project's incremental addition to the problem will not be

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the problem of global climate change. This position is not unreasonable, but adherents of this position would face an uphill battle in challenging a significance determination based on an analysis that AB 32 represents an appropriate policy solution to the problem. A lead agency necessarily enjoys a degree of deference in making such a determination, and although AB 32 may have its critics, it would be difficult to fault a lead agency for relying on AB 32 as an appropriate policy solution given that the Legislature has adopted it as the law of the land in California. Questions would remain, of course, about what happens after 2020, although there are similar ways of answering these questions. Executive Order S-3-05, for example, charts a policy course through 2050, requiring emissions to fall 80% below 1990 levels by that date.

<sup>20</sup> CAL. CODE REGS. tit. 14, § 15064(h)(3)

<sup>21</sup> CAL. CODE REGS. tit. 14, § 15130(a)(3).

<sup>22</sup> CAL. CODE REGS. tit. 14, § 15064.4(b)(3).

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“cumulatively considerable” if it is consistent with the plan and is doing its fair share to achieve the plan’s goals.

It is not entirely clear that AB 32 itself would be considered a “plan or mitigation program” within the specific meaning of Section 15064(h)(3),<sup>23</sup> that consistency with AB 32 implementation constitutes being “required to implement or fund [the project’s] fair share of a mitigation measure or measures” within the specific meaning of Section 15130(a)(3), or that AB 32’s 2020 emissions reduction goal is a “requirement[] adopted to implement a statewide . . . plan for the reduction or mitigation of greenhouse gas emissions” within the specific meaning Section 15064.4(b)(3).<sup>24</sup> But even if these Guidelines provisions are not directly applicable, at the very least they provide support by analogy. They demonstrate that it is a general principle of significance under CEQA that if a governmental body has come up with a plan to solve a cumulative problem – as the California legislature has done with AB 32 – a project that is consistent with this plan can be considered less than cumulatively significant.<sup>25</sup> These regulatory provisions thus buttress the argument that a project that is consistent with AB 32 – and is thus part of the solution and not part of the problem – can be considered not “cumulatively considerable” under CEQA.

The second emerging concept considers the smallest projects less than significant, based on their relatively small individual and collective contributions. Under this second approach, the smallest projects, those that collectively make up only 5-10% of new projects and/or new emissions, would not be cumulatively considerable.<sup>26</sup> The agencies that developed this concept reasoned that treating the smallest projects as

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<sup>23</sup> In particular, a “plan or mitigation program” must be “specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency.” CAL. CODE REGS. tit. 14, § 15064(h)(3). It is not clear whether AB 32 falls within this language, although an argument can certainly be made that it does because it went through the legislative process in order to implement a law to be administered by the Air Resources Board.

<sup>24</sup> Note that Section 15064.4(b)(3) has a similar requirement regarding a public review process, and so the same caveat applies when trying to bring AB 32 within the meaning of a “plan for the reduction or mitigation of greenhouse gas emissions.”

<sup>25</sup> Note also that consistency with AB 32 has been supported by the Attorney General as an appropriate and supportable method for assessing the significance of a project’s greenhouse gas emissions. *See, e.g.*, Letter from Janill L. Richards, Deputy Attorney General, to Jared Hart and Darryl Boyd, City of San Jose (June 19, 2007), *available at* [ag.ca.gov/globalwarming/pdf/comments\\_Coyote\\_Valley.pdf](http://ag.ca.gov/globalwarming/pdf/comments_Coyote_Valley.pdf), at 7 (“Where a project’s direct and indirect GHG-related effects, considered in the context of the existing and projected cumulative effects, may interfere with California’s ability to achieve its GHG reduction requirements, the project’s global warming-related impacts must be considered cumulatively significant.”).

<sup>26</sup> For a more detailed discussion of this approach, *see infra* Sections IV.A.4.a., IV.B.1., IV.C.1., & IV.E.1.

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significant, and thus subjecting them to CEQA's EIR requirements, implementation of all feasible mitigation, and adoption of a Statement of Overriding Considerations, would impose an enormous administrative burden, both on project proponents and on lead agencies. Further, the additional environmental benefit from subjecting these smallest projects to the full panoply of CEQA requirements would be minimal. Accordingly, it would not be consistent with the intent or purposes of CEQA to treat these smallest projects as causing a "cumulatively considerable" impact on global climate change.<sup>27</sup>

Finally, in addition to these two main areas of conceptual consensus, a number of other ideas have been floated in the development of concepts of greenhouse gas significance. Even when such approaches have not been expressly adopted by an agency as a CEQA threshold, they may still have merit and be appropriate for use in determining significance in certain circumstances. The efforts of the air districts and others in documenting and publishing these additional concepts have proven useful for practitioners and others.

#### IV. THE DEVIL IN THE DETAILS: INDIVIDUAL AGENCIES' ANALYSES AND TECHNICAL JUSTIFICATIONS

Beyond the general principles and concepts outlined above, each air-quality agency that has evaluated this issue has provided detailed policy rationales and technical justifications to support its preferred approach (or approaches). The following analyses provide the meat of the agencies' work, which has culminated in the Thresholds of Significance adopted by each agency. These underlying analyses form the substance of the guidance that these agencies have provided regarding the significance of a project's greenhouse gas emissions, and they provide a roadmap to ascertain and document substantial evidence on which to base a practical, defensible significance analysis. The following discussion outlines, in chronological order, the five most important efforts in developing approaches to assessing project

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<sup>27</sup> See, e.g., CEQA § 21003(f), CAL. PUB. RES. CODE § 21003(f) (Westlaw 2011), which finds that it is a policy of the state that "[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." Subjecting the smallest projects to the full panoply of CEQA requirements, even though the public benefit would be minimal, would not be consistent with implementing the statute in the most efficient, expeditious manner. Nor would it be consistent with applying lead agencies' scarce resources toward mitigating actual significant climate change impacts.

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significance in the greenhouse gas context: those of the California Air Pollution Control Officers Association, the staff of the California Air Resources Board, the South Coast Air Quality Management District, the San Joaquin Valley Air Pollution Control District, and the Bay Area Air Quality Management.<sup>28</sup> A detailed review of the alternatives explored by these agencies provides a comprehensive picture of the different concepts the various expert agencies have considered over the past several years.

A. CAPCOA'S 2008 WHITE PAPER EVALUATING POTENTIAL APPROACHES TO SIGNIFICANCE

In 2007, California's air districts began addressing the question of how to evaluate global climate change under CEQA. Air district representatives convened a working group under the auspices of the California Air Pollution Control Officers' Association (CAPCOA), a group somewhat analogous to a trade association. District staff from the CAPCOA Climate Protection Committee and the CAPCOA Planning Managers CEQA and Climate Change Subcommittee (with assistance from outside environmental consultants) prepared an extensive White Paper outlining a large number of potential strategies for addressing the significance question.<sup>29</sup> The White Paper recognized that in light of mounting concern over the effects of global climate change, "[t]here is now a resounding call to establish procedures to analyze and mitigate greenhouse gas (GHG) emissions."<sup>30</sup> The White Paper sought to

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<sup>28</sup> The Sacramento Metropolitan Air Quality Management District has generally addressed the issue of greenhouse gas significance by recommending the AB 32 consistency approach:

The district recommends that thresholds of significance for GHG emissions should be related to AB 32's GHG reduction goals. For example, a possible threshold of significance could be to determine whether a project's emissions would substantially hinder the State's ability to attain the goals identified in AB 32 (i.e., reduction of statewide GHG emissions to 1990 levels by 2020; approximately a 30 percent reduction from projected 2020 emissions). Another possible threshold option could include determining whether the project is consistent with the State's strategy to achieve the 2020 GHG emissions limit, as outlined in ARB's AB 32 Scoping Plan.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT, GUIDE TO AIR QUALITY ASSESSMENT IN SACRAMENTO COUNTY (2009), at 6.3.2, *available at* [www.airquality.org/ceqa/ceqaguideupdate.shtml](http://www.airquality.org/ceqa/ceqaguideupdate.shtml). The district has not developed a specific policy to put this general concept into practice, and has not adopted a specific Threshold of Significance for greenhouse gases, so this survey does not further address the Sacramento Metropolitan district.

<sup>29</sup> See CALIFORNIA AIR POLLUTION CONTROL OFFICERS ASSOCIATION, CEQA AND CLIMATE CHANGE: EVALUATING AND ADDRESSING GREENHOUSE GAS EMISSIONS FROM PROJECTS SUBJECT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT ( 2008), *available at* [www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-White-Paper.pdf](http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-White-Paper.pdf) [hereinafter THE CAPCOA WHITE PAPER].

<sup>30</sup> *Id.* at 5.

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establish a “common platform of information and tools” to address climate change under CEQA, with the goals of helping individual lead agencies evaluate the significance of greenhouse gas emissions for particular projects and helping air districts adopt thresholds of significance.<sup>31</sup>

The White Paper, issued in January 2008, presented a regulatory smorgasbord of potential approaches to assess the significance of greenhouse gas emissions.<sup>32</sup> CAPCOA intentionally drafted it to be highly inclusive and to include all ideas voiced during the drafting process without endorsing or rejecting any of them. The document embodied the foundations of the approaches that individual air districts ultimately relied upon in adopting their thresholds of significance, and it provided a number of other concepts as well. The various significant concepts that CAPCOA put forward in the White Paper are presented and discussed below.

*i. Zero Threshold*

CAPCOA’s White Paper first explored the option of establishing a zero threshold,<sup>33</sup> meaning that any increase in emissions of greenhouse gases, even at very minimal levels, would be “cumulatively considerable” from the perspective of global climate change. The White Paper opined that a zero threshold could be justified for greenhouse gases because many individually minor sources around the globe collectively have a significant impact, regardless of their small individual contributions, and exclusion of these sources from consideration as significant would neglect a major portion of the planet’s greenhouse gas inventory.<sup>34</sup> The White Paper noted that the administrative burdens of such a threshold would be substantial, however, as essentially every project would become significant and require a full EIR, all feasible greenhouse gas mitigation measures, and a Statement of Overriding

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<sup>31</sup> See *id.* at 1-2, 5.

<sup>32</sup> The White Paper also discussed the option of not adopting any thresholds at all. This alternative allows air districts to avoid addressing the issue, but it does not make the issue go away. Ultimately, the significance of a project’s greenhouse gas emissions will have to be addressed by any lead agency undertaking a discretionary approval, and if the expert air districts are unable to design an analytical approach to support a threshold of significance, it is difficult to conclude that a non-expert lead agency should be expected to do so. Moreover, even if air districts decline to adopt a threshold of significance *per se*, they will end up establishing a *de facto* threshold when they first face a significance determination for a specific project, as that determination will create a precedent that is likely to inform future determinations. Nevertheless, the White Paper presents declining to adopt a threshold as a potential way forward for air districts and other lead agencies.

<sup>33</sup> See *id.* at 27-29.

<sup>34</sup> See *id.* at 27.

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Considerations.<sup>35</sup>

The White Paper also noted the possibility for greenhouse gas emissions offsets to be used in conjunction with a zero threshold to allow some projects to escape a finding of significance. Under this approach a project could use greenhouse gas emission reduction credits, created either by elements of the project that would reduce existing greenhouse gas emissions (for example by shutting down an existing source) or by purchasing off-site credits generated elsewhere, to bring the project's net emissions below zero and avoid a significance determination.<sup>36</sup> The White Paper counseled caution in the use of off-site credits, however. It noted that the quality of such credits varies considerably, and that low-quality credits may not be particularly effective at achieving real, permanent, verifiable, and enforceable greenhouse gas reductions. It also noted environmental justice concerns regarding the use of off-site credits.<sup>37</sup>

*ii. Consistency with AB 32 Implementation*

After presenting the “zero threshold” option, the White Paper went on to discuss potential approaches that would allow some amount of new greenhouse gas emissions from a project to be considered less than “cumulatively considerable.”

The first approach the White Paper considered was adoption of a threshold that applies the general statewide goal of AB 32 – reduction of greenhouse emissions to 1990 levels by 2020 – to each individual project. The White Paper noted that in order for California's emissions to reach 1990 levels, emissions by 2020 would have to be 28-33% less than if California maintained “Business as Usual” (BAU). That is, if California makes no additional efforts to reduce greenhouse gases – i.e., if nothing is done beyond BAU – then normal population and economic growth expected by the year 2020 would cause the state's greenhouse gas emissions to be 28-33% above the goal of 1990's level of emissions.<sup>38</sup> CAPCOA reasoned that if a 28-33% reduction from BAU statewide would be effective to achieve the AB 32 goal, then an

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<sup>35</sup> See *id.* at 28.

<sup>36</sup> See *id.* at 28.

<sup>37</sup> *Id.*

<sup>38</sup> *Id.* at 32. The “Business as Usual” project was based on work being done by ARB as part of its AB 32 implementation efforts. *Id.*; see also CALIFORNIA AIR RESOURCES BOARD, CLIMATE CHANGE SCOPING PLAN §§ I, 2 (2008), available at [www.arb.ca.gov/cc/scopingplan/document/adopted\\_scoping\\_plan.pdf](http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf); *id.* at 35-36 (the uncertainty reflected in the cited range of 28-33% arose because CARB had not yet finished its work and finalized its estimates).

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individual project that has greenhouse gas emissions that are 28-33% less than such a project would otherwise have under a BAU scenario could be considered less than significant for purposes of CEQA.<sup>39</sup> In this analysis, the project's contribution to the cumulative problem of global climate change would be less than "cumulatively considerable" because it would be consistent with the implementation of AB 32. As the White Paper puts it, such a threshold would "mitigate[] GHG emissions growth in a manner that will allow the [California Air Resources Board] to achieve the emission reductions necessary to meet AB 32 targets."<sup>40</sup>

The White Paper also offered a variation on this approach based on the observation that new projects subject to CEQA review through 2020 will most likely have to achieve additional reductions, as compared to existing development. This variation was based on the assumption that new projects – which can be designed to incorporate greenhouse gas reductions measures up front – will most likely be able to achieve greater reductions at lower cost than retrofitting existing development.<sup>41</sup> Under this variation, emissions from new projects would be less than significant if they are 50% less than they would otherwise be under a BAU scenario.<sup>42</sup> This more stringent threshold would mean that existing projects need achieve only a 25-30% reduction for the state to meet the AB 32 target overall, according to CAPCOA's calculations.<sup>43</sup>

The White Paper put forward several other variations on the concept of consistency with AB 32 as well. One variation looked to the more ambitious goals of the Governor's Executive Order S-3-05, which echoes AB 32's goal of reductions to 1990 levels by 2020 but goes much further in calling for reductions to 80% below 1990 levels by 2050.<sup>44</sup> Basing a threshold on this 2050 goal would obviously incorporate much more substantial reductions below BAU, and would result in a much lower threshold of significance.<sup>45</sup> Two other variations were (i) to have different thresholds apply to different sectors of the economy, to reflect the fact that additional reductions may be more readily achievable in some sectors than in others; and (ii) to have different thresholds apply in different regions of the state, in order to reflect the fact that additional reductions may be more readily achievable in some regions than in

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<sup>39</sup> THE CAPCOA WHITE PAPER, *supra* note 29, at 32. The White Paper calls this approach "Threshold 1.1." *Id.*

<sup>40</sup> *Id.* at 53.

<sup>41</sup> *Id.* at 33.

<sup>42</sup> *Id.* The White Paper calls this alternative "Threshold 1.2". *Id.*

<sup>43</sup> *Id.*

<sup>44</sup> Cal. Exec. Order No. S-3-05 (2005).

<sup>45</sup> See THE CAPCOA WHITE PAPER, *supra* note 29, at 33.

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others.<sup>46</sup> Under these variations, the threshold could be set at a higher percentage reduction from BAU for a certain economic sector or geographic region where such reductions are easier to achieve, and a lower percentage reduction from BAU for a sector or region where they are harder to achieve.

iii. *“Green List” of Pre-Approved Presumptively Non-Significant Projects*

The White Paper next proposed the idea of developing a list of projects and project types that would be “deemed” less than significant if found to have an overall positive contribution to California’s efforts to reduce greenhouse gas emissions.<sup>47</sup> Under this approach, the lead agency would prepare a list of such projects, preferably in consultation with the Air Resources Board and the Attorney General’s office, which would be updated periodically to reflect scientific and legal developments. Preliminary examples of such projects identified in the White Paper include:

- Wind farm projects for the generation of wind-powered electricity;
- Extension of transit lines to currently developed but underserved communities;
- Development of high-density infill projects with easily accessible transit facilities;
- Increases in bus service or conversion to bus rapid transit along existing bus lines;
- Projects with LEED “Platinum” Rating;
- Expansion of recycling facilities within existing urban areas;
- Recycled water projects that reduce energy consumption related to water supplies that service existing development; and
- Development of bicycle, pedestrian, or zero-emission transportation infrastructure to serve existing regions.<sup>48</sup>

Under this “Green List” approach, if a project fell into one of the listed categories, it would satisfy the greenhouse gas threshold of

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<sup>46</sup> *Id.* at 34-35. The White Paper calls these alternatives “Threshold 1.3” and “Threshold 1.4,” respectively. *Id.*

<sup>47</sup> *See id.* at 40.

<sup>48</sup> *Id.*

significance and would be presumptively less than significant.

iv. *“Bright-Line” Numeric Emissions Threshold Based on Mass of Greenhouse Gases Emitted*

CAPCOA also explored a number of options for establishing a “bright-line” numerical significance threshold based on a specified mass of greenhouse gas emissions. Projects emitting more greenhouse gases than the bright-line threshold would be considered significant, and projects emitting less than the threshold would be less than significant.

The White Paper presented these concepts using terms like “tiered thresholds” and a “tiered” approach to determining significance.<sup>49</sup> The concept of a tiered threshold is confusing because it appears to contemplate multiple levels of significance, presumably with progressively more stringent sets of mitigation measures required at higher levels of significance.<sup>50</sup> For example, the White Paper envisions three tiers of projects with two significance thresholds separating them. If a project is below the lower significance threshold it is in “Tier 1” and is considered less than significant, but it would still be required to implement a minimum level of mitigation measures, such as bike parking, Energy Star appliances, and water use efficiency.<sup>51</sup> If the project is between the lower and upper significance thresholds it is in “Tier 2” and considered significant, and it would be required to implement additional mitigation measures, such as parking reductions beyond code, LEED Silver or Gold certification, and energy efficiency measures that exceed Title 24 standards by 20%.<sup>52</sup> If the project is above the upper

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<sup>49</sup> *Id.* at 40-41.

<sup>50</sup> Note that the White Paper uses the term “tiering” in different contexts to refer to three distinct concepts. In some places “tiering” refers to a threshold with multiple, progressively more stringent, levels of significance. In others, “tiering” refers to the multi-step, decision-tree type of analysis one generally uses to evaluate a project under CEQA (i.e., first, determine if the project is ministerial and thus not subject to CEQA; second, check for applicable statutory or categorical exemptions; third, look to see whether there is a programmatic document on which a significance analysis can be based, etc.). And in other places, the White Paper uses “tiering” for its technical CEQA meaning, referring to the use of a programmatic environmental document as the basis for a subsequent project-specific approval for an individual project. *See* CAL. PUB. RES. CODE § 21068.5. In reviewing the White Paper, it helps to keep these three different concepts distinct.

<sup>51</sup> THE CAPCOA WHITE PAPER, *supra* note 29, at 41, 43 tbl.2.

<sup>52</sup> *Id.* LEED certification is an internationally recognized green building certification system developed by the US Green Building Council. LEED certification provides an independent third-party verification that a building or community was designed and built using strategies aimed at minimizing environmental impacts in a variety of areas, including energy savings, water efficiency, greenhouse gas emissions reduction, improved indoor air quality, etc. Progressively higher levels of LEED certification (Silver, Gold and ultimately Platinum) represent progressively more efficient design and building techniques. “Title 24 standards” refers to the California Energy Commission’s

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significance threshold it is in “Tier 3” and is considered to be essentially a “super-significant” project, and it would be required to implement even more stringent mitigation measures, such as on-site renewable energy systems, LEED Platinum certification, and energy efficiency measures that exceed Title 24 standards by 40%.<sup>53</sup>

A tiered approach involving multiple levels of significance and multiple levels of mitigation would be difficult to square with CEQA’s legal framework. Under CEQA, a project is either significant or not. If it is above a level of significance it is required to mitigate to below that level, and if it falls below that level no further mitigation can be required.<sup>54</sup> The White Paper’s notion that a lead agency can require mitigation if the project is below a level of significance – or that there can be different tiers of significance for which specific, progressively more stringent sets of mitigation measures can be required – is inconsistent with CEQA’s basic principles and causes more confusion than clarity.<sup>55</sup>

Reading the White Paper’s tiered approach to avoid the impermissible concept of multiple levels of significance, it appears that CAPCOA contemplated a system that works as follows. Smaller projects with emissions below the bright-line greenhouse gas emissions threshold would not be considered to be significant and therefore would not require any mitigation under CEQA. Such projects would likely be required to take certain steps to reduce greenhouse gas emissions under other regulatory initiatives, however, such as requirements imposed by ARB

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energy efficiency requirements, which are set forth in Title 24 of the California Code of Regulations. See CAL. CODE REGS. tit. 24, pt. 1, CEC Energy Efficiency Standards for Residential and Nonresidential Buildings, available at [www.energy.ca.gov/2008publications/CEC-400-2008-001/CEC-400-2008-001-CMF.PDF](http://www.energy.ca.gov/2008publications/CEC-400-2008-001/CEC-400-2008-001-CMF.PDF). The Title 24 standards establish the minimum energy efficiency requirements for new buildings in California.

<sup>53</sup> See THE CAPCOA WHITE PAPER, *supra* note 29, at 42. The White Paper uses language suggesting that two thresholds of significance would apply in this context, a “low bar” and a “high bar,” and that different mitigation requirements would apply depending on whether the project’s emissions were above the “low bar” or the “high bar.” *Id.* at 42.

<sup>54</sup> CEQA Guidelines § 15126.4(a), CAL. CODE REGS. tit. 14, § 15126.4(a)(3) (Westlaw 2011) (“Mitigation measures are not required for effects which are not found to be significant.”); see also MICHAEL REMY, TINA THOMAS, JAMES MOOSE & WHITMAN MANLEY, GUIDE TO CEQA 517 (11th ed. 2007) (“[A]gencies should forego the temptation to try to force an applicant to provide a generalized benefit . . . that would do more than fully mitigate the impacts of the project.”).

<sup>55</sup> CEQA Guidelines § 15126.4(a), CAL. CODE REGS. tit. 14, § 15126.4(a)(3) (“Mitigation measures are not required for effects which are not found to be significant.”); see also REMY ET AL., *supra* note 54, at 517. Obviously, the higher the project’s greenhouse gas emissions above the threshold of significance, the more mitigation is needed to get the project below the threshold. But the notion that different types of mitigation measures are reserved for projects exceeding the threshold by a greater or lesser amount does not square with CEQA. Under CEQA, any mitigation measure can be appropriate to bring a project back below the level of significance.

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under AB 32, the Title 24 energy-efficiency building standards,<sup>56</sup> and the like.<sup>57</sup> These projects would fall within what the White Paper refers to as Tier 1. A larger project with emissions above the bright-line threshold would be significant and would require mitigation to be imposed in an attempt to bring emissions back below the threshold. If feasible mitigation measures proved effective in reducing emissions below the threshold, the project would be less than significant after mitigation, and would not require more. Such a project would be in what the White Paper refers to as Tier 2 and would require progressively more mitigation as emissions get larger to bring the project below the threshold of significance.<sup>58</sup> Finally, if the project is still above the significance threshold after all feasible mitigation (and potentially the purchase of offsets), it would have a significant and unavoidable impact. The project proponent would then need to implement all feasible mitigation measures, and the lead agency would have to adopt a Statement of Overriding Considerations.<sup>59</sup> Reading the White Paper's tiered approach in this manner makes it consistent with CEQA's legal framework.

The White Paper presents a good deal of valuable analysis regarding where a bright-line numeric threshold could be established and the substantial evidence on which such a threshold could be based. It presents several alternatives:

a. "Bright-Line" Threshold Based on "Market Capture"

The White Paper's first idea for setting a numerical threshold is to use what it calls a "market capture" approach.<sup>60</sup> The objective of this approach is to subject large projects to CEQA by making their emissions significant, while exempting the smallest projects by making their emissions less than significant. To do so, an agency would determine the percentage of new projects it wants to capture under CEQA and then set the emissions threshold for significance at a level such that the

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<sup>56</sup> CAL. CODE REGS. tit. 24, pt. 1, CEC Energy Efficiency Standards for Residential and Nonresidential Buildings, available at [www.energy.ca.gov/2008publications/CEC-400-2008-001/CEC-400-2008-001-CMF.PDF](http://www.energy.ca.gov/2008publications/CEC-400-2008-001/CEC-400-2008-001-CMF.PDF).

<sup>57</sup> THE CAPCOA WHITE PAPER, *supra* note 29, at 51.

<sup>58</sup> *Id.* at 41 tbl.2.

<sup>59</sup> *See id.* at 41 tbl.2, 51-52.

<sup>60</sup> *Id.* at 42-43. The White Paper refers to this approach as "Threshold 2.2." *Id.* The White Paper also refers to a "Threshold 2.1," which would involve what the White Paper refers to as a "tiered" threshold having a "first tier cut-point" of zero. *Id.* at 42. But as noted above, referring to a "tiered" threshold of significance does not make sense as part of the CEQA concept of significance. A "first tier cut-point" of zero is in essence a zero threshold, which the White Paper already discussed in an earlier section. *See supra* notes 31-35 and accompanying text.

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appropriate percentage of projects would exceed the threshold. The White Paper uses a capture percentage of 90%, meaning the threshold would be set at a level where 90% of all new projects would be above the threshold and therefore would be captured. The White Paper explains that the reasoning for choosing a 90% market capture figure:

was to set the emission threshold low enough to capture a substantial fraction of future residential and non-residential development that will be constructed to accommodate future statewide population and job growth, while setting the emission threshold high enough to exclude small development projects that will contribute a relatively small fraction of the cumulative statewide GHG emissions.<sup>61</sup>

The CAPCOA team then went through some basic calculations in an attempt to turn a 90% capture approach into a specific numerical greenhouse gas threshold. The team reviewed data from four diverse California cities – Los Angeles, a large urban city, as well as Dublin, Livermore and Pleasanton, three suburban cities in the San Francisco Bay Area – to estimate what level of emissions corresponds to the tenth percentile project, the point at which the significance level would be set under this approach. The team found that based on the data from these four cities, the tenth percentile project has approximately fifty residential units or 30,000 square feet of commercial space.<sup>62</sup> The team then looked at the greenhouse gas emissions expected from such projects, and found that fifty single-family units would have approximately 900 metric tons per year (MT/yr) of greenhouse gas emissions, and a 30,000 square foot commercial development would have approximately 800 MT/yr.<sup>63</sup> Given the variance among projects, the CAPOA team selected 900 MT/yr as its greenhouse gas emissions threshold to implement this 90% market capture approach.<sup>64</sup> The White Paper concluded that setting a threshold at this level would be appropriate, explaining:

The proposed threshold would exclude the smallest proposed developments from potentially burdensome requirements to quantify and mitigate GHG emissions under CEQA. While this would exclude perhaps 10 percent of new residential development, the capture of 90 percent of new residential development would establish a strong basis for demonstrating that cumulative reductions are being achieved

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<sup>61</sup> *Id.* at 42-43.

<sup>62</sup> *Id.* at 43. Note that the White Paper cautioned that its conclusions based on data from only four cities are “suggestive but not conclusive” because of the small sample size. *Id.*

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*

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across the state.<sup>65</sup>

The CAPCOA team also suggested that this 900 MT/yr bright-line number could be applied to other types of land-use developments as well as industrial projects.<sup>66</sup>

b. “Bright-Line” Threshold Based on Other Regulatory Thresholds

The White Paper’s second idea for a bright-line numerical threshold, which it calls “Threshold 2.3,” would set the greenhouse gas significance threshold at 25,000 MT/yr, the threshold at which ARB requires mandatory greenhouse gas emissions reporting for stationary sources under AB 32.<sup>67</sup> The White Paper notes that when ARB established this 25,000 MT/yr reporting threshold, it estimated that it would capture 94% of greenhouse gas emissions associated with stationary sources (i.e., that sources required to report under this threshold would represent 94% of greenhouse gas emissions from stationary sources). However, the White Paper also notes that this capture rate for stationary sources may not be transferrable to land-use development projects. The White Paper estimates that a 25,000 MT/yr threshold would correspond to projects of approximately 1,400 residential units, 300,000 square feet of retail, or 175,000 square feet of supermarket space, which would encompass far less than half of the new projects expected by 2020.<sup>68</sup>

The White Paper posed an alternative threshold of 10,000 MT/yr, the threshold that was being considered by the Market Advisory Committee for California’s greenhouse gas cap-and-trade system.<sup>69</sup> The White Paper calculates that this lower threshold would correspond to approximately 550 residential units, 120,000 square feet of retail, or 70,000 square feet of supermarket space, which would encompass approximately half of new development expected by 2020.

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<sup>65</sup> *Id.* at 43-44.

<sup>66</sup> *Id.* at 44.

<sup>67</sup> See Regulation for Mandatory Reporting of Greenhouse Gas Emissions Pursuant to the California Global Warming Solutions Act of 2006 (Assembly Bill 32), CAL. CODE REGS. tit. 17, § 95100 et seq.

<sup>68</sup> THE CAPCOA WHITE PAPER, *supra* note 29, at 45.

<sup>69</sup> *Id.*

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## c. “Bright-Line” Threshold Based on Analogy to Ozone Precursor Threshold

The White Paper’s third idea for a bright-line numerical threshold, “Threshold 2.4,” analogizes to thresholds of significance established for oxides of nitrogen (NO<sub>x</sub>), a precursor pollutant that is one of the main contributors to regional smog.<sup>70</sup> NO<sub>x</sub> has been regulated for many years and has well-accepted significance thresholds adopted by a number of air districts.

The White Paper compared the Bay Area District’s significance threshold for NO<sub>x</sub> to the Bay Area’s entire inventory of NO<sub>x</sub> emissions to determine the percentage contribution to the overall problem at which an individual project’s emissions have been treated as significant under CEQA. This comparison found that a project’s NO<sub>x</sub> emissions become “significant” when they exceed 0.008% of the total NO<sub>x</sub> emissions throughout the Bay Area. Applying this percentage to the total Bay Area greenhouse gas emissions inventory results in an analogous greenhouse gas significance threshold of 39,000 MT/yr. Applying this percentage to the San Joaquin Valley District’s total greenhouse gas emissions inventory would yield a similar threshold of 46,000 MT/yr. The White Paper calculates that these greenhouse gas emission levels would correspond to approximately 2,200 to 2,600 residential units, 470,000 to 560,000 square feet of retail, or 270,000 to 320,000 square feet of supermarket space, which would represent only a small minority of new development by 2020.<sup>71</sup>

v. *Qualitative Thresholds Based on Project Characteristics*

In addition to these bright-line numerical approaches to greenhouse gas significance thresholds based on metric tons of emissions, the White Paper also identified approaches to determining significance based on project characteristics, such as size (i.e., number of dwelling units) or greenhouse gas efficiency.

The first such approach, referred to as “Threshold 2.5,” combines the market capture concept with a metric based on the number of dwelling units for residential projects, or on project square footage for

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<sup>70</sup> The principal constituent in photochemical smog is ground-level ozone. Ozone is formed by a reaction between NO<sub>x</sub> and volatile organic compounds (primarily unburned hydrocarbons from incomplete combustion at combustion sources, such as automobile engines) in the presence of sunlight.

<sup>71</sup> THE CAPCOA WHITE PAPER, *supra* note 29, at 45-46.

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commercial projects, rather than on greenhouse gas emissions directly.<sup>72</sup> The White Paper refers to this alternative as a “unit-based” approach. Using the same market capture concept of setting the threshold at a level that would make the largest 90% of new development significant, the White Paper contemplates a unit-based project threshold of fifty dwelling units for residential projects and 50,000 square feet for commercial developments.<sup>73</sup> As with the numerical emissions threshold, the White Paper reasoned that setting a threshold to capture the largest 90% of projects and exempt the smallest 10% would be appropriate “to capture a substantial fraction of future housing and commercial developments that will be constructed to accommodate future statewide population and job growth, while setting the unit threshold high enough to exclude small development projects that will contribute a relatively small fraction of the cumulative statewide GHG emissions.”<sup>74</sup>

The second such approach, “Threshold 2.6,” uses the project size metrics in CEQA Guidelines Section 15206(b), for “projects with statewide, regional or areawide significance.”<sup>75</sup> This approach analogizes significance under Guidelines Section 15206(b) with CEQA significance generally. The thresholds set forth in Section 15206(b) cover residential developments with more than 500 dwelling units, shopping centers and business establishments with over 1,000 employees or more than 500,000 square feet of floor space, commercial office buildings with over 1,000 employees or 250,000 square feet of floor space, hotels and motels of over 500 rooms, and industrial, manufacturing, or processing plants employing more than 1,000 persons or encompassing more than 600,000 square feet of floor space.<sup>76</sup>

The third approach, “Threshold 2.7,” uses an efficiency-based metric to determine significance based on greenhouse gas emissions per resident or employee, or on another similar per capita metric.<sup>77</sup> The White Paper notes that such an approach is attractive because “it seeks to benchmark project GHG intensity against target levels of efficiency.”<sup>78</sup> The White Paper suggests that a greenhouse gas efficiency metric could be developed based on the level of efficiency needed in new development in order for California to achieve the AB 32 and Executive Order S-3-05 targets. The White Paper does not propose any specific

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<sup>72</sup> *Id.* at 46-47

<sup>73</sup> *Id.* at 49 tbl.3.

<sup>74</sup> *Id.* at 46.

<sup>75</sup> *Id.* at 48 (citing CAL. CODE REGS. tit. 14, § 15206(b)).

<sup>76</sup> *Id.*

<sup>77</sup> *Id.* at 48-49.

<sup>78</sup> *Id.* at 48.

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figure for an efficiency-based significance threshold because doing so would require substantial data and modeling that the CAPCOA team did not have a chance to develop.<sup>79</sup>

*vi. The Stage Set by the CAPCOA White Paper*

The White Paper set the conceptual stage for California's air agencies to develop and adopt specific thresholds of significance for greenhouse gases. CAPCOA did not endorse or rule out any particular concept, leaving the difficult choice of which approach to adopt to each individual agency.<sup>80</sup> But in collecting and presenting ideas from around the state in a single comprehensive document, the White Paper succeeded in its goal of providing "a common platform of information and tools" on which to develop approaches to evaluating the significance of a project's greenhouse gas emissions under CEQA.<sup>81</sup> CAPCOA's efforts resulted in a common language among all stakeholders, which provided a solid foundation for the various thresholds ultimately developed by the individual air districts.

**B. SB 97 AND THE AIR RESOURCES BOARD'S PRELIMINARY DRAFT STAFF PROPOSAL**

As CAPCOA was developing its White Paper, the State was also taking steps toward providing an element of certainty in addressing greenhouse gases under CEQA. On August 24, 2007, Governor Schwarzenegger signed into law SB 97 (Dutton, 2007), which added a new Section 21083.05 to CEQA mandating that the Office of Planning & Research (OPR) and the California Natural Resources Agency adopt

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<sup>79</sup> See *id.* at 48-49. The White Paper stated that developing a threshold based on greenhouse gas intensity would "require substantial data and modeling to fully develop." *Id.* at 48.

<sup>80</sup> The White Paper did present an "evaluation" of the different concepts it discussed based on a number of factors including greenhouse gas emissions reduction effectiveness, economic, technical and logistical feasibility, and consistency with AB-32 and Executive Order S-3-05, among others. This evaluation gave each concept a general ranking of "high," "medium," or "low" for each factor evaluated. *Id.* at 53-57, tbls.4,5. The White Paper did not identify any of the concepts as better overall, however, and CAPCOA was clear that it did not recommend or endorse any particular alternative. It stated that the White Paper "is intended as a resource, not a guidance document. It is not intended, nor should it be interpreted, to dictate the manner in which an air district or lead agency chooses to address greenhouse gas emissions in the context of its review of projects under CEQA." *Id.* at *Disclaimer*. It further explained that the White Paper "does not, nor should it be construed to[,] require a district to implement any of the approaches evaluated here. Decisions about whether to provide formal local guidance on CEQA for projects with GHG emissions, including the question of thresholds, will be made by individual district boards." *Id.* at 21.

<sup>81</sup> *Id.* at 5.

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revisions to the CEQA Guidelines to address greenhouse gas issues by the end of 2009.<sup>82</sup> The bill also envisioned that OPR and the Resources Agency would incorporate new information and criteria developed by ARB as it goes forward in implementing AB 32.<sup>83</sup>

Although the specific language of SB 97 required an update to the Guidelines only in the area of greenhouse gas mitigation, it was widely understood and expected that OPR and the Resources Agency would address the full range of CEQA issues implicated by global climate change, including the question of what level of greenhouse gas emissions constitutes a significant environmental impact. OPR solicited technical input on the issue from ARB in June of 2008 and apparently intended to use this information to develop specific, statewide greenhouse gas thresholds of significance. As OPR explained:

We realize that perhaps the most difficult part of the climate change analysis will be the determination of significance. Although lead agencies typically rely on local or regional definitions of significance for most environmental issues, the global nature of climate change warrants investigation of a statewide threshold of significance for GHG emissions. To this end, OPR has asked 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.<sup>84</sup>

OPR requested that ARB technical staff identify a range of feasible alternatives, including qualitative and quantitative options, and stated that it would work with all stakeholders in preparing proposed amendments to the Guidelines in accordance with SB 97.<sup>85</sup> The CEQA world thus watched with great anticipation in hopes that the SB 97 process would result in definitive state-wide guidance on the greenhouse

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<sup>82</sup> See SB 97 § 1 (codified at CAL. PUB. RES. CODE § 21083.05(a),(b) (Westlaw 2011)).

<sup>83</sup> SB 97 § 1 (codified at CAL. PUB. RES. CODE § 21083.05(c) (Westlaw 2011)). SB 97 expressly references input from ARB only in the context of periodic updates to the guidelines, and does not explicitly require OPR and the Resources Agency to incorporate ARB input in the Guidelines revisions due by the end of 2009. But this reference implies that OPR and the Resources Agency should take ARB's input in developing those revisions, and it was widely assumed that the 2009 revisions would be based on information on acceptable levels of greenhouse gas emissions developed by ARB.

<sup>84</sup> GOVERNOR'S OFFICE OF PLANNING & RESEARCH, TECHNICAL ADVISORY, CEQA AND CLIMATE CHANGE: ADDRESSING CLIMATE CHANGE THROUGH CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) REVIEW 4 (June 19, 2008), available at [www.valleyair.org/programs/CCAP/documents/june08-ceqa.pdf](http://www.valleyair.org/programs/CCAP/documents/june08-ceqa.pdf).

<sup>85</sup> *Id.* at 8-9; see also THE CAPCOA WHITE PAPER, *supra* note 29, at 22 (anticipating that OPR Guidelines Amendments may including greenhouse gas thresholds of significance).

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gas significance question, which would provide some certainty and uniformity for lead agencies, project proponents, and other stakeholders.

In response, ARB staff published a “Preliminary Draft Staff Proposal” in October 2008 as a “first step towards developing recommended statewide interim thresholds of significance for GHGs.”<sup>86</sup> The Preliminary Draft Staff Proposal presented two concepts for assessing the significance of greenhouse gas emissions, one for industrial projects and one for residential and commercial projects.

*i. Industrial Projects: 7,000 MT/yr Bright-Line Threshold*

For industrial projects, ARB staff used a variant of the market capture concept discussed in the CAPCOA White Paper. But instead of seeking to establish the significance threshold at a level that would capture 90% of all new *development*, as CAPCOA’s approach did, ARB’s approach was to capture 90% of the *emissions* from new development.<sup>87</sup> ARB staff found that combustion processes (i.e., fuel-burning equipment) make up the bulk of the greenhouse gas emissions from the industrial sector (nearly two thirds of the total), so they looked to combustion processes to develop a benchmark to capture 90% of the sector’s emissions. ARB staff looked to industrial boilers, a common type of industrial combustion equipment, and found that boilers with an input capacity of 10 MMBtu/hr or greater make up 93% of total industry boiler capacity.<sup>88</sup> 10 MMBtu/hr equates to 4,660 tons per year of greenhouse gas emissions, so ARB staff used this emissions rate as the basis for their proposed draft threshold for industrial sources. ARB staff then determined that since combustion processes make up 63% of total greenhouse gas emissions from industrial facilities, they needed to increase the 4,660 ton-per-year value from combustion emissions by 27% to get an accurate picture of total facility emissions. This calculation results in a value of 6,384 tons per year, which ARB staff rounded up to

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<sup>86</sup> CALIFORNIA AIR RESOURCES BOARD, PRELIMINARY DRAFT STAFF PROPOSAL, RECOMMENDED APPROACHES FOR SETTING INTERIM SIGNIFICANCE THRESHOLDS FOR GREENHOUSE GASES UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, 1, (Oct. 24, 2008).

<sup>87</sup> *Id.* at 9. This approach means that fewer than ninety percent of new projects are significant. Because the smallest projects emit very little, emissions from the bottom ten percent of projects will not cumulatively amount to ten percent of total emission from all projects. This approach captures ninety percent of emissions by focusing on larger projects with greater emissions. A handful of the largest emitters can easily account for the majority of total emissions, even though they may represent a small percentage of the total *number* of projects.

<sup>88</sup> Since greenhouse gas emissions are directly related to fuel usage, and boiler capacity is a measure of potential fuel usage, an assessment of total industry emissions can be drawn from information on boiler capacity.

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7,000 tons per year for purposes of the proposed draft threshold.<sup>89</sup>

Additionally, ARB staff concluded that industrial projects should be required to implement best practices for greenhouse gases associated with facility construction and transportation uses in order to be considered less than significant. The Preliminary Draft Staff proposal therefore included performance standards for construction and transportation, which would apply in addition to the 7,000 MT/yr emissions threshold. ARB staff indicated that they would develop these standards further in the future.

The Preliminary Draft Staff Proposal thus set forth a framework whereby an industrial project would be less than significant if its direct emissions of greenhouse gases are under 7,000 tons per year, and if it meets performance standards (to be specified at a later date) for construction and transportation related to the project.<sup>90</sup>

ii. *Residential & Commercial Projects: Hybrid Bright-Line Threshold with Qualitative Performance Standards*

For residential and commercial projects, ARB staff proposed establishing a bright-line emissions cap and a set of qualitative performance standards for evaluating significance. In order to be less than significant under this proposal, a new project would need to keep its overall greenhouse gas emissions below a certain level, and incorporate certain design characteristics geared towards reducing greenhouse gas emissions intensity.<sup>91</sup> Given the preliminary nature of the proposal, ARB staff did not propose a specific number for the numerical emissions threshold, and stated only that they planned to develop an emissions level as part of the final threshold recommendation.<sup>92</sup> They did not provide much detail regarding the required performance standards either, although they identified five areas they intended to explore to establish such standards: energy use, transportation, water use, waste, and construction.<sup>93</sup>

ARB staff noted that a substantial body of work already exists regarding ways to minimize greenhouse gas emissions from new development, including LEED standards, the GreenPoint rating system, and the California Green Building Code, among others.<sup>94</sup> ARB staff

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<sup>89</sup> *Id.* at 10.

<sup>90</sup> *Id.*

<sup>91</sup> *Id.* at 13.

<sup>92</sup> *Id.*

<sup>93</sup> *Id.*

<sup>94</sup> *Id.* at 13, 15.

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indicated that they would base their performance standards on these existing green development systems. The only area where staff made any specific recommendation for a performance standard was in energy efficiency, where staff identified the California Energy Commission's Tier II Energy Efficiency goals as an appropriate performance standard for energy use. ARB staff left the specific performance standards in the other four areas to be developed later.

Thus for residential and commercial projects, the conclusion of ARB's Preliminary Draft Staff Proposal was that projects would be less than significant if they have overall greenhouse gas emissions below a certain numerical threshold (to be developed in the future), and if they meet the CEC's Tier II Energy Efficiency goals and unspecified performance standards for construction, transportation, water use, and waste. ARB staff stated that they would consider public comments and make final recommendations in early 2009, in order to harmonize with OPR's timetable for updating the CEQA Guidelines under SB 97.<sup>95</sup> Public workshops were set for the end of 2008, and staff stated that they would bring the proposal to the Air Resources Board for consideration at its first meeting of 2009. For reasons that have never been fully explained, however, the proposal was never taken any further.

The ARB Preliminary Draft Staff proposal represented a continuation of the work that went into the CAPCOA White Paper, and it provided some further development of useful concepts for addressing the significance of greenhouse gas emissions under CEQA. For those who were hoping to obtain regulatory certainty and state-wide consistency out of this process, however, the lack of a final proposal was a disappointment. With the lack of any concrete proposal from ARB, OPR and the Resources Agency were ultimately left to adopt their CEQA Guidelines amendments in response to SB 97 without any definitive guidance on how to address greenhouse gas significance.<sup>96</sup>

### C. THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S INTERIM THRESHOLDS FOR STATIONARY SOURCES

As ARB's efforts were underway, the South Coast Air Quality Management District (South Coast District) was also developing a proposal for greenhouse gas thresholds. The South Coast District

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<sup>95</sup> *Id.* at 1.

<sup>96</sup> See Cal. NATURAL RESOURCES AGENCY, CEQA GUIDELINES AMENDMENTS, (adopted Dec. 30, 2009), to be codified at CAL. CODE REGS. tit. 14, § 15064 et seq., available at [ceres.ca.gov/ceqa/docs/Adopted\\_and\\_Transmitted\\_Text\\_of\\_SB97\\_CEQA\\_Guidelines\\_Amendments.pdf](http://ceres.ca.gov/ceqa/docs/Adopted_and_Transmitted_Text_of_SB97_CEQA_Guidelines_Amendments.pdf).

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assembled a working group including representatives from state agencies such as OPR, ARB, and the Attorney General's office; city and county planning departments; the regulated community; and other interested stakeholders such as environmental and professional organizations.<sup>97</sup> Even though the South Coast District anticipated that the SB 97 process would provide definitive state-wide guidance in the near future, the agency proceeded to develop an interim proposal.<sup>98</sup> This proposal was adopted by the agency's Board of Directors in December 2008.

The South Coast District adopted a limited threshold intended to apply only to industrial-type stationary source projects and only for projects where the South Coast District is the lead agency. These types of projects are few in number, because an agency with general governmental powers, such as a city or county, normally serves as the lead agency, not a specialized air-quality agency like the South Coast District.<sup>99</sup>

The South Coast District working group also came up with an approach to address the significance of residential and commercial projects, but it was not sufficiently developed in 2008 to recommend for adoption by the Board of Directors.<sup>100</sup> Therefore, the Board adopted only the stationary source threshold and left the residential and commercial threshold for further development in the working group.

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<sup>97</sup> Memorandum from B. Wallerstein, Executive Officer, South Coast Air Quality Management District, to Board of Directors, South Coast Air Quality Management District, re Agenda Item No. 31, Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans (Dec. 5, 2008), available at [www.aqmd.gov/hb/2008/December/081231a.htm](http://www.aqmd.gov/hb/2008/December/081231a.htm) [hereinafter South Coast Board Memo]; see also *id.* attachment E at 1-3 (responding to requests from various stakeholders for guidance in quantifying GHG impacts and recommending GHG significance thresholds to assist them with determining whether or not GHG impacts in their CEQA documents are significant, SCAQMD established a stakeholder working group to receive input on establishing a GHG significance threshold.).

<sup>98</sup> South Coast Board Memo, *supra* note 97; see also *id.* attachment E at 3-1 ("Part of the purpose of the Working Group is to provide a forum to solicit comments and suggestions from the various stakeholders to assist SCAQMD staff with developing an interim GHG significance threshold that is consistent with CEQA requirements for developing significance thresholds, is supported by substantial evidence, and provides flexibility with regard to determining whether GHG emissions from a proposed project are significant.").

<sup>99</sup> See CEQA Guidelines § 15051(b)(1), CAL. CODE REGS. tit. 14, § 15051(b)(1) (Westlaw 2011). Large industrial projects of this type are also relatively uncommon in the South Coast because securing offsets for criteria pollutant emissions – a prerequisite for obtaining an air quality permit – is difficult. See SCAQMD, FINAL PROGRAM ENVIRONMENTAL ASSESSMENT, Proposed Amended Rule 1309.1 – Priority Reserve and Re-Adoption of Rule 1315 – Federal New Source Review Tracking System (July 10, 2007), available at [www.aqmd.gov/ceqa/documents/2007/aqmd/finalea/1309.1/FPEA.pdf](http://www.aqmd.gov/ceqa/documents/2007/aqmd/finalea/1309.1/FPEA.pdf), Executive Summary at 1-1 -1-3.

<sup>100</sup> South Coast Board Memo, *supra* note 97; see generally *id.* attachment E.

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*i. Industrial Projects: 10,000 MT/yr Bright-Line Threshold*

The South Coast District's threshold for stationary-source industrial projects is 10,000 MT/yr. The threshold is based on a 90% market capture concept similar to the one used in the ARB preliminary draft staff proposal, but the South Coast District implements the concept differently.<sup>101</sup> Echoing the CAPCOA White Paper, the South Coast District explained that a threshold that captures 90% of greenhouse gas emissions is appropriate as a measure of significance because it:

sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute to a relatively small fraction of the cumulative statewide GHG emissions.<sup>102</sup>

The South Coast District was especially concerned about the administrative burden of a lower threshold that would bring more projects under CEQA scrutiny. It opined that a threshold capturing 90% of the emissions from new projects could at least double or triple the number of EIRs the agency will have to prepare each year, from 10-15 to more than 45.<sup>103</sup> That number could go into the hundreds if the threshold were set much lower, with minimal additional environmental benefits.<sup>104</sup>

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<sup>101</sup> Note that South Coast District uses the "tiering" terminology to refer to the "decision-tree" type of analysis one uses to analyze CEQA compliance, with the first step being to determine whether CEQA even applies at all or whether the project qualifies for an exemption; then if no exemption applies, the second step being to determine whether there is an applicable programmatic document that can be relied on under Guidelines sections 15064(h)(3), 15125(d), and/or 15152(a); and then if there is no such programmatic document, the third step being to evaluate the project individually for significance. It is at this third step that a threshold of significance would be implicated, as one would have to compare the project's emissions to the established threshold. The South Coast district calls its significance threshold a "tiered threshold" because the district discusses in its documents the role that a threshold would play at the third step in this multi-step analysis. This should not be confused with the CAPCOA White Paper's concept of a "tiered threshold" that actually had multiple levels of significance with progressively more stringent mitigation that would be required as emissions became "more" significant. *See supra* notes 47-51 and accompanying text.

<sup>102</sup> South Coast Board Memo, *supra* note 97; *see generally id.* attachment E at 3-11 (describing Tier 3 of the interim plan, which "attempts to identify small projects that would not likely contribute to significant cumulative GHG impacts.")

<sup>103</sup> South Coast Board Memo, *supra* note 97.

<sup>104</sup> *Id.*; *see also id.* attachment E at 2-8. Note that the Board Memo discusses having to prepare CEQA documents generally. Presumably the discussion was meant to reference EIRs specifically. CEQA requires an environmental document to be prepared for any discretionary approval subject to CEQA, even if it is a Negative Declaration. The administrative benefit of having a threshold not too low is that the agency can satisfy CEQA with a negative declaration rather than

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To turn the 90% capture concept into a numerical emissions threshold, the South Coast District evaluated natural gas consumption for the 1,115 permitted facilities subject to its annual emission reporting program in 2006 and 2007.<sup>105</sup> It found that approximately 10% of those facilities accounted for more than 90% of total natural gas consumption, and that the emissions of a facility at the tenth percentile cutoff point was approximately 10,000 MT/yr (equivalent to a boiler of approximately 27 MMBtu/hr operating at an 80% capacity factor).<sup>106</sup> This analysis formed the basis for the district's 10,000 MT/yr significance threshold.

The South Coast District considered providing an alternative threshold that would allow projects exceeding the 10,000 ton/yr threshold to be considered less than significant if they satisfied certain performance standards. The purpose of this alternative threshold was to allow large projects that may be efficient and desirable from a greenhouse gas emissions perspective to be less than significant even if their total emissions are high simply because of their large size. As the South Coast District explained, the purpose of this alternative performance standard approach "is to encourage large projects to implement the maximum feasible GHG reduction measures instead of shifting to multiple smaller projects that may forego some design efficiencies that can more easily be incorporated into large projects than small projects."<sup>107</sup>

The South Coast District was not able to finalize any specific performance standards by the time its Board of Directors considered the interim thresholds in 2008, but the working group did identify three general concepts for how such performance standards could be developed.<sup>108</sup> First, a project over 10,000 MT/yr could establish that it is

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having to go through the more burdensome process of preparing an EIR and adopting a Statement of Overriding Considerations if impacts cannot be mitigated to a level below the threshold. Staff's responses to comments clarify these statements somewhat, noting that the agency issues permits to approximately 600 to 700 facilities per year, and a lower threshold would mean that many or all of these would need EIRs.

<sup>105</sup> South Coast Board Memo, *supra* note 97.

<sup>106</sup> *Id.*; see also *id.* attachment E. at 3-12.; *id.* attachment D at 1-2; Note that South Coast District staff recognized that this threshold was developed taking into account only direct emissions of CO<sub>2</sub>, and did not consider emissions of other greenhouse gases, a life-cycle analysis taking into account emissions from construction, demolition, etc., mobile source emissions, or indirect electricity consumption. *Id.* attachment E at 3-12. These sources of emissions must obviously be included as greenhouse gas emissions from a project, and the 10,000 MT/yr threshold may therefore end up capturing a larger number of projects when these other emissions are included.

<sup>107</sup> South Coast Board Memo, *supra* note 97.

<sup>108</sup> *Id.* attachment E at 3-15 – 3-16. The Working Group referred to these three potential approaches for developing performance standards as "Compliance Option 1" through "Compliance Option 3."

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less than significant by showing that it incorporates design features or mitigation measures that would achieve a 30% reduction in greenhouse gas emissions compared to BAU.<sup>109</sup> ARB estimated that if California does not take action to reduce greenhouse gas emissions by 2020, emissions would be 30% above 1990 levels, meaning that AB 32 would require a statewide reduction of 30% from the BAU scenario by 2020. The working group translated this 30% statewide reduction into a project-based proposal allowing individual projects to be less than significant under CEQA if they achieve a 30% reduction in greenhouse gas emissions compared to the emissions they would cause if they were built without any greenhouse gas reduction measures.<sup>110</sup>

The second concept for a performance-based standard was based on “early compliance with AB 32 through early implementation of ARB’s Scoping Plan Measures.”<sup>111</sup> The South Coast District explained that “[t]he intent of this compliance option is to accelerate GHG emission reductions from the various sectors subject to ARB’s Scoping Plan to eliminate GHG emissions, especially for those GHG that have a long atmospheric lifetime such as CO<sub>2</sub>, sulfur hexafluoride, etc., to minimize future projected impacts to California from global climate change.”<sup>112</sup>

The third concept for developing performance standards involved sector-specific efficiency standards using metrics such as emissions per person, emissions per worker, emissions per square foot of development, or emissions per item manufactured.<sup>113</sup> Projects meeting these unit efficiency standards would be less than significant even if they exceed the 10,000 MT/yr bright-line threshold number.

Because these performance standards were not fully developed in time for Board of Directors consideration, staff did not propose and the Board did not adopt any alternative performance-based threshold.<sup>114</sup> Instead, South Coast District staff and the working group stated that they

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<sup>109</sup> *Id.* at 3-15.

<sup>110</sup> *Id.* Note that the 30% reduction reflected a refinement by ARB in the percentage reductions needed from “Business as Usual” compared to the estimate on which the CAPCOA White Paper was based, which was 28-33%. See THE CAPCOA WHITE PAPER, *supra* note 29, at 32.

<sup>111</sup> *Id.*

<sup>112</sup> *Id.* at pp. 3-15 – 16. It may be that this concept of “early implementation of CARB’s Scoping Plan Measures” is a reference to implementation of ARB’s “Early Action Measures,” which are a set of discrete regulatory measures that could be implemented prior to January 1, 2010, which ARB was required to identify and adopt under AB 32. See CAL. HEALTH & SAFETY CODE § 38560.5 (Westlaw 2011). The South Coast District’s staff received comments requesting clarification of this concept, but staff responded only that further evaluation would be needed and that staff would report back on this issue in the event that ARB did not finalize the statewide significance thresholds that it was developing at the time (which are discussed above in the previous section).

<sup>113</sup> South Coast Board Memo attachment E, *supra* note 97, at 3-16.

<sup>114</sup> *Id.* at 6, 8.

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would continue working to flesh out these concepts.<sup>115</sup> The working group's efforts since then have focused primarily on residential and commercial projects, however, and there has been relatively little development aimed at performance standards specifically for industrial sources.<sup>116</sup> As a result, the South Coast District's threshold for industrial projects remains simply a bright-line threshold of 10,000 MT/yr. A project with greenhouse gas emissions over that level is considered significant.

ii. *Residential & Commercial Projects: Hybrid Concept Developed but Ultimately Not Adopted*

The working group used the same 90% market capture concept in considering potential thresholds for residential and commercial projects. To determine what level of emissions corresponds to the tenth percentile residential/commercial project, the working group compared the on-site energy use of California's residential and commercial sectors to the on-site energy use of the state's industrial sector. The working group found that the residential and commercial sectors account for 9% of statewide energy use, and that the industrial sector accounts for 30%.<sup>117</sup> The working group therefore reasoned that a 90% capture threshold for residential and commercial projects could be based on the 10,000 MT/yr threshold for industrial sources, adjusted by a ratio of 30:9 to reflect the smaller size of the residential/commercial sector.<sup>118</sup>

Applying this ratio, the working group arrived at a threshold for residential and commercial projects of 3,000 MT/yr.<sup>119</sup> The working

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<sup>115</sup> *Id.* at 8; see also *Draft Guidance Document*, *supra* note 102, at 5-2 (explaining that South Coast District staff will be compiling lists of design features and mitigation measures that could reduce greenhouse gas emissions by sector, along with an assessment of the amount of reductions that could be achieved by each measure).

<sup>116</sup> Note that the Working Group's efforts have been developing performance standard concepts that would nominally apply to both industrial and residential/commercial projects. Further discussions have focused on metrics such as emissions per resident and emissions per employee, however, which do not correlate well with the magnitude of an industrial project. See, e.g., South Coast AQMD, PowerPoint Presentation, Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group, Meeting #15, slide 5 (Sept. 28, 2010), available at [www.aqmd.gov/ceqa/handbook/GHG/2010/sept28mtg/ghgmtg15-web.pdf](http://www.aqmd.gov/ceqa/handbook/GHG/2010/sept28mtg/ghgmtg15-web.pdf) [hereinafter South Coast Working Group Meeting #15]. An industrial source's emissions normally correlate with other factors such as fuel usage and the like, and performance standards such as emissions per resident or employee do not appear to be readily applicable to most industrial sources.

<sup>117</sup> South Coast Board Memo attachment 3, *supra* note 97, at 3-13.

<sup>118</sup> *Id.* Note that this analogy is based on an assumption that the distribution of project size – with the largest 10% of projects accounting for 90% of emissions – applies in the same way for residential and commercial projects as it does for industrial projects. See *id.*

<sup>119</sup> South Coast Board Memo attachment E, *supra* note 97, at 3-13. The working group also

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group estimated that this threshold would correspond to a residential development of approximately seventy dwelling units.<sup>120</sup> The working group noted the discrepancy with the CAPCOA White Paper's 90% capture approach for residential and commercial projects, which arrived at a threshold of 900 MT/yr of greenhouse gas emissions that CAPCOA estimated would correspond to a residential project of approximately fifty dwelling units. The working group found that CAPCOA's fifty-dwelling-unit number corroborated its seventy-dwelling-unit number, but it criticized CAPCOA's 900 MT/yr calculation as having "no factual basis."<sup>121</sup>

Ultimately, South Coast District staff did not recommend adoption of a threshold for residential and commercial projects. Development of thresholds for residential/commercial projects was deferred in part because staff anticipated that ARB would provide comprehensive statewide thresholds.<sup>122</sup> The working group stated that it would continue to consider residential/commercial thresholds, although its efforts slowed somewhat in 2010. The working group currently seems to be heading in the direction of adopting the 3,000 MT/yr bright-line threshold it considered earlier, coupled with performance standards based on project greenhouse gas emissions intensity.<sup>123</sup> Under the most recent proposal, projects with emissions below 3,000 MT/yr would be less than significant, and projects with emissions above 3,000 MT/yr would need to show that emissions per capita will remain below a certain level to be less than significant.<sup>124</sup> If adopted, this approach would be similar to the

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applied its concept of performance standards in the residential/commercial context, which would allow projects that exceed the bright-line threshold emissions level to be considered less than significant based on design features or mitigation measures. These performance standards are discussed above in connection with the South Coast District's stationary source threshold.

<sup>120</sup> *Id.* As with the industrial threshold, this threshold was established without taking into account additional emissions associated with off-site energy use such as electricity use, water use, and off-site life-cycle emissions. When these emissions are taken into account, the 3,000 MT/yr threshold may capture a greater number of projects.

<sup>121</sup> *Id.* at 3-13 to 3-15.

<sup>122</sup> *Id.* at 2, 3, 6.

<sup>123</sup> South Coast Working Group Meeting #15, *supra* note 116, at slides 3-5. South Coast District staff are also considering a numerical threshold broken down by specific land-use type, with residential projects at 3,500 MT/yr, commercial projects at 1,400 MT/yr, and mixed-use projects at 3,000 MT/yr. *See id.* at slide 3.

<sup>124</sup> *Id.* at slides 3-5. The efficiency metrics that South Coast staff are currently considering are based on "service population," a metric that considers the greenhouse gases generated by the project compared with the number of residents and employees the project would serve. The efficiency metrics staff are considering for individual projects are 4.6 MT/yr x service population (i.e., 4.6 MT/yr for every resident who will live at the project and every employee who will work at the project) as of the year 2020 and 3.0 MT/yr x service population as of the year 2035. *Id.* Projects with emissions below these efficiency metrics would be less than significant even if total greenhouse gas

threshold adopted by the Bay Area District.

D. THE SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT'S  
POLICY AND GUIDANCE FOR INDUSTRIAL AND  
RESIDENTIAL/COMMERCIAL PROJECTS

The San Joaquin Valley Air Pollution Control District (San Joaquin Valley District) adopted its approach to evaluating the significance of greenhouse gas emissions in December of 2009. The San Joaquin Valley District's Board of Directors adopted two documents: (1) a "District Policy" for the district to use when it is the lead agency under CEQA for stationary-source industrial projects;<sup>125</sup> and (2) "Guidance" for land-use agencies in the San Joaquin Valley to use when they evaluate land-use development projects under CEQA.<sup>126</sup> Both documents use essentially the same approach to determining significance. Under the San Joaquin Valley District's approach, a project is less than significant if it achieves at least a 29% reduction from BAU. This threshold was based on ARB's prediction that in a BAU scenario, California's emissions will be 29% above AB 32's target level by 2020.<sup>127</sup> The San Joaquin Valley District's approach uses this finding as the basis to conclude that if an individual project can reduce its emissions by 29% or more from BAU, the project will be consistent with reaching AB 32's goals and therefore less than significant.

i. *Industrial Projects: "Best Performance Standards" to Achieve 29% Reduction from BAU Overall for All Industrial Source Categories*

The San Joaquin Valley District's threshold for stationary source projects establishes a general rule that a project needs to achieve a 29%

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emissions are above 3,000 MT/yr. Staff is also considering plan-level thresholds of 6.6 MT/yr x service population as of the year 2020 and 4.1 MT/yr x service population as of the year 2035. These metrics would be applied to estimates of the level of greenhouse gases that will be emitted as a result of the project or plan in the year 2020 and the year 2035.

<sup>125</sup> SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, DISTRICT POLICY, ADDRESSING GHG EMISSION IMPACTS FOR STATIONARY SOURCE PROJECTS UNDER CEQA WHEN SERVING AS THE LEAD AGENCY (Dec. 17, 2009) [hereinafter SAN JOAQUIN VALLEY STATIONARY-SOURCE POLICY].

<sup>126</sup> *Id.* The Guidance suggests that local land-use agencies would formally adopt the Guidance as their own thresholds of significance, *id.* at 2, but there is no reason why a land-use agency would not be able to use the Guidance on a case-by-case basis when appropriate without having to formally adopt it as a policy of the agency.

<sup>127</sup> *Id.* at 7. The 29% reduction reflects a slight refinement in California's projected level of emissions by 2020, as calculated by the Air Resources Board's AB 32 implementation efforts. At the time of the White Paper, ARB's estimate was 28-33%. *See supra* Section IV.A.2.

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reduction from BAU to be less than significant. It further provides for the adoption of best performance standards for individual classes and categories of sources to help simplify the implementation of the threshold.

At the outset, the San Joaquin Valley District's policy provides a specific mechanism for measuring the 29% reduction from BAU. The policy uses a three-year baseline period of 2002-2004, and it defines BAU for a particular type of equipment or operation as the emissions that would occur from the equipment or operation in 2020, assuming no change in emissions per unit of activity as established for the baseline period.<sup>128</sup> In other words, to be less than significant, a new project must demonstrate that it will achieve emissions per unit of activity 29% below what the same type of equipment or operation had in the 2002-2004 time frame.<sup>129</sup> In order to give project proponents more certainty in how the baseline will be applied, the San Joaquin Valley District committed to developing baseline emission factors per unit of activity for each class and category of stationary source it regulates.<sup>130</sup> The District gave the example of establishing a baseline emissions rate in terms of pounds of greenhouse gas emissions per unit of production from a certain type of facility, which would then establish the significance threshold at a level 29% lower than that emissions rate.<sup>131</sup>

To simplify the CEQA evaluation process, the San Joaquin Valley District policy also provides for the establishment of best performance standards (BPSs). BPSs are design features, technology improvements, or other measures that presumptively satisfy the 29% reduction requirement. If a project implements a BPS, it is automatically considered less than significant without any further individualized analysis of its greenhouse gas emissions compared to BAU. The policy provides a definition of BPS similar to the "Best Available Control Technology" standard used in regulation of more traditional air pollutants from stationary sources. The policy defines BPS as "the most effective, District-approved, Achieved-in-Practice means of reducing or limiting GHG emissions from a GHG emissions source, that is also economically feasible per the definition of achieved-in-practice."<sup>132</sup> The policy further defines "Achieved-in-Practice" as "[a]ny equipment, technology, practice or operation available in the United States that has been installed and operated or used at stationary source site for a

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<sup>128</sup> *Id.* at 10.

<sup>129</sup> *Id.*

<sup>130</sup> *Id.* at 12.

<sup>131</sup> *Id.* at 10, 14.

<sup>132</sup> *Id.* at 9.

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reasonable period of time sufficient to demonstrate that the equipment, technology, practice or operation is reliable when operated in a manner that is typical for the process.”<sup>133</sup> The policy provides for the San Joaquin Valley District to develop specific BPSs for specific classes and categories of stationary source projects under these definitions through a public process involving input from all interested stakeholders.<sup>134</sup> Once adopted, these BPSs will significantly ease the burdens associated with CEQA by allowing a project proponent to avoid full CEQA review simply by implementing the agency’s BPS for its class and category of project.<sup>135</sup>

Given that BPSs are limited to technologies that have been cost-effectively implemented and demonstrated in practice, it is possible that the BPSs available will not in fact achieve 29% reductions in greenhouse gas emissions for each individual class and category of source. Nonetheless, the San Joaquin Valley District asserts that stationary-source BPSs collectively will be able to achieve the goal of 29% reductions from BAU for stationary sources in total.<sup>136</sup> The San Joaquin Valley District committed to evaluating the effectiveness of its BPSs every three years to ensure that the overall goal of 29% reductions is being met.<sup>137</sup> If this ongoing review demonstrates that the BPSs are falling short of this goal, the district is committed to taking other steps to ensure that the shortfall is addressed for future projects.<sup>138</sup>

The intent of the San Joaquin Valley District Policy is to make the CEQA analysis for industrial projects less burdensome and time consuming. If the district has adopted a BPS for a certain source category, new projects in that source category will simply have to implement the BPS to be considered less than significant.<sup>139</sup> If a project does not comply with an adopted BPS, or if the district has not adopted a BPS for the type of source that constitutes the project, the project will have to calculate BAU based on what that type of source would have emitted during the 2002-2004 baseline period and will have to show that the project will achieve a 29% emission reduction compared to BAU.<sup>140</sup>

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<sup>133</sup> *Id.*

<sup>134</sup> *Id.* at 11-12.

<sup>135</sup> The San Joaquin Valley District has already adopted BPSs for several classes and categories of industrial sources. The agency’s current list can be found on its stationary source BPS web page at [www.valleyair.org/Programs/CCAP/bps/BPS\\_idx.htm](http://www.valleyair.org/Programs/CCAP/bps/BPS_idx.htm).

<sup>136</sup> SAN JOAQUIN VALLEY STATIONARY-SOURCE POLICY, *supra* note 125, at 14.

<sup>137</sup> *Id.* at 8.

<sup>138</sup> *Id.*

<sup>139</sup> SAN JOAQUIN VALLEY STATIONARY-SOURCE POLICY, *supra* note 125, at 9.

<sup>140</sup> *Id.*

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*ii. Residential & Commercial Projects: Mitigation Measures to Achieve Twenty-Nine Percent Reductions from BAU for Each Project*

The San Joaquin Valley District applied the same 29% reduction from BAU approach for land-use development projects such as residential and commercial developments. Given the wide diversity of land-use projects within the district, however, the San Joaquin Valley District found it infeasible to develop specific BPSs for individual project types as the district is doing for stationary sources.<sup>141</sup> Instead, in order to simplify implementation of the 29% reduction threshold, district staff will establish a list of greenhouse gas emission reduction measures with pre-quantified effectiveness.<sup>142</sup> The Guidance defines BPS for land-use development projects as any combination of approved emission reduction measures that achieve at least 29% emission reductions compared to BAU.<sup>143</sup>

Thus, for land-use development projects, the project proponent or lead agency will select mitigation measures from the district's pre-approved list and then add up the total percentage effectiveness of all such measures included as part of the project. If the total of all such measures equals or exceeds 29% reductions from BAU, then the project is considered to be implementing BPS and is less than significant.<sup>144</sup> The district's list of approved pre-quantified emission reduction measures will be developed through a public process with opportunity for stakeholder review and input.<sup>145</sup> Project proponents or lead agencies can also seek to rely on emission reduction measures not included on the pre-approved list, either by proposing them for approval through the district's public review process, or by developing the basis for quantifying the associated emissions reductions themselves.<sup>146</sup>

The San Joaquin Valley District has begun the process of approving mitigation measures for land-use development projects, although nothing has been approved to date. San Joaquin Valley District staff envision that such measures will target increased efficiency associated with new development projects, for example through reducing energy

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<sup>141</sup> San Joaquin Valley Air Pollution Control District, GUIDANCE FOR VALLEY LAND-USE AGENCIES IN ADDRESSING GHG EMISSION IMPACTS FOR NEW PROJECTS UNDER CEQA (hereinafter SAN JOAQUIN VALLEY LAND-USE GUIDANCE), *supra* note 124, at 7.

<sup>142</sup> *Id.*

<sup>143</sup> *Id.* at 14.

<sup>144</sup> *Id.* at 7-8.

<sup>145</sup> *Id.* at 15.

<sup>146</sup> *Id.* at 8.

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consumption, vehicle miles traveled, and water use.<sup>147</sup> Staff identified a comprehensive set of such measures as a starting point for developing a pre-approved list, which is set forth in Appendix J of the San Joaquin Valley District's final staff report.<sup>148</sup> The staff report was careful to note that these measures were illustrative only and should not be taken as district-approved or sanctioned measures.<sup>149</sup> But the list in Appendix J reflects a substantial amount of work and includes emission reduction percentages for each measure supported by a technical calculation methodology, and so it is likely that much of this work will be reflected in the mitigation measures that the district ultimately approves.<sup>150</sup>

#### E. THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT'S COMPREHENSIVE GREENHOUSE GAS THRESHOLDS

In June 2010, the Bay Area Air Quality Management District (Bay Area District) also adopted thresholds of significance for greenhouse gas emissions. Like the San Joaquin Valley District's policy and guidance, the Bay Area District's thresholds apply both to stationary-source industrial projects and to land-use development projects.<sup>151</sup> The Bay Area District also adopted a threshold to apply to planning documents such as general plans. The Bay Area District's thresholds apply a combination of the bright-line numerical emissions threshold approach and an approach that looks to consistency with AB 32's emission reduction goals.

<sup>147</sup> SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, FACT SHEET, ADDRESSING GREENHOUSE GAS EMISSIONS IMPACT UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) – LAND USE DEVELOPMENT PROJECTS, [www.valleyair.org/Programs/CCAP/bps/Fact\\_Sheet\\_Development\\_Sources.pdf](http://www.valleyair.org/Programs/CCAP/bps/Fact_Sheet_Development_Sources.pdf) (last visited Apr. 18, 2011).

<sup>148</sup> SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, FINAL DRAFT STAFF REPORT, ADDRESSING GREENHOUSE GAS EMISSIONS IMPACTS UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, Appendix J (Sept. 17, 2009), *available at* [www.valleyair.org/programs/CCAP/12-17-09/1%20CCAP%20-%20FINAL%20CEQA%20GHG%20Staff%20Report%20-%20Dec%2017%202009.pdf](http://www.valleyair.org/programs/CCAP/12-17-09/1%20CCAP%20-%20FINAL%20CEQA%20GHG%20Staff%20Report%20-%20Dec%2017%202009.pdf).

<sup>149</sup> *Id.* at 121.

<sup>150</sup> *See Id.* at 121-148 & app. J.

<sup>151</sup> *See* BAY AREA AIR QUALITY MANAGEMENT DISTRICT, CALIFORNIA ENVIRONMENTAL QUALITY ACT GUIDELINES UPDATE, PROPOSED THRESHOLDS OF SIGNIFICANCE (May 3, 2010), *available at* [www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/Proposed\\_Thresholds\\_Report\\_%20May\\_3\\_2010\\_Final.aspx](http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/Proposed_Thresholds_Report_%20May_3_2010_Final.aspx) [hereinafter BAY AREA THRESHOLDS]. The Bay Area District's Board of Directors adopted the thresholds on June 2, 2010. BAY AREA AIR QUALITY MANAGEMENT DISTRICT, BOARD RESOLUTION 2010-06, *available at* [www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/Board%20Resolution%20Adopting%20CEQA%20Thresholds\\_6\\_2\\_10.aspx](http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/Board%20Resolution%20Adopting%20CEQA%20Thresholds_6_2_10.aspx).

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*i. Industrial Projects: 10,000 MT/yr “Bright-Line” Threshold*

For industrial stationary-source projects, the Bay Area District adopted a bright-line mass emissions threshold of 10,000 MT/yr.<sup>152</sup> It arrived at this threshold using a market capture approach similar to the one used by CAPCOA and the South Coast District. The Bay Area District’s analysis is based on a judgment that the smallest stationary sources that cumulatively make up only 5% of total emissions from all new stationary source projects in the Bay Area “will not significantly add to the global problem of climate change, and they will not hinder the Bay Area’s ability to reach the AB 32 goal in any significant way, even when considered cumulatively.”<sup>153</sup> The Bay Area District concluded that the potential corresponding benefit from requiring EIRs and mitigation for these projects would be insignificant.<sup>154</sup> The Bay Area District therefore established the significance threshold for stationary-source projects at a level that would capture 95% of all new greenhouse gas emission from such projects, while excluding the smallest projects that collectively make up only 5% of emissions.

To turn this 95% market capture concept into a numerical threshold, the Bay Area District conducted a detailed analysis of new permit applications received during 2005, 2006, and 2007.<sup>155</sup> Based on an evaluation of the types of projects represented in these applications, the district calculated that a threshold of 10,000 MT/yr would establish an appropriate cut-off point to capture the larger projects representing 95% of total emissions and exclude the smallest projects representing only 5% of emissions.<sup>156</sup> This threshold would render fewer than 10% of new projects above the significance threshold while capturing 95% of total emissions.<sup>157</sup> Thus, under the Bay Area District’s threshold, any new stationary-source project with greenhouse gas emissions above 10,000 MT/yr is significant. Such a project must identify and implement all feasible mitigation measures to bring emissions below that threshold, and if feasible mitigation cannot do so, the project will not obtain approval without a Statement of Overriding Considerations.

Interestingly, the Bay Area District arrived at the same 10,000 MT/yr threshold as the South Coast District did, despite the fact that the Bay Area District used a 95% capture approach and the South Coast

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<sup>152</sup> *Id.* at 8.

<sup>153</sup> *Id.* at 31.

<sup>154</sup> *Id.*

<sup>155</sup> *Id.* at 27-28.

<sup>156</sup> *Id.* at 28.

<sup>157</sup> *Id.*

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District used a 90% capture approach. This outcome can be explained by the different mix of industrial projects in each district, meaning that the same numerical threshold can represent a different percentage capture rate.<sup>158</sup>

ii. *Residential & Commercial Projects: Two Alternative Options Based on AB 32 Consistency*

For residential and other land-use development projects, the Bay Area District adopted two alternative thresholds: (i) a bright-line mass emissions threshold of 1,100 MT/yr, and (ii) a project efficiency metric of 4.6 MT/yr per capita. Both alternatives were adopted as equally valid approaches to determining significance. Thus, a project is less than significant if it will emit less than 1,100 MT/yr in total, or if it will emit less than 4.6 MT/yr for each resident and employee that will live and/or work in the development.<sup>159</sup> Both alternatives are based on an evaluation of what will be needed to achieve AB 32's goal of 1990 emissions levels by 2020, although they take different paths to reach that conclusion.

a. 1,100 MT/yr Bright-Line Threshold

To develop the 1,100 MT/yr bright-line mass emissions threshold, the Bay Area District evaluated recently adopted regulatory initiatives identified in ARB's AB 32 Scoping Plan,<sup>160</sup> such as the Pavley automobile mileage standards,<sup>161</sup> the Low-Carbon Fuel Standard,<sup>162</sup> the

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<sup>158</sup> The differences in the distribution of industrial projects between the South Coast and Bay Area districts can be seen in the graphical charts that the two agencies prepared in developing their respective significance thresholds. Compare South Coast Board Memo, *supra* note 97, at 3-14 fig.3-2, "Total Number of AER Facilities and Their Accumulative Reported NG Usage," with BAY AREA THRESHOLDS, *supra* note 151, at 51 fig.1, "Cumulative Greenhouse Gas Emissions from Natural Gas."

<sup>159</sup> BAY AREA THRESHOLDS, *supra* note 151, at 5 tbl.1.

<sup>160</sup> *Id.* at 15-18.

<sup>161</sup> AB 1493 (Pavley), codified at CAL. HEALTH & SAFETY CODE § 43018.5, mandated ARB to develop regulations to "achieve the maximum feasible and cost-effective reductions of greenhouse gas emissions from motor vehicles." HEALTH & SAFETY § 42823.5(a). Implementation of the Pavley regulations was initially delayed because the Environmental Protection Agency ("EPA") refused to grant California a waiver from federal preemption, but the waiver was eventually granted in June of 2009. See California State Motor Vehicle Pollution Control Standards; Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles; Notice, 74 Fed. Reg. 32,744 (July 8, 2008).

<sup>162</sup> The Low Carbon Fuel Standard is an ARB "Early Action" measure adopted as part of ARB's AB 32 implementation efforts. It is intended to achieve a ten percent reduction in the carbon intensity of motor vehicle fuels in California by the year 2020. CAL. CODE REGS. tit. 17, § 95480 et

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Renewable Portfolio Standard for electrical generation,<sup>163</sup> and the solar roof initiative.<sup>164</sup> The Bay Area District estimated the emission reductions that these scoping plan measures will achieve from land-use-related sectors (transportation, electrical power, residential and commercial fuel use, and waste and water treatment). The Bay Area District found that these measures will reduce Bay Area land-use emissions by 23.9% from 2020 BAU levels. These reductions will fall short of the 26.2% reductions needed from land-use sectors to reach AB 32's goal of 1990 emissions levels.<sup>165</sup> The scoping plan measures thus leave a 2.3% "gap" that must be filled by other means if the AB 32 goal is to be achieved.<sup>166</sup> The district's 1,100 MT/yr bright-line threshold is based on the additional reductions needed from new land-use development between now and 2020 to close this gap.

Based on population and economic forecasts, the Bay Area District predicts that the BAU scenario for Bay Area land-use-related sectors involves a total of 71.1 million MT/yr (MMT/yr) of greenhouse gas emissions. A "gap" of 2.3% of this 71.1 MMT/yr total translates into 1.6 MMT/yr.<sup>167</sup> The Bay Area will therefore need to achieve a total of 1.6 MMT/yr in greenhouse gas reductions by 2020, over and above what will be obtained through the scoping plan measures, in order to achieve the AB 32 target for land-use-related sectors.

To turn this 1.6 MMT/yr regional emissions-reduction target into a numerical threshold applicable to individual projects, the Bay Area District researched historical development patterns and compiled an inventory of land-use development projects expected over the next ten years.<sup>168</sup> It conservatively estimated that mitigation measures required

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seq.; CALIFORNIA AIR RESOURCES BOARD, CALIFORNIA'S LOW CARBON FUEL STANDARD, FINAL STATEMENT OF REASONS 5 (Dec. 2009), *available at* [www.arb.ca.gov/regact/2009/lcfs09/lcfsfsor.pdf](http://www.arb.ca.gov/regact/2009/lcfs09/lcfsfsor.pdf).

<sup>163</sup> The Renewable Portfolio Standard is a requirement that California's power utilities obtain a minimum percentage of the power they sell from renewable sources. In SB 1078 (2002) and SB 107 (2006), the Legislature adopted a requirement that at least twenty percent of these utilities' power must come from renewable resources. Governor Schwarzenegger has gone even further in Executive Order S-14-08 (Nov. 17, 2008) and S-21-09 (Sept. 15, 2009), which call for the adoption of regulations requiring thirty-three percent renewables by the year 2020.

<sup>164</sup> The Million Solar Roof initiative is a program to encourage the installation of solar panels on private homes. Set in motion by SB 1 (2006), the program provides increased incentives for homeowners to install solar panels, such as expanded opportunities to sell excess power back to the grid, and it requires large residential developments to offer homebuyers the option for solar panels to be installed on their roofs. Press Release, California Office of the Governor, Schwarzenegger Signs Legislation to Complete Million Solar Roofs Plan (Aug. 21, 2006).

<sup>165</sup> BAY AREA THRESHOLDS, *supra* note 151, at 16 tbl.2.

<sup>166</sup> *Id.*

<sup>167</sup> *Id.* at 18 tbl.4.

<sup>168</sup> *Id.* at 19; BAY AREA AIR QUALITY MANAGEMENT DISTRICT, REVISED DRAFT OPTIONS

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under CEQA could achieve 26% reductions in greenhouse gas emissions, if fully implemented.<sup>169</sup> The Bay Area District then conducted a sensitivity analysis to evaluate how different emission thresholds would impact the total amount of emission reductions achieved through mitigation measures across the entire region. It found that a threshold of 1,100 MT/yr would capture the largest 59% of new projects between now and 2020 and would require them to implement mitigation measures.<sup>170</sup> If these projects implement mitigation that achieves the expected 26% reductions in greenhouse gases, the overall reductions will total 1.6 MMT/yr, the amount needed to close the gap. The Bay Area District therefore established 1,100 MT/yr as its bright-line numerical emissions threshold for land-use projects. The district estimates that emissions of 1,100 MT/yr correspond to a project size of approximately sixty single-family dwelling units.<sup>171</sup>

## b. 4.6 MT/yr Per Capita Efficiency Threshold

As an alternative to the 1,100 MT/yr bright-line threshold, the Bay Area District also adopted a 4.6 MT/yr per capita efficiency metric.<sup>172</sup> This sliding-scale alternative is intended to avoid penalizing efficient, well-designed projects simply because of their size. Instead, it looks at the project's greenhouse gas efficiency in terms of emissions per resident or employee.<sup>173</sup>

To develop this threshold, the Bay Area District evaluated the total number of residents and jobs forecast for California as of 2020 and compared that number to the AB 32 greenhouse gas emissions budget for land-use-related sectors. The population estimate totaled forty-four million residents and twenty million jobs by 2020. These sixty-four million residents and employees will collectively need to maintain their land-use-related emissions at or below 295 MMT/yr in order to be consistent with the AB 32 budget.<sup>174</sup> By dividing 295 MMT/yr by sixty-four million residents and employees, the Bay Area District calculated

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AND JUSTIFICATIONS REPORT 17-21, 46 (Oct. 2009), available at [baaqmd.gov/~media/Files/%20Planning%20and%20Research/CEQA/Revised%20Draft%20CEQA%20Thresholds%20%20Justification%20Report%20Oct%202009.ashx](http://baaqmd.gov/~media/Files/%20Planning%20and%20Research/CEQA/Revised%20Draft%20CEQA%20Thresholds%20%20Justification%20Report%20Oct%202009.ashx).

<sup>169</sup> *Id.* at 47 tbl.18.

<sup>170</sup> BAY AREA THRESHOLDS, *supra* at note 151, at 21 tbl.5.

<sup>171</sup> *Id.*

<sup>172</sup> *Id.* at 22.

<sup>173</sup> *Id.* at 23. The threshold counts residents as well as employees – a metric known as a project's "service population" – so as not to penalize mixed-use projects with both residential and commercial components.

<sup>174</sup> *Id.* at 22 tbl.6.

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that land-use development projects need to keep emissions below 4.6 MT/yr per capita to satisfy AB 32.<sup>175</sup>

The Bay Area District therefore adopted 4.6 MT/yr as an alternative threshold for larger projects over the 1,100 MT/yr bright-line threshold. If projects are well-designed and keep emissions below 4.6 MT/yr per capita, they will be less than significant under CEQA using this approach.

*iii. General Plans: 6.6 MT/yr Per Capita Efficiency Standard*

Finally, the Bay Area District established a threshold for general plans and similar planning documents adopted by local agencies. For general plans, the district used a per capita greenhouse gas efficiency approach similar to the one it used to establish the 4.6 MT/yr efficiency alternative for individual projects. However, the District concluded that the efficiency threshold needs to be higher for general plans, because the emissions covered by such documents include all sources of greenhouse gas emissions, not just land-use-related sectors. The Bay Area District therefore divided the total 426.5 MMT/yr statewide AB 32 greenhouse gas emissions budget for 2020 by the sixty-four million residents and employees expected in California by 2020 to come up with a threshold of 6.6 MT/yr per person.<sup>176</sup> General plans and similar documents achieving total greenhouse gas emissions of 6.6 MT/yr per capita will be less than significant under CEQA.<sup>177</sup>

V. THE FRUITS OF THE AIR DISTRICTS' EFFORTS: VALUABLE GUIDANCE ON ADDRESSING THIS IMPORTANT ISSUE, OR SIMPLY MORE UNCERTAINTY?

As this Article shows, California's air agencies have devoted a substantial amount of time and resources to address how the significance of a project's greenhouse gas emissions should be evaluated under CEQA. A number of common themes have emerged, and it is possible to synthesize a developing consensus around particular concepts, such as AB 32 consistency as a benchmark of significance. Yet, at the end of the day, the various air districts do not completely agree on how significance should be addressed. The question thus remains: have these efforts

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<sup>175</sup> *Id.*

<sup>176</sup> *Id.* at 24 tbl.7.

<sup>177</sup> *Id.* As with the threshold for individual projects, this threshold measures greenhouse gases per the total number of residents and jobs in the area covered by the plan – the plan's "service population."

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helped California in implementing CEQA as a response to global climate change? Have they helped provide lead agencies and project proponents with the regulatory certainty they need to get worthwhile development projects through the review and approval process without undue cost and delay? Have they held true to CEQA's fundamental environmental protection purposes in a legally supportable fashion?

Although the air districts have received much well-deserved praise and support for their efforts, they have also received a fair degree of criticism, especially because the divergence in the various districts' approaches to evaluating significance has not provided the level of certainty hoped for by many observers. One observer has opined that "[the] conflicting guidance by expert agencies leaves local lead agencies with significant uncertainty [that] . . . will increase costs to lead agencies and businesses, further stressing already strapped agency budgets and further discouraging much needed investment in California."<sup>178</sup> Some especially strident critics have complained that the uncertainty surrounding this issue will actually impede California's achievement of its greenhouse gas goals by hindering efficient infill development in dense urban cores. These critics claim that the "added cost of delay, process and mitigation . . . will add significant burdens to projects perceived to be the best hope of future urban growth and urban redevelopment."<sup>179</sup> With respect to the Bay Area District's thresholds in particular, these critics commented that "[i]t is difficult to characterize such a fatuous response in terms both appropriate and polite."<sup>180</sup> Clearly, some observers do not believe that the air districts have advanced the ball with their recent work in this area.

A more circumspect view of air districts' efforts shows that they have provided an invaluable first step in the implementation of CEQA for greenhouse gases, even if they have not provided an absolute answer.

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<sup>178</sup> Opinion of Beth Collins-Burgard, presented in Alexander "Sandy" Crockett, Beth Collins-Burgard, & Matt Vespa, *Another Hot Year: Analyzing Greenhouse Gas Impacts Under CEQA*, ENVTL. L. NEWS, Vol. 19, No. 1, 16 (Spring 2009).

<sup>179</sup> Amy Higuera, Howard Ellman & Buchalter Nemer, *New Guidelines for Analyzing Air Quality Impacts Could Thwart Bay Area Infill Development*, ENVIRONMENTAL LEADER (Sept. 30, 2010), available at [www.environmentalleader.com/2010/09/30/new-guidelines-for-analyzing-air-quality-impacts-could-thwart-bay-area-infill-development/](http://www.environmentalleader.com/2010/09/30/new-guidelines-for-analyzing-air-quality-impacts-could-thwart-bay-area-infill-development/).

<sup>180</sup> *Id.* Other observers have managed to overcome this difficulty. The California Attorney General's office, for example, noted that Bay Area's thresholds "utilize clearly identified benchmarks (total annual emissions or GHG efficiency ratios) that will apply to every project[, which] substantially increases the likelihood that the thresholds will be applied in a generally consistent and predictable way, which should benefit not only lead agencies, but also project proponents." Letter from J. Richards, Deputy Attorney General, to G. Tholen, Principal Environmental Planner (Dec. 2, 2009), available at [ag.ca.gov/globalwarming/pdf/comments\\_AAQMD\\_Thresholds\\_of\\_Significance.pdf](http://ag.ca.gov/globalwarming/pdf/comments_AAQMD_Thresholds_of_Significance.pdf).

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In the various air districts' thresholds, lead agencies and others have a number of tools with which to evaluate the significance of a project's greenhouse gas emissions. The districts' work presents several conceptual approaches for addressing the significance question, and it outlines the arguments that lead agencies can use to justify these approaches in the context of CEQA's legal framework.

Moreover, the air districts have provided a great deal of technical analysis on how to translate a general concept of significance into a specific metric that can be used to evaluate a particular project. If a lead agency decides to determine a project's significance based on whether the project is consistent with implementation of AB 32, for example, the air districts have provided methodologies for making such a determination – through implementing BPSs or showing a 29% decrease from BAU under the San Joaquin Valley District's approach, for example, or using a gap analysis or the 4.6 MT/yr per capita efficiency metric under the Bay Area District's approach. Similarly, if a lead agency decides to exclude the smallest projects under a market capture approach, the air districts have provided blueprints on how to translate a percentage capture that an agency decides to use into a specific numerical emissions level that can be used to assess the significance of a particular project.

These tools give lead agencies a robust legal, technical, and policy framework on which to base a significance analysis. This is clearly an improvement from the blank slate that existed before the air districts began their work, with lead agencies left to grapple with the vague concepts of "significant" and "cumulatively considerable." Trying to navigate such a landscape without any fixed points of reference was a daunting task, especially for lead agencies such as cities and counties where the planning staff may consist primarily of generalists without the air districts' level of air-quality expertise. These agencies now have a number of models for undertaking a significance analysis for greenhouse gases, an unquestionable benefit.

It remains true, of course, that there is still no definitive set of rules to follow at this stage, and it is frustrating for practitioners not to have a fixed set of goal posts to shoot for. Regulatory uncertainty increases costs, causes delay, and creates unnecessary administrative burdens. But it was never reasonable to expect that the air districts could provide absolute regulatory certainty on this issue. Given the debates that continue even today regarding what exactly needs to be done to address global climate change, the inherent vagueness of the CEQA concepts of "significance" and "cumulatively considerable" impacts, and the wide range of viewpoints and approaches advanced by the many different

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stakeholders involved, it should not come as a surprise that different agencies have arrived at differing expert opinions.

Moreover, even if the different expert air agencies all reached the same conclusion, there still would not be a definitive set of rules that a lead agency could rely upon with absolute certainty. CEQA thresholds of significance adopted under Guidelines Section 15064.7 can be used as a presumptive level at which a project's impacts "normally" should be considered significant. But lead agencies must still make their own significance determinations on a case-by-case basis based on the record for each specific project, and a lead agency cannot rely on an air district's threshold without making its own determination that the threshold is appropriate and supported by substantial evidence for the particular project under review.<sup>181</sup> Thus, even with well-established, consistent thresholds from the air districts, lead agencies would still face an inherent level of uncertainty. The air districts have never had power to alter this reality, even if they unanimously supported a single approach. Well-reasoned thresholds provide lead agencies with sound, practical advice. The fact that the districts are not speaking with a single voice simply means that lead agencies are hearing different advice from different experts. This can be frustrating when one is searching for an easy answer, but it is not necessarily a bad thing.<sup>182</sup>

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<sup>181</sup> *Mejia v. City of Los Angeles*, 29 Cal. Rptr. 3d 788, 802 (Ct. App. 2005); *Protect the Historic Amador Waterways v. Amador Water Agency*, 11 Cal. Rptr. 3d 104, 110-11 (Ct. App. 2004). As the Court of Appeal explained in *Mejia*, "A threshold of significance may be useful to determine whether an environmental impact normally should be considered significant. A threshold of significance is not conclusive, however, and does not relieve the public agency of the duty to consider the evidence under the fair argument standard. A public agency cannot apply a threshold of significance or regulatory standard 'in a way that forecloses the consideration of any other substantial evidence showing there may be a significant effect.'" *Mejia*, 29 Cal. Rptr. 3d at 802 (citations omitted).

<sup>182</sup> It is worth noting that an air district's adoption of a threshold of significance does not mean that a lead agency must apply it when making its own significance determination. The recent updates to the CEQA Guidelines clarify this point in at least two areas. First, the revised guidelines clarify that in a significance evaluation, a lead agency can rely on a threshold of significance "that the lead agency determines applies to the project," implying that the lead agency has discretion to determine which thresholds apply to a particular project and which do not. CEQA Guidelines § 15064.4(b)(2), CAL. CODE REGS. tit. 14, § 15064.4(b)(2) (Westlaw 2011). Second, the revised guidelines provide that when adopting their own thresholds, lead agencies can consider thresholds published by expert agencies provided that they are supported by substantial evidence, further suggesting that a lead agency has the discretion to weigh multiple competing thresholds and determine for itself which is most appropriate based on the evidence. For these reasons, lead agencies should not feel saddled with a greenhouse gas threshold adopted by an air district if they believe that they have developed a superior alternative, and they should not feel that they need to follow every threshold that any agency has adopted, especially when different thresholds conflict. Of course, if a lead agency finds it does not have the expertise to develop its own threshold, it can rely on the thresholds developed by the air districts, which are based on an extensive body of well-documented technical, legal, and policy support.

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It also remains true that global climate change is now an additional environmental concern that project developers must consider, and an additional regulatory requirement that applicants will have to address when going through the CEQA review process. But the air districts have not created this problem. To the extent that the need to evaluate the significance of greenhouse gas emissions creates an additional regulatory burden, any criticism necessarily lies with the legislature in enacting CEQA, not with the air districts. For their part, the air districts deserve credit for offering creative ideas to respond to this regulatory reality in a technically justified, legally supportable manner that is consistent with CEQA and is not unduly burdensome. One can debate how effectively the air districts' thresholds will reduce CEQA's regulatory burden, but one certainly cannot claim it was the air districts that created the burden in the first place.

Ultimately, the benefit of the air districts' work is that the best ideas for addressing greenhouse gas significance under CEQA have started to crystallize. They have been presented as formalized guidance supported by detailed technical analysis that lead agencies and others can use when faced with this difficult regulatory problem. Obviously, there is no clear best answer at this point. But California will never get such an answer until it gains some experience with applying CEQA to real projects to see what works in practice and what does not. The various alternatives developed by the air districts will give different concepts the chance to be tested in the crucible of real-world experience. In this way, the "cream" of the various concepts can "rise to the top" and help California move toward a true consensus as to what is the most appropriate, most protective, most workable, and most judicially defensible mode of analysis for addressing the difficult issue of determining the significance of greenhouse gas emissions under CEQA.

Real certainty can come only with an appellate decision (and hopefully one from the Supreme Court) upholding a particular mode of analysis as satisfying CEQA's requirements for evaluating a project's significance in the climate change context. At that point, there will be a "safe harbor" based on binding judicial precedent, and lead agencies will be able to craft their greenhouse gas analyses under whatever legal framework is ultimately approved. But that day has not yet come, and CEQA practitioners are therefore left to address the inherent uncertainty in this area as best they can. The air districts have attempted to provide assistance, and hopefully their work will provide a mode of analysis that eventually becomes the one that wins judicial approval. Some observers complain about the failure of these efforts to provide definitive certainty at this point, but ultimately such certainty is not the air districts' to

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provide. What the air districts can do at this point – and what they have done with their recent efforts – is to have moved the ball down the field toward the goal of eventually obtaining certainty on which lead agencies, project proponents, and others can truly rely.