



April 28, 2014

Via internet upload (www.arb.ca.gov)

Clerk of the Board
Air Resources Board
1001 I Street
Sacramento, California 95814

Re: Draft Environmental Analysis for the Proposed First Update to the Climate Change Scoping Plan

Members and Staff of the California Air Resources Board:

The Center for Biological Diversity (the “Center”) submits the following comments concerning the Draft Environmental Analysis (“EA”) for the Proposed First Update to the Climate Change Scoping Plan (“Proposed First Update”). The Center is a non-profit environmental organization dedicated to the protection of imperiled species, their habitats, and the environment through science, policy, and environmental law. The Center has more than 775,000 members and online activists throughout the United States, including more than 100,000 in California. The goal of the Center’s Climate Law Institute is to reduce U.S. greenhouse gas emissions and other air pollution to protect biological diversity, the environment, and public health. Specific objectives include securing protections for species threatened by the impacts of global warming, ensuring compliance with applicable law in order to reduce greenhouse gas emissions and other air pollution, and educating and mobilizing the public on global warming and air quality issues.

We thank the California Air Resources Board (“ARB”) staff and members for their continued efforts to reduce greenhouse pollution and implement California’s Global Warming Solutions Law (“AB 32”). Despite these diligent efforts, the EA contains serious flaws that undermine both its analysis and its conclusions, as well as rationales behind some of the measures in the Proposed First Update.

In particular, the EA does not meet the minimum requirements of the California Environmental Quality Act (“CEQA”), Public Resources Code section 21000 et seq., and the CEQA Guidelines, title 14, California Code of Regulations, section 15000 et seq. Many of the deficiencies in the EA—particularly in its contradictory and unsupported discussion of the climatic and terrestrial impacts of increasing reliance on biopower and biofuels—reflect the same erroneous assumptions and evidentiary gaps addressed in the Center’s November 1, 2013, comments on the 2013 Scoping Plan Update Discussion

Draft.¹ That letter, and all accompanying exhibits, are hereby incorporated by reference and will be cited below as appropriate.

Specifically, the EA lacks an accurate and consistent description of the “project” under review; although the Proposed First Update should constitute the project being analyzed, the EA does not accurately reflect all aspects of the updated plan, as set forth in the text of the document itself or in many of the other documents attached or referred to in the document. Furthermore, the EA’s analysis of environmental impacts—particularly impacts to forest resources, air quality, and greenhouse gas emissions—is undermined by the lack of a complete and stable project description, as well as by demonstrably erroneous assumptions, internal inconsistencies and contradictions, and the lack of evidentiary support for key conclusions. Where the EA does identify significant impacts, moreover, it fails to consider feasible mitigation measures or alternatives within ARB’s control that could reduce or avoid these impacts.

The EA sets forth some laudable principles. For example, energy sector principles include “[t]horoughly account[ing] for the carbon intensity and air quality impacts of various energy resources, generation technologies, and associated fuels” and “[m]inimiz[ing] emissions of criteria air pollutants (CAPs) and toxic air pollutants (TACs).” EA at 9. However, absent accurate disclosure and analysis of the environmental effects of all aspects of the project under consideration—particularly efforts to expand biomass power generation, municipal waste incineration, and biofuels production—the EA cannot achieve these principles.

The Proposed First Update cannot be lawfully approved in reliance on the EA as drafted. Absent compliance with CEQA, the public is unable to understand or meaningfully comment on the environmental implications of the Proposed First Update, and ARB is incapable of making an informed decision that protects California’s environment to the greatest possible extent. *See generally Laurel Heights Improvement Assn. v. Regents of University of California*, 47 Cal. 3d 376, 392-94 (1988) (“*Laurel Heights I*”); *Friends of Mammoth v. Board of Supervisors*, 8 Cal. 3d 247, 259 (1972). The EA must be revised to comply with CEQA and recirculated for comment prior to ARB’s consideration of the Proposed First Update.

I. Legal Background

ARB’s regulatory program, at least in part, is a “certified regulatory program” for purposes of CEQA. Pub. Res. Code § 21080.5; CEQA Guidelines § 15251(d).² As such, the EA is considered the “functional equivalent” of an environmental impact report (“EIR”). *Ebbetts Pass Forest Watch v. California Dept. of Forestry & Fire Protection*, 43 Cal. 4th 936, 943 (2008); *POET, LLC v. State Air Res. Bd.*, 218 Cal. App. 4th 681,

¹ Center for Biological Diversity, Letter to Mary Nichols, Chair, California Air Resources Board, Re: 2013 Scoping Plan Update Discussion Draft (Nov. 1, 2013) (“Center Discussion Draft Comments”).

² All further undesignated statutory references are to the Public Resources Code.

709 (2013). Although a formal EIR is not required under a certified regulatory program, ARB nonetheless “must comply with all of CEQA’s other requirements.” *Mountain Lion Foundation v. Fish & Game Comm’n*, 16 Cal. 4th 105, 113-114 (1997); *POET, LLC*, 218 Cal. App. 4th at 710. Those requirements include the basic information disclosure and environmental protection features of an EIR, including an accurate project description, disclosure and evaluation of significant environmental effects, consideration of feasible alternatives and mitigation measures, and consideration of cumulative impacts. See *Ebbetts Pass*, 43 Cal. 4th at 943-44; see also *POET, LLC*, 218 Cal. App. 4th at 709 (“regulatory programs are certified when they involve ‘the same consideration of environmental issues as is provided by use of EIRs and negative declarations’”) (quoting CEQA Guidelines § 15002(1)).

Informed decision-making and public participation are central to CEQA’s fundamental purpose. See, e.g., *Citizens of Goleta Valley v. Board of Supervisors*, 52 Cal. 3d 553, 564 (1990) (purpose of EIR “is to inform the public and its responsible officials of the environmental consequences of their decisions *before* they are made”); *Laurel Heights I*, 47 Cal. 3d at 394 (“A fundamental purpose of an EIR is to provide decision makers with information they can use in deciding *whether* to approve a proposed project”); *No Oil, Inc. v. City of Los Angeles*, 13 Cal. 3d 68, 75 (1974) (“an EIR serves to guide an agency in deciding whether to approve or disapprove a proposed project”). Informed decision making, moreover, is essential not only to environmental protection, but also to participatory democracy. “Because the EIR must be certified or rejected by public officials, it is a document of accountability. If CEQA is scrupulously followed, the public will know the basis on which its responsible officials either approve or reject environmentally significant action, and the public, being duly informed, can respond accordingly to action with which it disagrees.” *Laurel Heights I*, 47 Cal. 3d at 392. The CEQA process thus “protects not only the environment but also informed self-government.” *Id.*

The EA offers a “program-level” analysis of the impacts of the Proposed First Update, and explains that the level of analysis offered is not as “detailed” as would be offered in a project-level assessment. EA at 3. However, ARB may not defer thorough analysis of environmental impacts that can be addressed, given that the agency knows a great deal about what its project entails, simply by stating that the EA is a “programmatic” document. See, e.g., *Friends of Mammoth v. Town of Mammoth Lakes Redevelopment Agency*, 82 Cal.App.4th 511, 533 (2000). To the contrary, the purposes of a programmatic environmental document include providing “an occasion for a *more exhaustive* consideration of effects and alternatives that would be practical in an EIR on an individual action,” ensuring “consideration of cumulative effects that might be slighted in a case-by-case analysis,” and avoiding “duplicative reconsideration of basic policy considerations.” CEQA Guidelines § 15168(b)(1)-(3) (emphasis added). Nor are programmatic documents exempt from CEQA’s requirement that public agencies adopt all feasible measures to reduce or avoid significant environmental effects. § 21002. Rather, a programmatic analysis must “consider broad policy alternatives and program

wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts.” CEQA Guidelines § 15168(b)(4).

II. The EA’s Project Description is Inadequate

In order for an environmental document to adequately evaluate the environmental ramifications of a project, it must describe the proposed project with sufficient detail and accuracy to permit informed decision-making. *See* CEQA Guidelines §15124. Indeed, “[a]n accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR.” *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus*, 27 Cal. App. 4th 713, 730 (1994), quoting *County of Inyo v. City of Los Angeles*, 71 Cal. App. 3d 185, 193 (1977). As a result, courts have found that, even if an environmental document is adequate in all other respects, the use of a “truncated project concept” violates CEQA and mandates the conclusion that the lead agency did not proceed in a manner required by law. *San Joaquin Raptor*, 27 Cal. App. 4th at 730. Furthermore, “[a]n accurate project description is necessary for an intelligent evaluation of the potential environmental effects of a proposed activity.” *Id.* (citation omitted). Thus, an inaccurate or incomplete project description renders the analysis of significant environmental impacts inherently unreliable. *See Communities for a Better Env’t v. City of Richmond*, 184 Cal. App. 4th 70, 82-83 (2010) (approval of EIR based on inadequate project description constitutes legal error). Because an accurate and stable project description is essential to analysis of environmental effects, and critical to fulfillment of CEQA’s fundamental informational goals, these requirements apply with equal force to “functional equivalent” documents prepared under certified regulatory programs.

The EA’s project description fails to meet these standards, largely because the recommended actions and compliance responses discussed in the project description do not fully reflect proposals in the Proposed First Update or the accompanying technical “working papers” (compiled in Proposed First Update Appendix C).

For example, in the description of proposed actions for the transportation sector, the EA acknowledges the Proposed First Update’s recommendation to extend and strengthen the low carbon fuel standard (“LCFS”). EA at 16. The Proposed First Update also refers to the expanded role of biofuels under the state’s 2012 Bioenergy Action Plan.³ *See* Proposed First Update at 70. Nothing in the EA’s description of compliance responses, however, mentions the role of biofuels (particularly cellulosic biofuels) either in the LCFS context or in the context of the Bioenergy Action Plan. EA at 17.

According to the Bioenergy Action Plan, “[b]iomass is expected to play a key role as a feedstock for the production of transportation fuels needed to meet LCFS and the federal Renewable Fuel Standard (RFS2).”⁴ Much of this is expected to come from cellulosic feedstocks (including “woody biomass from dedicated agricultural crops, crop

³ Bioenergy Interagency Working Group, 2012 Bioenergy Action Plan (Aug. 2012) (attached as Ex.1).

⁴ *Id.* at 12.

and forest residues, and other urban biomass waste”) that are not currently in commercial production. The Bioenergy Action Plan estimates the availability of potential cellulosic feedstocks at 18.05M bone dry tons (“BDT”) per year.⁵ Reaching this potential from the current near-zero level of utilization would obviously represent a huge expansion in feedstock production, harvest, and processing. The EA acknowledges the importance of the Bioenergy Action Plan in other contexts. *See* EA at 21-22 (agriculture sector). Yet the EA fails to identify any anticipated level of biofuels expansion as part of the proposed project.

The waste management section of the project description does not mention any increase in combustion of municipal solid waste (“MSW”) and biomass, both of which may result in greenhouse gas (“GHG”) and other air pollutant emissions. EA at 24-27. Yet the Proposed First Update includes expansion of “municipal solid waste (MSW) thermal operations (waste-to-energy)” as well as “biomass management (combustion, composting, chip and grind).” Proposed First Update at 75. Moreover, one of the main goals of the Bioenergy Action Plan is to “[i]ncrease energy production from urban-derived biomass.”⁶ The EA’s description of compliance responses, however, refers only to new or expanded “composting and anaerobic digestion facilities”—not new or expanded biomass conversion or waste-to-energy facilities—and makes only oblique references to new offset protocols for “biomass.” EA at 26. Expanded biomass combustion and waste-to-energy applications are part of the Proposed First Update and are foreseeable compliance responses. Because the EA omits that these applications are, in fact, part of the project, it cannot provide the basis for adequate analysis of environmental impacts, properly inform decision-makers, and facilitate meaningful public comment.

Finally, the cap-and-trade section of the project description similarly fails to disclose that the cap-and-trade program—as acknowledged in the Bioenergy Action Plan—was specifically “designed to incent the use of biomass derived fuels” by relieving sources of biomass GHGs from compliance obligations.⁷ This section of the project description also fails to identify any recommendations or compliance responses associated with new offset protocols for “biomass.” EA at 26. Again, these omissions preclude full environmental analysis and frustrate CEQA’s informational goals.

⁵ Id. at 6.

⁶ Id. at 21.

⁷ Id. at 13.

III. The EA Fails to Adequately Disclose, Analyze, and Consider Feasible Mitigation for the Proposed First Update’s Significant and Potentially Significant Environmental Effects

A. Agriculture and Forest Resources

Natural and Working Lands Sector

The EA acknowledges that expanding biomass operations may affect forests, although the document claims that there is no way to assess potential impacts because the exact locations and characteristics of biomass facilities are not known and other agencies will be responsible for permitting and mitigation. *See* EA at 56-57. The fact that the EA is a programmatic document cannot excuse this highly generalized, inadequate level of disclosure and analysis.

ARB must make a good-faith effort to disclose, at the level of the Proposed First Update, what overall scale of expansion is planned and what the environmental effects might be. Both the Proposed First Update and the EA recognize that expansion is intended to happen in accordance with the Bioenergy Action Plan. *See* EA at 27, 28 (forecasting “increased use of biomass facilities” as compliance response); *see also* Proposed First Update at 85, 108. A core goal of the BAP is to “increase biomass use for energy production” primarily by “[d]evelop[ing] policies and programs to increase sustainable use of biomass residues from the forestry, agricultural, and urban sectors”⁸ Indeed, the Bioenergy Action Plan’s first two goals are (1) to “[i]ncrease environmentally and economically sustainable energy production from biomass residues, including but not limited to forest-derived wood waste, agricultural and food processing waste, wastewater, and urban-derived biomass,” and (2) to “[i]ncrease the use of biomass for local distributed generation, combined heat and power facilities, fuel cells, and renewable transportation fuels.”⁹ The plan also recommends seeking legislative and executive “direction regarding increased biomass use” and working to “[f]acilitate growth of California’s biomass industry” by streamlining regulatory processes.¹⁰ Some level of bioenergy expansion is clearly envisioned by the Proposed First Update, and ARB has a responsibility to estimate what level is likely.

In fact, the scale of expansion could be dramatic. According to the Bioenergy Action Plan, “[t]echnically available biomass is estimated to be approximately 36 million bone dry tons per year (BDT/year) in 2010 and 40 million BDT/year in 2020 (not including purpose grown energy crops). In 2010, existing solid-fuel biomass facilities used about 4.5 million bone-dry tons of biomass residues to generate over 4,300 GWh (less than 15 percent of the resource).”¹¹ A recent fuel procurement study for a biomass plant in the Lake Tahoe basin estimated that forest fuels treatments would produce an

⁸ Id. at 17.

⁹ Id. at 18.

¹⁰ Id. at 18-19.

¹¹ Id. at 10.

average of 13 BDT per acre.¹² At this level of production, generating 36 million BDT from fuels treatments would require logging 2,769,231 acres per year—the equivalent of logging the entire 20.8 million acres of National Forest lands in California about once every 7.5 years. Even at a far more aggressive biomass removal rate of 30 BDT/acre, generating this amount of biomass would require logging 1,200,000 acres per year, the equivalent of logging California’s entire National Forest acreage about once every 17 years.

ARB may feel that expanding biomass utilization to the technically available maximum is unrealistic. Yet ARB still has a responsibility to forecast what level of expansion is likely to occur, given that such expansion is an explicit goal of the Proposed First Update and the Bioenergy Action Plan. *See* CEQA Guidelines §§ 15144, 15151. This is especially the case given that the Bioenergy Action Plan and supporting documents for the Proposed First Update acknowledge increased utilization may cause ecosystem damage.¹³

The EA may not avoid this analysis by claiming that development of bioenergy facilities will not result in increased biomass demand. *See* EA at 56-57 (asserting that “[t]he generation of woody biomass would occur regardless of the proposed biomass project”). This not only defies economic logic but also contradicts the goals of the Bioenergy Action Plan. Indeed, one major purpose of that plan is to use bioenergy facilities to make forest thinning operations more economically practicable; thus new biomass facilities are specifically intended to facilitate the harvest and removal of woody biomass which would not have been economical—and thus would *not* have occurred—without the proposed biomass project.¹⁴ The creation of economic incentives to conduct additional logging and forest thinning operations must be analyzed in the EA. *See, e.g., California Unions for Reliable Energy v. Mojave Desert Air Quality Mgmt. Dist.*, 178 Cal. App. 4th 1225 (2009). Absent such analysis, the EA’s conclusion that disposal of woody biomass at bioenergy facilities “would not have a substantial, long-term effect on forest resources,” EA at 57, lacks any evidentiary basis.

The EA’s proposed mitigation measures are also inadequate. The EA acknowledges that forest resource impacts from bioenergy expansion are potentially significant, and claims they could be mitigated to a less-than-significant level, but then argues that all such mitigation is “beyond the authority of the ARB and not within its purview.” EA at 57. Mitigation measure 2.f, for example, simply refers back to

¹² TSS Consultants, *Fuel Procurement Plan for the Lake Tahoe Basin Biomass Power Facility* 13 (Feb. 26, 2011) (attached as Ex. 2).

¹³ Bioenergy Action Plan at 17 (identifying necessity of “safeguards to protect and restore ecosystem health”); Proposed First Update App. C, Energy Working Paper at 57 (recommending that state develop “a uniform state sustainable forest biomass usage policy” to reduce impacts from increased utilization).

¹⁴ *Id.* at 6. 9 (discussing ways in which new bioenergy facilities, if able to charge enough for electricity generated, could lead to thousands of acres of additional forest treatment).

mitigation measure 2.a, which says only that other agencies will follow applicable laws and conduct CEQA reviews for future projects. *See* EA at 51-52, 57-58.

This is insufficient. An agency may disclaim responsibility for mitigation measures only if they are exclusively the responsibility of other agencies. *City of Marina v. Board of Trustees of California State University*, 39 Cal. 4th 341, 366 (2006). Moreover, even in a programmatic environmental document, a lead agency has the responsibility to evaluate feasible mitigation measures that *are* under its control. *See* CEQA Guidelines § 15168(b)(4), (c)(3). The EA fails to identify any feasible mitigation measures that are within ARB's "purview," such as delaying efforts to expand biomass facilities as called for in the Bioenergy Action Plan until the state develops forest sustainability criteria and other environmental safeguards. These safeguards, moreover, are not solely the responsibility of other agencies, but rather are at least partly ARB's responsibility. The Bioenergy Action Plan explicitly tasked various agencies with developing standards to ensure the sustainability of increased biomass harvests and harvest practices.¹⁵ ARB was listed as a supporting and participating agency in this context, particularly in light of ARB's authority over the LCFS program, which will rely heavily on biofuels.¹⁶ ARB cannot simply push these responsibilities onto other agencies.

Finally, the EA's "conservative" conclusion that impacts will be significant and unavoidable, EA at 58, lacks support. The conclusion may or may not be conservative, but absent adequate analysis of impacts and consideration of mitigation measures, it is also a legally impermissible shortcut. *Berkeley Keep Jets Over the Bay Comm. v. Bd. of Port Comm'rs*, 91 Cal.App.4th 1344, 1371 (2001) (agency may not "travel the legally impermissible easy route to CEQA compliance" by making a significance determination without fully analyzing a project's effects).

Cap-and Trade Sector

The discussion of cap-and-trade sector actions and responses entirely fails to disclose or analyze any potential effects of recommendations that ARB adopt additional offset protocols for "biomass." EA at 26. This omission results in inadequate disclosure and analysis of the possible effects of recommended cap-and-trade sector actions.

B. Air Quality

Energy Sector

The EA's analysis and conclusions regarding potential air quality impacts from energy sector recommendations and compliance actions are inadequate.

¹⁵ *Id.* at 20-21.

¹⁶ *Id.*

The EA acknowledges that new renewable energy projects could be built in response to the Proposed First Update, but claims that these facilities “could result in an indirect emission reduction by displacing emissions associated with fossil-fuel fired power plant electricity generation that otherwise would occur. Thus, implementing such actions could also be beneficial to air quality conditions through replacement of coal, or other fossil-fueled power plants.” EA at 64. Bioenergy facilities are not mentioned, but as discussed below (under the natural and working lands sector), these facilities may have substantially higher criteria pollutant emissions than gas-fired and even coal-fired facilities.¹⁷

The EA states that unspecified types of renewable energy facilities may have potential criteria and hazardous air pollutant (“HAP”) emissions, but then concludes that following project-level review and mitigation, none of these sources would have emissions above applicable significance thresholds. EA at 64-65. Accordingly, the EA concludes that operational emissions will be less than significant. *Id.* There is no evidentiary basis for this claim, and in fact the evidence strongly points in the opposite direction. Significance thresholds—especially in areas of California that already experience poor air quality—are quite stringent. For example, in the San Joaquin Valley Air Pollution Control District, the emission of 10 tons per year of NO_x or reactive organic gases is considered significant.¹⁸ A draft update to these thresholds published in 2012 would consider 15 tons per year of PM_{2.5} or PM₁₀ significant.¹⁹ A wide range of facilities could easily exceed these thresholds. Moreover, nothing in CEQA requires a project’s effects to be mitigated to a level of insignificance, provided all other applicable legal requirements are satisfied. PRC 21081(a)(3), (b). There is no basis for the EA’s conclusion that the air quality impacts of all conceivable renewable energy facilities will be less than significant.

Waste Management Sector

The EA completely fails to disclose or analyze any potential air quality impacts of increased municipal solid waste (“MSW”) conversion, transformation, and incineration, even though expanding waste-to-energy technologies and utilization are explicit goals of the First Proposed Update (at 75), Bioenergy Action Plan (at 21), and the Waste Management Working Paper (*passim*). Instead, the EA discloses only that the Proposed First Update could lead to construction of new anaerobic digesters and composting

¹⁷ Without explanation, the EA seems to split discussion of the impacts of renewable energy facilities in two, with bioenergy facilities discussed variously under the natural and working lands, agriculture, and waste management sectors, and other facilities discussed under the energy sector. This is needlessly confusing and does not contribute to meaningful public understanding of the impacts at issue.

¹⁸ San Joaquin Valley Air Pollution Control District, *Guide for Assessing and Mitigating Air Quality Impacts* 26 (Table 4-1) (Jan. 2002) (attached as Ex. 3).

¹⁹ San Joaquin Valley Air Pollution Control District, *Draft Guidance for Assessing and Mitigating Air Quality Impacts* 84 (Table 6) (April 2012) (attached as Ex. 4).

facilities, and fails to mention the conventional waste combustion, gasification, pyrolysis, and plasma arc technologies discussed throughout the Waste Management Working Paper. This failure to disclose and analyze a substantial aspect of the project under consideration violates CEQA as a matter of law.

The EA's significance conclusions also lack support. As in its energy sector analysis, the EA states that because individual facilities would have to obtain permits and go through CEQA review, there would be no emissions above significance thresholds from any facility, and that overall impacts would therefore be less than significant. EA at 71-72. There is no legal or evidentiary basis for this conclusion. Emissions from waste-to-energy facilities—particularly large facilities burning biomass materials, plastics, and other municipal waste—easily could exceed the significance thresholds discussed above. Again, nothing in CEQA requires a project to be mitigated to a level of insignificance, provided all other applicable legal requirements are satisfied. § 21081(a)(3), (b). The EA's conclusions regarding the significance of air quality impacts cannot be supported.

Natural and Working Lands Sector

The EA acknowledges that construction and operation of new biomass facilities could have significant air quality impacts. EA at 75-77. The analysis, however, lacks detail essential to public and decision-maker understanding of the scale and severity of these impacts. The document's mitigation measures and significance conclusions also lack legal and factual support.

Bioenergy facilities are significant sources of conventional air pollutants. For example, a PSD permit evaluation for a new 31-MW biomass power plant proposed by Sierra Pacific Industries in Anderson, California, shows the following potentials to emit for criteria pollutants: CO at 472 tpy, NO_x at 267 tpy, PM₁₀ and PM_{2.5} at 42.1 tpy, and VOCs at 34.9 tpy.²⁰ Indeed, a recent study of 88 air permits for bioenergy facilities shows that permitted criteria air pollutant emission rates for biomass facilities typically exceed those for coal facilities on a lbs/MWh basis, and vastly exceed those for NG facilities (“by more than 800% for every major pollutant”).²¹ For every megawatt of bioenergy that displaces a megawatt of conventional (largely gas-fired) generation in California, therefore, criteria pollutant and HAP emissions will likely increase. The EA must be revised to consider these impacts on air quality in light of the expansion of biomass operations recommended in the Proposed First Update and the documents on which it relies.

²⁰ USEPA Region IX, *Statement of Basis and Ambient Air Quality Impact Report, Sierra Pacific Industries—Anderson*, Permit No. SAC 12-01 at 9 (Sept. 2012) (attached as Ex. 5).

²¹ Mary S. Booth, Ph.D., *Trees, Trash, and Toxics: How Biomass Energy Has Become the New Coal* 5 (April 2, 2014) (attached as Ex. 6).

The EA in this section also once again improperly disclaims ARB's responsibility for mitigation. As discussed above, ARB is designing the Proposed First Update and helping to pursue a Bioenergy Action Plan intended to aggressively increase biomass use. ARB could change that plan to rely less on renewable energy sources that may cause even more air pollution than the fossil sources they are meant to displace. Once again, the EA cannot avoid CEQA's requirements for adequate disclosure and analysis, and disclaim ARB's responsibility for mitigation, by simply asserting that impacts will be significant and unavoidable. *Berkeley Keep Jets Over the Bay Committee*, 91 Cal.App.4th at 1371.

C. Greenhouse Gases

Energy Sector

The EA's conclusion that long-term greenhouse gas impacts from the energy sector will be beneficial (EA at 126) is not supported by adequate analysis or evidence.

The EA states that carbon capture and sequestration ("CCS") facilities could be built in response to the Proposed First Update. EA at 124. The EA's project description section acknowledges that CCS could be used for enhanced oil recovery ("EOR"), EA at 15, 18, but the environmental impact section does not address this possibility. *See* EA at 125-26. The EA thus omits discussion of the potentially significant greenhouse gas emissions that could result from combustion of the oil developed from EOR operations.

Indeed, the indirect emissions resulting from EOR could exceed the volume of CO₂ stored. According to a recent National Energy Technology Laboratory/Department of Energy report, 67.2 billion barrels of oil could become economically recoverable nationwide using "next generation" EOR technology.²² Recovering this amount of oil would require 17.6 billion metric tonnes ("Gt") of CO₂ from anthropogenic (i.e., industrial) sources.²³ Using an EPA emission factor of .43 metric tonnes CO₂ per barrel of oil,²⁴ consumption of 67.2 billion barrels of otherwise unproduced oil would result in emissions of 28.9 Gt CO₂—11.3 Gt more CO₂ than would be captured from industrial sources and sequestered in the course of producing the oil. This is obviously a rough comparison that assumes (a) permanent and complete sequestration of all injected CO₂ following oil production and (b) that the oil otherwise could not and would not be produced using another method (i.e., that it would "stay in the ground"). It nonetheless points to the potentially significant *increase* in greenhouse gas emissions that could result

²² U.S. Dept. of Energy and Nat'l Energy Tech. Laboratory, *Improving Domestic Energy Security and Lowering CO₂ Emissions with Next Generation CO₂-Enhanced Oil Recovery (CO₂-EOR)* 10 (June 20, 2011), available at www.netl.doe.gov/File%20Library/Research/Energy%20Analysis/Publications/DOE-NETL-2011-1504-NextGen_CO2_EOR_06142011.pdf (accessed April 28, 2014).

²³ *Id.*

²⁴ U.S. EPA, Calculations and References, at <http://www.epa.gov/cleanenergy/energy-resources/refs.html> (accessed April 28, 2014).

from this use of CO₂. Depending on how much CO₂ is captured and used for EOR, any emissions reductions achieved by CCS could be cancelled out, or even exceeded, by CO₂ emissions from the resulting oil production. The EA fails even to acknowledge, much less to consider the significance of, this potential impact.

The EA also assumes that any electricity generation qualifying as “renewable” will reduce GHG emissions. EA at 126. As described in the Center’s comments on the Discussion Draft, this is not true of bioenergy, which is substantially more carbon-intensive than other renewables and even than fossil fuels.²⁵ The EA’s conclusions regarding the impact of GHG emissions from this sector thus further lack support.

Recent research is also showing that cellulosic biofuels of the kind that will be necessary to fulfill expanded LCFS mandates, whether made from agricultural residue or woody materials, may not be effective in reducing GHG emissions, at least not in the time frame relevant for consideration under AB 32 and Executive Order S-3-05.²⁶ Other studies have pointed out the importance of considering direct and indirect land use change in evaluating the overall GHG impacts of biofuels production and use.²⁷ The EA must be revised to consider the expanded use of biofuels under the Proposed First Update and the likely effect on GHG emissions in light of current scientific understanding.

Agriculture Sector

Rather than considering the effects of increased biofuels usage in the transportation sector—where one might expect to find impacts related to expanding the LCFS—the EA cursorily addresses these effects in the agriculture sector. Wherever the analysis appears, it is insufficient.

The EA properly acknowledges that “[d]epending on the feedstock and production process and time horizon of the analysis, biofuels can emit even more GHGs than some fossil fuels on an energy-equivalent basis.” EA at 128. Yet the EA fails to address the significance of this acknowledgment. Instead, the EA simply dismisses the impact: “[B]ecause the Proposed Update would include research and coordination between State, local, and national conservation programs to reduce GHG emission reductions [*sic*], the recommendations under the Agriculture Sector would result in reduced GHG emissions.” *Id.* From this, the EA concludes that impacts associated with

²⁵ Discussion Draft Comments at 4-5; *see also* Comments of the Center for Biological Diversity on the 2013 AB 32 Scoping Plan Update (Aug. 5, 2013) (attached as Ex. 7).

²⁶ *See, e.g., Adam Liska, et al., Biofuels from Crop Residue Can Reduce Soil Carbon and Increase CO₂ Emissions*, Nature Climate Change (April 20, 2014), DOI: 10.1038/NCLIMATE2187 (attached as Ex. 8); Jon McKechnie, et al., *Forest Bioenergy or Forest Carbon? Assessing Trade-Offs in Greenhouse Gas Mitigation with Wood-Based Fuels*, 45 Environ. Sci. Technol. 789 (2011) (attached as Ex. 9 to Discussion Draft Comments).

²⁷ *See, e.g., Jerry M. Melillo, et al., Indirect Emissions from Biofuels: How Important?* ScienceExpress 10.1126/science.1180251 (Oct. 22, 2009) (attached as Ex. 9).

the Agriculture sector will be beneficial. *Id.* Yet the EA fails to explain how unspecified “coordination” efforts among unidentified “conservation programs” to “reduce GHG emission reductions” will ensure that potential *increases* in emissions relative to fossil fuels somehow actually turn out to be *reductions*. The EA identifies no evidence in support of this conclusion.

In any event, CEQA does not permit an agency to identify an impact, and then to dismiss it based on vague promises of future “research and coordination.” Having acknowledged that biofuels may increase GHG emissions, and may have other undesirable environmental effects (EA at 128), ARB must “do more than agree to a future study of the problem.” *California Clean Energy Committee v. City of Woodland*, __ Cal.App.4th __, 2014 Cal. App. LEXIS 300, 38 (Cal. App. 3d Dist. Feb. 28, 2014). Nor does the “programmatic” nature of the EA excuse ARB from at least attempting to provide some meaningful analysis here. “While proper tiering of environmental review allows an agency to defer analysis of certain details of later phases of long-term linked or complex projects until those phases are up for approval, CEQA’s demand for meaningful information ‘is not satisfied by simply stating information will be provided in the future.’” *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova*, 40 Cal. 4th 412, 431 (2007) (quoting *Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2003) 106 Cal.App.4th 715, 723).

Waste Management Sector

Once again, this section of the EA fails to disclose or analyze the increased use of waste-to-energy technologies envisioned in the Proposed First Update, the Bioenergy Action Plan, and the Waste Management Working Paper. *See* EA at 130. Absent such disclosure and analysis, there is no support for the EA’s conclusion that impacts will be beneficial.

The documents underlying the Proposed First Update also contain serious errors that further undermine the EA’s analysis. The Waste Management Working Paper, for example, states that “only the emissions from combustion of nonbiogenic material (such as fossil fuels) are counted as GHG emissions that contribute to climate change per protocols established by the Intergovernmental Panel on Climate Change (IPCC).”²⁸ On this basis the Working Paper concludes that “California biomass conversion operations result in net negative GHG emissions. While these facilities result in direct GHG emissions (mostly as carbon dioxide) when biomass is burned, the majority of these emissions are biogenic, and not counted as discussed above.”²⁹ On the basis of this assumption, the Working Paper goes so far as to conclude that the more biomass facilities built, the greater the reduction in overall GHG emissions.

²⁸ Waste Mgt. Working Paper at 75; see also *id.* 88 (repeating same error in discussion of GHG emissions from conversion of biogenic fraction of MSW).

²⁹ *Id.* at 76.

As discussed in the Center’s comments on the Discussion Draft, these conclusions are based on a demonstrably erroneous interpretation of IPCC guidelines—one now expressly disavowed by both the IPCC and EPA, and one that has no basis in physical science.³⁰ Accordingly, this erroneous interpretation cannot constitute substantial evidence in support of any conclusion in the EA. CEQA Guidelines § 15384(a) (“evidence which is clearly erroneous or inaccurate . . . does not constitute substantial evidence”).

The Bioenergy Action Plan also suggests that combustion of urban-derived lumber will avoid GHG emissions, particularly methane emissions, associated with landfill disposal of that material.³¹ Large woody materials, however, tend to stay sequestered in landfills and do not generate much, if any, methane.³² While landfill diversion and the reduction of landfill methane emissions are very important goals, increasing combustion of urban-derived wood for bioenergy may have the effect of increasing rather than reducing GHG emissions. To the extent that the Proposed First Update incorporates efforts to increase combustion of urban-derived waste wood, the EA must accurately assess the environmental impact of these efforts.

Natural and Working Lands Sector

This section of the EA contains serious errors, and contradicts other sections of the EA and the white papers supporting the Proposed First Update. Chief among these errors is the claim that combustion of biomass is “‘carbon neutral’ by virtue that the CO₂ emissions are already part of the carbon cycle.” EA at 131.

The blanket assumption that biomass combustion is *a priori* “carbon neutral” has no factual support, as described in our comments on the Discussion Draft.³³ The “natural carbon cycle” theory of carbon neutrality in particular is entirely unsupported and demonstrably incorrect. Reducing terrestrial carbon stocks results in a transfer of carbon to the atmosphere. While trees, plants, and soils may not store carbon for as long as fossil fuel materials, trees and soils in particular can store that carbon for periods of time relevant to climate mitigation efforts—and certainly for periods of time relevant to California’s 2020 and 2050 emission reduction goals. When that carbon is in terrestrial stocks, it is not exerting a warming effect on the atmosphere. When that carbon is oxidized to CO₂, however, it does exert a warming effect on the atmosphere. The atmosphere cannot tell the difference between a molecule of biogenic CO₂ and a molecule of fossil CO₂.³⁴ Both trap heat for as long as they remain in the atmosphere.

³⁰ Discussion Draft Comments at 8-9, nn. 17-19, & Ex. 6, 14-16.

³¹ Bioenergy Action Plan at 14.

³² J. A. Micales & K. E. Skog, *The Decomposition of Forest Products in Landfills*, 39 International Biodeterioration & Biodegradation 145 (1997) (attached as Ex. 10).

³³ Discussion Draft Comments at 5-7, nn. 11-15, & Ex. 6-12.

³⁴ Science Advisory Board Review of EPA’s Accounting Framework for Biogenic CO₂ Emissions from Stationary Sources 7 (Sept. 28, 2012) (hereafter “SAB Panel Report”).

Indeed, taken to its logical extreme, the “natural carbon cycle” theory would lead to the absurd conclusion that deforestation has no effect on climate change. Under a literal application of this theory, every single tree, shrub, and blade of grass on Earth could be burned tomorrow and converted into CO₂ with no discernible effect on the climate.

Scientists and policy-makers agree, however, that deforestation—which necessarily entails conversion of sequestered biogenic carbon into atmospheric CO₂—does contribute to climate change. Ten to 15 percent of global carbon emissions result from deforestation and forest degradation, primarily in the tropics.³⁵ These emissions are estimated at between 1,400 and 2,000 Tg per year.³⁶ Although U.S. forests are generally considered a net carbon sink, this may be true only due to significant global leakage related to domestic demand for wood and agricultural products.³⁷ The United States has also experienced the greatest loss of forest cover, as a proportion of forest cover in the year 2000, of any country with more than one million square kilometers of forest.³⁸ GHG emissions associated with these losses are significant contributors to climate change notwithstanding their “biogenic” character.³⁹ By the same token, a wide-scale shift to woody biomass energy generation could result in conversion of nearly all of the world’s unmanaged forests and much of its pastureland to energy plantations.⁴⁰

The “natural carbon cycle” theory also ignores the fact that a tremendous amount of primary forest, representing a huge proportion of historic biogenic carbon stores, has been lost during the last few centuries. According to recent maps compiled by the World Resources Institute, only 21 percent of the world’s forests are “intact,” and 47 percent have been lost entirely.⁴¹ Between 1850 and 2000, global land use change caused emissions of 156,000 Tg of carbon, mostly from deforestation.⁴² Recent studies indicate

(attached as Ex. 6 to Discussion Draft Comments); *Center for Biological Diversity v. EPA*, 722 F.3d 401, 406 (D.C. Cir. 2013) (“In layman’s terms, the atmosphere makes no distinction between carbon dioxide emitted by biogenic and fossil-fuel sources”).

³⁵ See Gregory P. Asner, et al., *High-Resolution Forest Carbon Stocks and Emissions in the Amazon*, Proc. Nat’l Academy of Sci. Early Edition (2010) (attached as Ex. 11).

³⁶ Michael G. Ryan, et al., *A Synthesis of the Science on Forests and Carbon for U.S. Forests*, Ecological Society of America: Issues in Ecology, Report No. 13 (Spring 2010) at 5 (attached as Ex. 12).

³⁷ *Id.* at 5-6.

³⁸ Matthew C. Hansen, et al., *Quantification of Global Gross Forest Cover Loss*, 107 Proc. Nat’l Academy of Sci. 8650 (May 11, 2010) (attached as Ex. 13).

³⁹ See Eric Johnson, *Goodbye to Carbon Neutral: Getting Biomass Footprints Right*, 29 Env’tl. Impact Assessment R. 165 (2008) (attached as Ex. 14).

⁴⁰ See Marshall Wise, et al., *Implications of Limiting CO₂ Concentrations for Land Use and Energy*, 324 Science 1183 (2009) (attached as Ex. 15).

⁴¹ World Res. Inst., *State of the World’s Forests* (Jan. 8, 2009), at <http://www.wri.org/resource/state-worlds-forests> (accessed April 28, 2014).

⁴² Ryan 2010, *supra* note 36 at 6.

that the density of remaining forest cover may be lower and far more variable than previously thought.⁴³ This historic and continuing loss of forest biomass—much of which has been burned or otherwise converted into atmospheric carbon pollution—represents a tremendous existing carbon debt, one that further emissions of biogenic carbon can only increase. To extend the debt metaphor, continuing to burn trees for energy isn't like balancing a checkbook. It's like taking out another mortgage on a house that's already far underwater.

In support of this thoroughly discredited assertion, the EA cites CEQA review documents for three biomass facilities. However, neither the EIR for the Buena Vista facility nor the EIR for the Placer County facility even made the assumption that biomass combustion is “carbon neutral,” much less that it is carbon neutral because biogenic CO₂ is “part of the carbon cycle.” Although the final version of the EIR for the Sierra Pacific Industries Anderson facility did ultimately assume that biomass combustion was “carbon neutral,” it did so only after having assumed in prior versions of the document that it was not. And in any event, after a federal court invalidated EPA's unlawful exemption of biogenic CO₂ from Clean Air Act permitting requirements, *Center for Biological Diversity v. EPA*, 722 F.3d 401 (D.C. Cir. 2013), Sierra Pacific Industries submitted a PSD permit to EPA Region IX acknowledging that the facility will emit 432,439 tons CO₂-equivalent (including 423,526 tons of CO₂, nearly all of it biogenic) every year.⁴⁴ Nothing cited in the EA provides any support at all for the assertion that biomass combustion is “carbon neutral” because the CO₂ released is part of a “natural carbon cycle.”

The EA also asserts that “[a] modeling study by the California Energy Commission suggests that biomass power facilities that consume hazardous fuels removed from forests provide a GHG benefit over time because the thinned forests are less likely to become subject to more intense, catastrophic, GHG-emitting wildfires.” EA at 133. The Natural and Working Lands Working Paper similarly asserts that “[t]he near-term carbon emissions associated with the thinning can be reduced if the waste material is used at a local biomass facility to generate energy.”⁴⁵ As a threshold matter, these assertions serve to underscore the EA's inconsistent deployment of the “natural carbon cycle” theory. If bioenergy emissions are part of a natural carbon cycle that has no effect on the atmosphere, there is no reason to count reductions or offsets of wildfire emissions, because those emissions are also part of the same “natural carbon cycle.” The EA cannot have it both ways.

In any event, several other studies—including peer-reviewed, published studies and one additional study funded by the Energy Commission itself—have concluded that

⁴³ See Asner 2010, *supra* note 35.

⁴⁴ USEPA Region IX, *Supplemental Statement of Basis and Ambient Air Quality Impact Report for Greenhouse Gas Emissions, Sierra Pacific Industries—Anderson*, PSD Permit No. SAC 12-01 at 12 (Table 3-3) (November 2013) (attached as Ex. 16).

⁴⁵ Natural and Working Lands Working Paper at 15.

forest thinning treatments nearly always result in greater losses of carbon stocks (and greater atmospheric emissions) than they avoid in wildfire emissions.⁴⁶

Finally, the EA's assertion that biomass combustion is "carbon neutral" because the CO₂ released is part of the "natural carbon cycle" flatly contradicts other assertions in the EA and accompanying white papers. The acknowledgment in the agriculture sector discussion that biofuels can emit more GHGs than fossil fuels depending on feedstock (EA at 128) is a case in point, as is the Energy White Paper's recognition that "[f]urther work is needed to analyze existing state and federal forest and wildland protections to ensure that biomass use will not increase net long-term GHG emissions."⁴⁷ It is irrational and arbitrary for the EA to deploy multiple, contradictory rationales for its conclusions. As a result, the conclusion that the expansion of bioenergy envisioned in the SPU and BAP will have a less than significant impact is misleading and lacks evidentiary support.

IV. The EA Fails to Consider Feasible Alternatives Within ARB's Control that Could Alleviate Significant and Potentially Significant Environmental Impacts

Given the risk that increasing reliance on bioenergy may increase GHG and criteria pollutant emissions, while also increasing impacts to forests and habitat, the EA should articulate an alternative that delays implementation of aggressive expansion of bioenergy pending completion of the study and analysis recommended in portions of the documents. Absent this analysis, the EA cannot conclude that the proposed project is better at meeting stated objectives (particularly objectives 1, 2, 3, 6, 9, and 10, EA at 251-52) than an alternative that does not rely on bioenergy expansion.

V. Conclusion

For the foregoing reasons, the EA does not comply with CEQA. A revised EA must be prepared and recirculated for comment before ARB can lawfully approve the Proposed First Update.

⁴⁶ See Discussion Draft Comments at 10-12; Stephen R. Mitchell, et al., *Carbon debt and carbon sequestration parity in forest bioenergy production*, Global Change Biology Bioenergy (2012), doi:10.1111/j.1757-1707.2012.01173.x (attached as Ex. 7 to Discussion Draft Comments); John L. Campbell, et al., *Can fuel-reduction treatments really increase forest carbon storage in the western US by reducing future fire emissions?* Front. Ecol. Env't (2011), doi:10.1890/110057 (attached as Ex. 17 to Discussion Draft Comments); Tara Hudiburg, et al., *Regional carbon dioxide implications of forest bioenergy production*, Nature Climate Change (2011), doi: 10.1038/NCLIMATE1264 (attached as Ex. 18 to Discussion Draft Comments); T.R.H. Pearson, et al., *Emissions and potential emission reductions from hazardous fuel treatments in the WESTCARB region*, California Energy Commission (2010) (attached as Ex. 17).

⁴⁷ Energy Working Paper at 57.

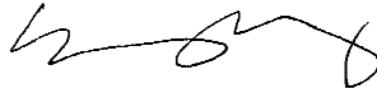
California Air Resources Board

Re: Draft EA for the Proposed First Update to the Climate Change Scoping Plan

April 28, 2014

Thank you for your consideration of these comments. We would be happy to meet at your convenience to discuss our comments and the supporting documents. We look forward to working with ARB to address these issues in the EA and the Proposed First Update.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kevin P. Bundy', with a stylized, flowing script.

Kevin P. Bundy
Senior Attorney

Encl.: Exhibits 1-17 (uploaded as zipped PDF files; see attached list)

List of Exhibits
(Submitted via internet upload in PDF format)

Exhibit	Title
1	Bioenergy Interagency Working Group, 2012 Bioenergy Action Plan (Aug. 2012).
2	TSS Consultants, <i>Fuel Procurement Plan for the Lake Tahoe Basin Biomass Power Facility</i> (Feb. 26, 2011).
3	San Joaquin Valley Air Pollution Control District, <i>Guide for Assessing and Mitigating Air Quality Impacts</i> (Jan. 2002).
4	San Joaquin Valley Air Pollution Control District, <i>Draft Guidance for Assessing and Mitigating Air Quality Impacts</i> (April 2012).
5	USEPA Region IX, <i>Statement of Basis and Ambient Air Quality Impact Report, Sierra Pacific Industries—Anderson</i> , Permit No. SAC 12-01 (Sept. 2012).
6	Mary S. Booth, <i>Trees, Trash, and Toxics: How Biomass Energy Has Become the New Coal</i> (April 2, 2014).
7	Comments of the Center for Biological Diversity on the 2013 AB 32 Scoping Plan Update (Aug. 5, 2013).
8	Adam Liska, et al., <i>Biofuels from Crop Residue Can Reduce Soil Carbon and Increase CO₂ Emissions</i> , Nature Climate Change (April 20, 2014), DOI: 10.1038/NCLIMATE2187.
9	Jerry M. Melillo, et al., <i>Indirect Emissions from Biofuels: How Important?</i> ScienceExpress 10.1126/science.1180251 (Oct. 22, 2009).
10	J. A. Micales & K. E. Skog, <i>The Decomposition of Forest Products in Landfills</i> , 39 International Biodeterioration & Biodegradation (1997).
11	Gregory P. Asner, et al., <i>High-Resolution Forest Carbon Stocks and Emissions in the Amazon</i> , Proc. Nat'l Academy of Sci. Early Edition (2010).
12	Michael G. Ryan, et al., <i>A Synthesis of the Science on Forests and Carbon for U.S. Forests</i> , Ecological Society of America: Issues in Ecology, Report No. 13 (Spring 2010).
13	Matthew C. Hansen, et al., <i>Quantification of Global Gross Forest Cover Loss</i> , 107 Proc. Nat'l Academy of Sci. 8650 (May 11, 2010).
14	Eric Johnson, <i>Goodbye to Carbon Neutral: Getting Biomass Footprints Right</i> , 29 Env'tl. Impact Assessment R. 165 (2008).
15	Marshall Wise, et al., <i>Implications of Limiting CO₂ Concentrations for Land Use and Energy</i> , 324 Science 1183 (2009).
16	USEPA Region IX, <i>Supplemental Statement of Basis and Ambient Air Quality Impact Report for Greenhouse Gas Emissions, Sierra Pacific Industries—Anderson</i> , PSD Permit No. SAC 12-01 at 12 (Table 3-3) (November 2013)
17	T.R.H. Pearson, et al., <i>Emissions and potential emission reductions from hazardous fuel treatments in the WESTCARB region</i> , California Energy Commission (2010).