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June 23, 2014

Via Electronic and U.S. Mail

Ms. Kirsten King
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Solicitation of Alternatives for Analysis in the Low-Carbon Fuel Standard Rulemaking

Dear Ms. King:

On behalf of Growth Energy, I am submitting for your consideration the attached response to the request by the Air Resources Board ("ARB") for alternatives to the Low-Carbon Fuel Standard ("LCFS") regulation. Growth Energy is an association of the nation's leading ethanol producers and other companies who serve the nation's need for alternative fuels. A notice circulated by the ARB staff on June 5, 2014, established today as the deadline for responses to ARB's request.

Please place this letter and its attachments in the public docket that I understand the ARB staff is establishing for materials it receives in connection with the LCFS rulemaking effort.

Sincerely,

David Bearden

David Bearden
General Counsel and Secretary

Attachments

cc: The Hon. Mary D. Nichols (via U.S. Mail)
The Hon. Michael Cohen (via U.S. Mail)
Mr. Richard W. Corey (via Electronic Mail)
Dr. Irena Asmundson (via Electronic Mail)
Mr. Michael S. Waugh (via Electronic Mail)

STATE OF CALIFORNIA

AIR RESOURCES BOARD

RESPONSE TO REQUEST FOR PUBLIC INPUT ON ALTERNATIVES TO THE LOW- CARBON FUEL STANDARD REGULATION

GROWTH ENERGY

JUNE 23, 2014

Executive Summary

The staff of the California Air Resources Board ("CARB") has identified the Low-Carbon Fuel Standard ("LCFS") as a "major regulation" that requires enhanced review for compliance with SB 617 (Calderon and Pavley), a 2011 amendment to the California Administrative Procedure Act (the "APA"). The California Department of Finance ("the Department") has published regulations that implement SB 617. Those regulations require rulemaking agencies like CARB to seek early public input on possible alternatives to the rules being developed by the rulemaking agencies.

Growth Energy, an association of the Nation's leading ethanol producers and other companies that serve America's need for renewable fuels, is submitting to the CARB staff a proposed alternative to the LCFS regulation that would allow the State to eliminate the LCFS program without loss of environmental benefits. Growth Energy's proposal recognizes important changes in the regulatory baseline for the control of greenhouse gas ("GHG") emissions that have occurred since 2009. In particular, the federal renewable fuels standard ("RFS") program, combined with the California cap-and-trade program and a number of California-specific vehicle- and engine-based regulations, now assure that California will receive most if not all of the direct GHG emissions reductions that can be attributed to the LCFS regulation. To the extent that CARB believes that there is still an emissions shortfall from elimination of the LCFS or that it has authority to address lifecycle GHG emissions occurring outside of California under state and federal law (which are issues not addressed in this submittal), Growth Energy proposes that CARB address those remaining issues by modifying the California GHG cap-and-trade regulations, which are now in effect in California and which apply to transportation fuels providers beginning in 2015.

Growth Energy's description of its proposed alternative to the LCFS regulation is as detailed as possible, given currently available information. In this submittal, Growth Energy urges the CARB staff to provide the additional information needed to provide further analysis of alternatives to the LCFS regulation.

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Growth Energy's Response to Request for Public Input
On Alternatives to the Low-Carbon Fuel Standard Regulation

Growth Energy respectfully submits this response to the request by the staff of the California Air Resources Board ("CARB") for public input on alternatives to the low-carbon fuel standard ("LCFS") regulation. The CARB staff presented its request for public comment in a notice dated May 23, 2014, and has established today as the deadline for that input.

The CARB staff is seeking public input in connection with its proposal that CARB revise and readopt the LCFS regulation at a public hearing later this year. The purpose of the LCFS regulation, which the Board first adopted in 2009, is to achieve reductions in greenhouse gas ("GHG") emissions from the California transportation sector pursuant to the Global Warming Solutions Act of 2006, commonly called AB 32. Other regulations adopted since 2008 under AB 32 to achieve the same objectives as the LCFS regulation include the "cap and trade" regulation (17 C.C.R. §§ 95801-96022), the GHG emissions standards contained in the Advanced Clean Cars (or "ACC") program (13 C.C.R. §§ 1960.1-1962.2), and a set of regulations to control GHG emissions from heavy-duty vehicles and engines.[1]

Overview

Growth Energy has organized its analysis of alternatives to the LCFS regulation in this submission into four parts.

Part I of this submission briefly outlines the statutory and regulatory framework for the CARB staff's request for input on alternatives to the LCFS regulation. As explained in Part I, regulations adopted by the California Department of Finance pursuant to a recent amendment to the APA require CARB to seek and permit effective early public input on rulemaking concerning

[1] These include California's Heavy-Duty GHG regulations now completing the rulemaking process, a second phase of regulations that are under development, and the so-called "Tractor-Trailer" GHG regulation adopted in 2008. *See* http://www.arb.ca.gov/regact/2013/hdghg2013; http://www.arb.ca.gov/cc/hdghg/hdghg.htm.

"major" regulations, including the LCFS. That amendment was contained in SB 617 (Calderon and Pavley). The LCFS rulemaking, and this stage of the LCFS rulemaking, are particularly important, because this rulemaking is one of the first CARB rulemakings governed by SB 617. *See* pp. 4-7 below.

Part II of Growth Energy's submittal addresses some of the important factors that affect a regulatory alternatives analysis undertaken under SB 617. Since 2009, there have been significant changes in the "baseline" conditions for GHG regulation relevant to the LCFS program. As explained in Part II, most of the GHG emissions reductions sought by CARB when it adopted the LCFS regulation in 2009 will be provided by a combination of the federal renewable fuels standard ("RFS") program, along with California's cap-and-trade regulation, ACC program, and regulations limiting GHG emissions from heavy-duty vehicles and engines. Given that most, if not all, of the GHG emissions reductions sought by CARB in 2009 through the LCFS regulation are now assured by those other programs, the LCFS regulation has been rendered largely superfluous from an environmental perspective, even though it imposes huge financial burdens on the regulated community and requires a large commitment of resources by CARB. As a threshold matter, CARB should therefore carefully and fully consider whether, based on regulatory and program developments related to GHG emission control since 2009, there is any continuing need for the LCFS regulation. *See* pp. 8-14 below.

Part III of this submittal explains that, to the extent that the CARB staff finds any continuing need for the LCFS regulation to control GHG emissions, that need could be met instead through a simple modification of the cap-and-trade regulation. Taking that step -- modifying the cap-and-trade regulation -- would fully eliminate any conceivable remaining need for the LCFS regulation, while doing nothing to alter CARB's overall regulatory strategy to

address GHG emissions from the California transportation sector. The GHG emissions reductions benefits of the LCFS program would be fully realized from the suite of other GHG regulations adopted federally and in California since 2009, and by the modification of the cap-and-trade program. The direct regulatory costs of the LCFS program are borne primarily by the California motor vehicle fuels marketing industry, which can to some extent pass those costs to its retail customers. Insofar as the LCFS program imposes costs on California businesses and consumers, the alternative presented here (relying on the cap-and-trade program) would not materially alter the allocation of costs and would at the same time reduce regulatory costs by eliminating an entire regulatory program (the LCFS regulation). Judging from the strong concern about the LCFS regulation expressed by oil industry stakeholders, the regulatory relief and reform proposed here warrants full consideration and further development. *See* pp. 14-20 below.

Part IV of Growth Energy's submittal recommends specific next steps that CARB should consider, including full involvement by the Chief Counsel's Office to ensure compliance with the APA. As will be apparent throughout this submittal, Growth Energy's analysis of regulatory alternatives can be no more detailed than the publicly available information about (i) the new version of the LCFS regulation that the CARB staff is considering for proposal to the Board, and (ii) the information that the CARB staff has provided about the benefits that it is attributing to the LCFS program. Contrary to the position taken in communications to Growth Energy by CARB's Transportation Fuels Section on this subject, very little information on the new version of the LCFS regulation or its estimated benefits -- which are critical to an effective SB 617 process -- has been provided to the public to date. In order to achieve substantial compliance with the APA, the CARB staff needs to provide the public with a full picture of its proposed new

LCFS regulation, and in particular describe any new features of the regulation intended to reduce compliance costs. The CARB staff also needs to completely identify for the public all benefits that it is attributing to the LCFS regulation that would bear on an SB 617 alternatives analysis. Then, after the public has had sufficient time to analyze the relevant information from CARB, the public should be permitted to provide updated regulatory alternative analyses, which the CARB staff should fully consider and address in the Standardized Regulatory Impact Assessment required by 1 C.C.R. § 2002. That approach would ensure compliance with the APA, without conflicting or otherwise undermining any other mandates or obligations applicable to the LCFS regulation. *See* pp. 20-24 below.

I. The Statutory Framework for the Regulatory Alternatives Analysis under SB 617

The CARB staff is seeking submittals from the public on regulatory alternatives to the LCFS regulation because it has a legal obligation to do so. For many years, section 11346.3 of the APA has provided in part as follows:

> (a) State agencies proposing to adopt, amend, or repeal any administrative regulation shall assess the potential for adverse economic impact on California business enterprises and individuals, avoiding the imposition of unnecessary or unreasonable regulations or reporting, recordkeeping, or compliance requirements. …
>
> (2) The state agency, prior to submitting a proposal to adopt, amend, or repeal a regulation to the office, shall consider the proposal's impact on business, with consideration of industries affected including the ability of California businesses to compete with businesses in other states. For purposes of evaluating the impact on the ability of California businesses to compete with businesses in other states, an agency shall consider, but not be limited to, information supplied by interested parties.

Cal. Gov't Code § 11346.3(a)(2). Based on evidence that rulemaking agencies did not adequately consider the burdens that regulations impose on the public, in SB 617 the Legislature added a requirement that rulemaking agencies prepare a detailed assessment of the costs and benefits of any proposed major regulation, for review by the California Department of Finance

("the Department") ***before*** initiating the traditional informal rulemaking process. *See id.* § 11346.3(c). Those detailed assessments are called Standardized Regulatory Impact Assessments (or "SRIAs."). *See id.* § 11346.36. The Legislature also made it clear in SB 617 that the obligation to consider and use early public input on regulatory impacts could not be met by merely going through the formalities of seeking public input.[2]

The Department completed work on regulations to implement SB 617 in the fall of 2013. The Department's regulations require, among other steps, the following:

> The [rulemaking] agency shall also seek public input regarding alternatives from those who would be subject to or affected by the regulations … prior to filing a notice of proposed action with OAL unless the agency is required to implement federal law and regulations which the agency has little or no discretion to vary. An agency shall document and include in the SRIA the methods by which it sought public input.

1 C.C.R. § 2001(d). As the rulemaking file for the Department's regulations implementing SB 617 shows, many state regulatory agencies, CARB not excepted, recognized that SB 617 (as implemented by the Department) would mean the end of "business as usual" in the California rulemaking process.[3]

In responding to objections from rulemaking agencies concerning the obligations created by its SB 617 regulations, the Department explained that "[i]nvolving the Department and affected parties early in the [rulemaking] process could result in the discovery of additional and

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[2] Thus, SB 617 deleted text from section 11346.3(a)(2) of the APA that, up to 2011, had provided that the APA's public-input requirements were not "inten[ded]" to "impose additional criteria on agencies" engaged in rulemaking. *See* Stats. 2011, c.496 (SB 617), subd. (a); Cal. Office of Admin. Law, *California Rulemaking Law under the Administrative Procedure Act* (2012) 57 (legislative history of section 11346.3).

[3] Several rulemaking agencies filed sharp objections to the Department's proposed regulations to implement SB 617 on the ground that the regulations would require major changes in the timing used by the agencies to develop regulations and to obtain public input. *See, e.g.*, Dep't of Finance, *Regulations to Implement SB 617 Re Major Regulations, Responses to 45-day Comment Period (Chart A)* (hereinafter "Chart A"), available at http://www.dof.ca.gov/research/economic_research_unit/SB617_regulation/documents/Response%20to%20Comments%20Chart A.pdf. The Department dealt fully with all those objections and made no material changes in its proposed regulations to implement SB 617.

perhaps more cost-effective alternatives to [a] proposed major regulation, consistent with the intent of SB 617."[4] Similarly, when rulemaking agencies (including CARB) objected to the burdens of preparing the early regulatory analyses of costs and benefits needed for an effective SB 617 process, the Department correctly concluded that the amended APA "clearly contemplates that an agency will have considered [regulatory] alternatives prior to filing a notice of a proposed action" with the Office of Administrative Law and publication of the regulatory notice for further public comment.[5] The Department also made it clear that under the SB 617 process, the "no action" alternative to regulation -- which is an outcome seldom if ever seen in a major California rulemaking -- had to receive full and fair consideration at the beginning of the rulemaking process.[6]

In requiring significant change in the California rulemaking process, the statute and the implementing regulations are salutary. The LCFS regulation in 2009 was typical of major rulemakings affecting the motor vehicle fuels industries in California. Beginning in 2008, CARB had convened a series of public consultation meetings prior to its formal proposal for rulemaking in March 2009. Not until publication of the Initial Statement of Reasons for the LCFS regulation, however, was the public given any opportunity to review the economic analysis of costs and benefits for the proposed regulation; the written comments on economic issues were due a scant 45 days later (in April 2009), and at the Board's April 2009 public hearing, most private-sector speakers were limited to five minutes to make a presentation to

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[4] *See* Chart A at 24.

[5] *Id*. at 27.

[6] *Id*. at 47-48.

CARB. The public cannot have a significant role in serious economic analysis of a major regulation within such a constrained process.

Unsurprisingly, major economic assumptions and issues were not fully addressed within the time frame for written comments in March to April 2009, nor at the Board hearing. Among the assumptions and factors that could not as a practical matter be "pressure-tested" in the public comment process was the CARB staff's belief that advanced ethanol production methods would eventually drive down gasoline costs at the retail level and make the LCFS program cost-neutral for California consumers or even generate savings of up to $11 billion.[7] That assumption was unsound in 2009, and has since been disproven by experience.[8] Likewise, in the 2009 rulemaking, the CARB staff gave little attention to the ability of the federal RFS program to accomplish the same goals and purposes of the LCFS regulation, and offered largely opaque comparisons between the GHG reductions that the two programs could achieve. Now in its fifth year of implementation, the LCFS regulation has made little or no impact on the supply of lower-GHG fuels in California.[9] SB 617 and the Department's implementing regulations require the Board to improve the quality and depth of the economic analysis for major regulations like the LCFS program.

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[7] Air Resources Board, *Proposed Regulation to Implement the Low Carbon Fuel Standard -- Staff Report: Initial Statement of Reasons* (hereinafter "ISOR") at ES-26.

[8] As the ISOR itself noted, "Economic factors, such as tight supplies of lower-carbon-intensity fuels … could result in overall net costs, not savings, for the LCFS." The fact that the cost savings forecast in 2009 proved ephemeral is implicit in the CARB staff's decision, less than two years after the regulation went into effect, to develop "cost reduction" features for the LCFS regulation, which would assist "regulated parties … unable to meet their compliance obligations … due to limited supplies of low carbon fuels or LCFS credits in the market." Air Resources Board, *Low Carbon Fuel Standard 2011 Program Review Report* (Dec. 8, 2011) (hereinafter "2011 Program Review") 16.

[9] There have been substantial increases in the efficiency of Midwest corn ethanol production facilities since CARB first embarked on the LCFS rulemaking, and those increases have reduced the lifecycle GHG emissions of those facilities under some analyses; but those reductions in GHG emissions have been caused by market forces (the need to reduce energy consumption in order to remain competitive), not by virtue of the LCFS regulation. *See* note 25 below.

II. Factors Affecting the Regulatory Alternatives Analysis

According to the CARB staff, the goal of the LCFS regulation in 2009 was, and still remains, to "reduce the carbon intensity of transportation fuels used in California by at least 10 percent by 2020 from a 2010 baseline," and also to "support the development of a diversity of cleaner fuels with other attendant co-benefits."[10] Growth Energy sought clarification of the staff's description of the goals of the regulation for purposes of its input in the SB 617 process.[11] Lacking greater specificity or clarification, Growth Energy can only turn to the 2009 rulemaking, in which CARB quantified the "10 percent" target as being a reduction of 16 million metric tons of carbon dioxide equivalent ("MMTCO2eq") GHG emissions associated with combustion of transportation fuels in California, along with a 7 MMTCO2eq reduction in "upstream" emissions, yielding a total 23 MMTCO2eq reduction in worldwide annual GHG emissions in 2020.[12] As explained below, achieving the direct GHG emissions reduction attributed to the LCFS regulation in 2009 -- the 16 MMTCO2eq -- no longer requires the existence of the LCFS regulation.

A. Changes in the Regulatory Baseline Since 2009

The most significant development in the regulatory baseline since 2009 has been the adoption and full implementation of the federal renewable fuels standard program under the Energy Independence and Security Act of 2007, pursuant to a Final Rule adopted by the U.S.

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[10] The staff identified that goal on June 5, 2014, well after the period for preparation of SB 617 public input had begun, in response to a specific request from Growth Energy. *See* Letter from D. Bearden to K. King, May 30, 2014 (included here as Attachment 1) *and* Letter from M. Waugh to D. Bearden, June 5, 2014 (included here as Attachment 2).

[11] *See* Letter from D. Bearden to M. Waugh, June 11, 2014 (included here as Attachment 3). To date, no response to Mr. Bearden's letter of June 11, 2014, has been received.

[12] *See* ISOR at VII-1. According to the 2009 ISOR, "These reductions account for a 10 percent reduction of the GHG emissions from the use of transportation fuel." *Id.* That 10 percent target, which the CARB staff also sometimes cites, originates in Executive Order S-01-07 of January 18, 2007. *See* Executive Order S-01-07, § 1, available at http://www.arb.ca.gov/fuels/lcfs/eos0107.pdf.

Environmental Protection Agency in 2010.[13] The federal RFS program assures an adequate supply of low-cost renewable fuel for California, *i.e.*, ethanol produced from corn starch at biorefineries located mainly in the Midwest.[14] Because ethanol produced by any method from any renewable feedstock has the same physical and chemical properties when used in motor fuel, gasoline blended with 10 percent ethanol will achieve the same reduction in exhaust or "tailpipe" GHG emissions regardless of the production process or renewable feedstock used to create the ethanol. Consequently, the portion of the 16 MMTCO2eq reduction in GHG emissions from the California transportation fleet operated on gasoline can and will be obtained by virtue of the federal RFS program.[15] Oil companies will continue to buy and blend ethanol into gasoline sold in California under the federal program even if there were no LCFS program, in order to comply with the federal RFS program. The portion of the California fleet operated on diesel fuel can also achieve its part of the 16 MMTCO2eq reduction in GHG emissions by virtue of the federal RFS

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[13] *See* U.S. EPA, *Regulation of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program; Final Rule*, 75 Fed. Reg. 14,669 (Mar. 26, 2010) .

[14] The RFS program, which in its early stages was effectively non-binding on ethanol usage, has begun to cause substantial increases in biofuel production. Total production of biofuels has increased steadily over the last year and a half, reaching approximately 16 billion gallons in the 12 months through April 2014. *See* http://www.epa.gov/otaq/fuels/rfsdata/.

[15] The term "fleet," as used here, includes off-road vehicles and engines in other equipment.

When the CARB staff considered the matter in 2009, it made a number of assumptions about the efficacy of the federal RFS program that need to be reconsidered. The most significant assumption, which was empirically unsupported, was that the federal program (which at the time was still under development) would provide only 30 to 40 percent of the GHG reductions that the staff predicted for the LCFS program. That assumption appears to have been based on a belief that without the LCFS regulation, only 11.3 percent of the advanced or cellulosic biofuels required nationwide by the RFS program would be consumed in California, while a substantially higher amount of those fuels would be drawn from the nationwide fuel pool to California as the result of the LCFS regulation. The advanced biofuels required by the RFS regulation that would be drawn to California by the LCFS program would have been used elsewhere in the absence of the LCFS program, leading to the same reductions in GHG emissions. To the extent that the cellulosic ethanol industry has experienced limits on achieving full commercial launch, those are national and even global economic and technical factors that the existence of the LCFS regulation has not to date, and will not in the future, be able to change or influence.

program, because the federal program results in blending biodiesel and renewable diesel into diesel fuel produced from petroleum.[16]

As for the portion of the California fleet powered in whole or in part with electricity or hydrogen, there is similarly no continuing need for the LCFS program, owing to other changes in the regulatory baseline since 2009. The Advanced Clean Cars program now assures that electricity and hydrogen will be full participants in the California transportation fuel pool. In 2009, CARB's baseline for the alternatives analysis of the LCFS regulation included the then-current version of the Board's regulations to control GHG emissions from new motor vehicles that had been adopted in 2004, and that set GHG emission standards for 2009 to 2016 model-year new vehicles, sometimes called the "Pavley standards." In addition, the baseline also included the then-current provisions of the agency's Zero Emission Vehicle ("ZEV") standards which require manufacturers offer electric and/or hydrogen fuel cell vehicles for sale in California. CARB has now adopted new-vehicle GHG standards applicable to 2017 to 2025 model-year new vehicles and has made significant revisions to the ZEV standards as part of the ACC rulemaking in 2012.[17]

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[16] One reason why California is assured of receiving an adequate supply of ethanol is that ethanol for use in gasoline commands a higher price -- the so-called "California premium" -- in California than in other parts of the United States, as can be readily seen from data available under contract or license from the Oil Price Information Service ("OPIS"). While there are many reasons why the "California premium" exists, one major reason is that refineries producing finished gasoline products for the California retail market tend to have higher production costs than other refineries.

[17] In its 2009 LCFS alternatives analysis, the CARB staff assumed that manufactures would sell more electric vehicles than required by the ZEV standards, as they existed in 2009. Vehicle manufacturer compliance with the ZEV, new vehicle GHG, and criteria emission standards is determined on a "fleet-average" basis. What this means is that to the extent that manufacturers sell more ZEVs than required, they can in turn sell greater numbers of less fuel efficient or higher emitting vehicles provided that they remain in compliance on average. In addition, manufacturers that over comply can sell "credits" to manufacturers that would not otherwise be in compliance. Therefore, even if the LCFS regulation might lead to greater demand and use of electric vehicles, there would be no net reduction in GHG emissions.

CARB has also taken and is taking a number of actions to reduce GHG emissions associated with the use of diesel fuel in heavy-duty vehicles which also need to be taken into account in the baseline for the 2014 LCFS analysis. The relevant measures include California's Tractor-Trailer regulation adopted in 2008 which requires use of aerodynamic improvement devices and low-rolling resistance tires, as well as the Phase I and the soon-to-be proposed Phase II heavy-duty GHG regulations that impose specific GHG emission requirements on new heavy-duty vehicles beginning with the 2014 model-year.[18]

B. Necessary Information for Development of a Detailed Alternative Program

In addition to properly defining the baseline for the alternatives analysis, it is important to have a clear and complete picture of the revised LCFS program that the CARB staff plans to propose. In addition to full information concerning the estimated benefits of the LCFS program (both in terms of GHG reductions and in any other relevant aspect), the currently unknown elements of that program include the following:

- Updated carbon intensity values for transportation fuels that will be included in the proposed 2014 LCFS regulation.
- The detailed form of any proposed "cost-containment" provisions which could allow parties subject to the LCFS regulation to comply with the program's standards, without actually achieving the CI reductions required under the regulation.
- CARB staff's current analysis of the manner in which regulated parties will most likely attempt to comply with the proposed 2014 LCFS.

[18] In addition to ensuring that the GHG emissions reductions associated with those regulations are properly accounted for in the baseline for the 2014 LCFS, CARB staff must also ensure that they properly account for the fact that compliance with the latter regulations is determined on a manufacturer fleet average basis in order to avoid improper assignment of GHG reductions to the 2014 LCFS regulation.

- A full description of any other intended goals of the LCFS regulation, such as stimulating "fundamental" changes in the "transportation fuel pool," along with the metrics to be used to measure progress and success in meeting those other goals.[19]

Contrary to the position taken in the CARB staff's recent correspondence with Growth Energy and in related postings on the CARB website, none of those elements have been disclosed to the public at present. In addition to providing that undisclosed information concerning its analysis, the CARB staff should address the following other pertinent questions, which follow from the foregoing review of changes in the regulatory baseline since 2009:

- Does the CARB staff agree that the federal RFS program would, in the absence of an LCFS regulation, assure some level of reductions in GHG exhaust emissions from the California in-use vehicle population that is operated on gasoline? If not, why not; and if so, what would be that level of GHG emissions reductions, on an annual or some other specific basis, if the LCFS program were to be discontinued at the end of 2015?
    - Does the staff have any disagreement with the position that the federal RFS program and the "California premium" (*see* note 15 above) would cause Midwest corn ethanol producers to continue preferentially to deliver ethanol to California, and cause the California gasoline marketing sector to blend that Midwest corn ethanol into gasoline up to the current 10 percent limit, even in the absence of the LCFS regulation? If so, what are the specific reasons why the staff disagrees?
    - Does the staff believe that the LCFS regulation would result in wider usage of E85 in California than the federal RFS program would cause, and if so, what is the empirical basis for that view?
    - Would a possible need for a diesel component to an LCFS program justify an unnecessary gasoline component for an LCFS program, and if so, why?
- The 2009 regulatory analysis predicted that ultra-low-CI fuels would be available and would bring the costs of the LCFS program down to the point where the program would be cost-neutral at the consumer level, or would result in savings of up to $11 billion.[20]

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[19] *See* Air Resources Board, *California's Low Carbon Fuel Standard -- Final Statement of Reasons* (hereinafter "FSOR") 24.

[20] *See* ISOR at ES-26.

Does that remain the CARB staff's position? If not, what will be the consumer costs of the staff's proposed revised LCFS regulation, predicted annually or in some other manner? What uncertainties and assumptions affect those cost estimates?

- Are the ACC program and other vehicle-based GHG reduction programs adopted to implement AB 32 designed to obtain, and will they obtain, the maximum technologically feasible and cost effective reductions in GHG emissions from the new vehicles that are subject to those standards? (*See, e.g.*, Cal. Health & Safety Code § 38562(a).) If not, why not? With the ACC program and other non-LCFS regulations discussed above in Part II. A. now in place, would the LCFS program actually produce any incremental increase in the displacement of liquid motor vehicle fuels by electricity in ZEVs or hybrid electric vehicles or hydrogen in fuel cell vehicles? If so, what are the relevant increases, and on what assumptions do the predicted increases depend? Why would a vehicle manufacturer that over-achieved the ZEV requirement not use the credit gained from the overachievement by selling a higher-emitting conventional vehicle fleet? To what extent would the staff attribute to the LCFS program any displacement of vehicle miles traveled in conventional vehicles by vehicles powered by fuel cells, and what is the basis for that prediction?

- The CARB staff sometimes refers to Executive Order S-07-01 as a basis for maintaining the LCFS regulation. Should the requirements of Executive Order S-07-01 be reconsidered in the current rulemaking process insofar as the Executive Order called for creation of the LCFS regulation? Does Executive Order S-07-01 limit in any way CARB's discretion in adopting and enforcing measures to implement AB 32? Does AB 32 require adoption and enforcement of the LCFS regulation, if the same GHG reductions that the LCFS regulation can achieve could be achieved by other means?

- To the extent that the LCFS program is still intended to stimulate "fundamental changes in the transportation fuel pool" in California,[21] to what extent had the program succeeded in its first five years? Is achieving that objective consistent with the potential "cost reduction" mechanisms under consideration for a revised LCFS regulation? How should the Department and the public try to weigh that objective against the potential costs for California consumers and businesses in meeting that objective?

Having now presented the above questions to the CARB staff, Growth Energy believes that the staff should address them in the SRIA for the Department, or concurrently in a separate submittal to the Department made available to the public, if the staff does not intend otherwise to respond to those questions. Each question bears on the need for the LCFS regulation, the costs and benefits of the LCFS regulation, or the legal authority that would limit the analysis of regulatory

[21] *See* note 19 above.

alternatives. If the CARB staff does not believe that one or more of the above questions are relevant to the evaluation of regulatory alternatives, Growth Energy requests that the CARB staff explain why, with respect to each such question.

III. Regulatory Alternatives

The CARB regulations adopted since 2009 and the federal RFS program adequately provide for full control of the direct GHG emissions from the California vehicle fleet that the LCFS regulation may have been intended to control. In 2009, CARB claimed that the LCFS regulation would provide additional GHG reductions on a lifecycle basis; the "upstream" component of the GHG benefits attributed to the LCFS regulation in 2009 was 7 MMTCO2eq in 2020.[22]

Putting to one side the question whether CARB has legal authority to adopt and enforce a regulation to control GHG emissions occurring outside California, there are several reasons to question whether the LCFS regulation actually achieves any reduction in upstream emissions. As CARB has recognized, the LCFS regulation has to date caused "fuel shuffling" -- ethanol that might have been sold in California prior to the LCFS regulation is still being produced, and is sold somewhere else.[23] Ethanol production processes and pathways that have putatively higher upstream emissions have, at this point, neither terminated nor curtailed operations as a result of the LCFS regulation.[24] In addition, many Midwest corn ethanol biorefineries have qualified for

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[22] *See* ISOR at VII-1.

[23] *See* FSOR at 477 ("Without the wider adoption of fuel carbon-intensity standards, fuel producers are free to ship lower-carbon-intensity fuels to areas with such standards, while shipping higher-carbon-intensity fuels elsewhere. The end result of this fuel 'shuffling' process is little or no net change in fuel carbon-intensity on a global scale.") The "wider adoption" of LCFS-type standards to which CARB referred in the 2009 FSOR has not occurred.

[24] That is not to say, however, that the LCFS regulation is not injurious to the national market in ethanol, nor neutral in its impact on lifecycle GHG emissions. By causing fuel shuffling, the LCFS regulation disrupts the national market in ethanol, imposes costs, and increases transportation-related GHG emissions. Eventually, by effectively banning Midwest corn ethanol from California (if, for example, the LCFS for 2015 established in

lower-carbon-intensity LCFS "pathways" since 2009, on a scale that the CARB staff has admitted was "not expected in 2009."[25] Moreover, the estimates of upstream emissions attributed to Midwest corn ethanol in 2009 were grossly inflated: no one, including CARB, is still prepared to defend the indirect land-use change emissions factors accepted by CARB in 2009, and the current literature demonstrates that the "science" of indirect land-use change is too unreliable to be used as a basis for regulation.[26]

To the extent there is any remaining basis for attributing upstream GHG emissions reduction benefits to the LCFS regulation, those benefits certainly do not warrant the continuation or re-adoption of the LCFS regulation. The more efficient approach would be to adjust the cap-and-trade regulation in Title 17 of the *California Code of Regulations* to account for whatever increment of GHG emissions reductions would be forgone by eliminating the LCFS regulation.[27] To the extent necessary, modifications to the cap-and-trade regulation would be

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2009 were to be enforced), the LCFS regulation will leave California with no commercially viable method of complying with the standard; the staff appears to recognize this problem to some extent, with the currently ill-defined "cost reduction" features that it plans to propose. *See* Air Resources Board, *Low Carbon Fuel Standard Re-Adoption Concept Paper* (March 2014) at 6-7. The reduction in nationwide demand for Midwest corn ethanol will then also impose serious economic harm on the Midwest ethanol industry.

[25] *See* 2011 Program Review at 169. The Midwest ethanol production facilities that have qualified for lower-carbon-intensity LCFS pathways have not done so through modifications in their production processes intended to obtain those special LCFS pathways: they have a competitive incentive to increase efficiency, and would have done increased their efficiency in the absence of the LCFS regulation. A Growth Energy member has demonstrated this point in the ongoing *Rocky Mountain* litigation involving some aspects of the LCFS regulation. *See* Declaration of Erin Heupel, P.E. (included here as Attachment 6) ¶¶ 5-6. Notably, in the *Rocky Mountain* litigation, CARB offered no competent evidence to the contrary. As Ms. Heupel also demonstrated, the specific features of the LCFS regulation will eventually force even the highest-efficiency Midwest corn production facilities out of the California market. *See id*. ¶¶ 9-11.

[26] The CARB staff has begun to revise and to reduce the indirect land-use change emission factors that were included in the 2009 LCFS regulation. *See* letter from G. Cooper to K. Sideco, April 9, 2014, available at http://www.arb.ca.gov/fuels/lcfs/regamend14/rfa_04092014.pdf. It remains Growth Energy's position that the modeling methods used by CARB to generate indirect land-use change values are too unreliable for use in a regulation intended to comply with AB 32. *See* Letter from D. Bearden to J. Goldstene, May 10, 2010 (included here as Attachment 4).

[27] In 2009, CARB received substantial comments on the relative inefficiency of the LCFS approach from one of its independent peer reviewers, who urged that CARB consider a cap-and-trade alternative. *See*, e.g., FSOR at 24 (review by Dr. John Reilly); s*ee also id*. (summarizing Dr. Reilly's review as stating, "The economic analysis

simple and straightforward. Initially, CARB should determine what, if any, upstream GHG reductions should be attributable to the LCFS regulation, using a scientifically reliable process. CARB would also need an appropriate estimate of the total GHG emissions expected from the use of gasoline and diesel fuel in 2020. A CARB emissions forecast prepared in 2010[28] indicates that total GHG emissions from gasoline and diesel fuel use in California are expected to be approximately 175 million metric tons in 2020 under business as usual conditions. Assuming that the generally required 22 percent reduction in emissions in 2020 under the cap-and-trade program[29] applies to gasoline and diesel fuel use, total 2020 emissions without the LCFS program would be about 135 million metric tons.

Continuing the analysis, and by way of example, suppose that the cap-and-trade regulation had to cover the entire annual 16 MMTCO2eq of GHG emissions that the CARB staff identified as the benefit of the LCFS regulation for 2020. That level of GHG control could be achieved by amending the cap-and-trade regulations to require providers of gasoline and diesel fuel to submit 151 (135+16) million metric tons of allowances – or in other words requiring gasoline and diesel fuel suppliers to surrender 1.11 (151/136) allowances for every ton of GHG emissions they report from the fuels they supply.[30]

[for the LCFS regulation] was done incorrectly. It does not meet [the] technical standards of economics. The baseline assumptions are mutually inconsistent, and if these assumptions were executed in a proper model it would show that the LCS was unnecessary.") CARB stated in 2009 that it would consider the role of cap-and-trade further in addressing the objectives of the LCFS program once the cap-and-trade regulations were completed. *See* FSOR at 452.

[28] *See* Air Resources Board, "California GHG Emissions -- Forecast 2008-2020 (updated Oct. 28, 2010), available at http://www.arb.ca.gov/cc/inventory/data/tables/2020_ghg_emissions_forecast_2010-10-28.pdf

[29] This is based on the general percentage reduction requirements established by CARB for total allowances issued. *See* Air Resources Board, "Overview of ARB Emissions Trading Program (October 2011), available at http://www.arb.ca.gov/newsrel/2011/cap_trade_overview.pdf

[30] The cap-and-trade regulation already begins to take effect for the gasoline and diesel fuel marketing sector in 2015.

The modifications to the existing text of the cap-and-trade regulation would be minor and limited to section 95852(d) of the regulation.[31] Further, the CARB staff at its discretion could also create a compliance offset program in order to incentivize low- carbon intensity fuels similar to those in place which incentivize other innovative GHG reduction strategies.[32] Insofar as one goal of the APA is to eliminate unnecessary regulation, this approach would well-serve the goals

[31] Thus, the text of section 95852(d), with the modification shown in italics, and assuming that the full 10 percent GHG emission reduction attributed to the LCFS regulation would be covered by cap-and-trade, would provide as follows:

> Suppliers of RBOB and Distillate Fuel Oils. A supplier of petroleum products covered under sections 95811(d) or 95812(d) has a compliance obligation *equal to 1.x allowances* for every metric ton CO_2e of GHG emissions included in an emissions data report that has received a positive or qualified positive emissions data verification statement or for which emissions have been assigned that would result from full combustion or oxidation of the quantities of the following fuels that are removed from the rack in California, sold to entities not licensed by the California Board of Equalization as a fuel supplier, or imported into California and not directly delivered to the bulk-transfer/terminal system as defined in section 95102 of MRR, except for products for which a final destination outside California can be demonstrated:
>
> (1) RBOB;
> (2) Distillate Fuel Oil No. 1; and
> (3) Distillate Fuel Oil No. 2.
>
> *The value of "x" above will be established by Executive Officer by the prior October 31 for each year beginning with 2015 to ensure that actual GHG emissions from the use of RBOB and Distillate Fuel Oil No. 1 and Distillate Fuel Oil No. 2 are reduced to the level that would have been achieved had the Carbon Intensity of those fuels been reduced according to the following schedule relative to 2010.*

Required Carbon Intensity Reduction Relative to 2010	
Year	Reduction
2015	2.7%
2016	3.7%
2017	5.2%
2018	6.7%
2019	8.2%
2020	10.0%

As illustrated above for 2020, the value of "x" would be 0.11 and the compliance obligation for suppliers of gasoline and diesel fuels would be 1.11 times the number of tons of CO2e emissions reported.

[32] *See* Air Resources Board, "Climate Change Programs -- Compliance Offset Program" (updated June 11, 2014), available at http://www.arb.ca.gov/cc/capandtrade/offsets/offsets.htm

of the APA. By eliminating the LCFS regulation, CARB would also free the California transportation fuel sector from continuing uncertainty about the availability and cost of ultra-low-carbon-intensity alternative fuels necessary for future compliance with the LCFS. As the Western States Petroleum Association ("WSPA") has stated:

> The LCFS, as envisioned by Governor Schwarzenegger in his Executive Order and as developed by the ARB, is infeasible. … [S]taying the course now could result in disruptions in the transportation fuels markets. … A successful fuels policy must protect against fuel supply disruptions, severe job losses in the state's refining industry and unacceptable economic harm to California and its citizens.[33]

While Growth Energy believes that its proposal has sufficient merit without endorsement by other organizations, the concerns expressed by WSPA are important. One benefit of the change that Growth Energy is proposing, and a benefit that is particularly important to Growth Energy and the enterprises it represents, is that elimination of the LCFS regulation would eliminate a major conflict between regulations adopted by California and the federal RFS program, a conflict that will only increase if the LCFS regulation is re-adopted.

In considering Growth Energy's proposal, and in addition to the questions presented in Part II of this submittal, the CARB staff should in the SRIA address the following questions:

- The CARB staff's May 23, 2014, notice soliciting public input for the SRIA sought "alternative LCFS approaches." (See Attachment 5.) Does the CARB staff believe the alternatives analysis for the SRIA and public submittals related to the SRIA must be confined to regulatory alternatives that include or would preserve in some form the LCFS regulation? If so, what is the basis for such a limitation?

- Other than emissions created in generating electricity for delivery in California, does AB 32 give CARB the authority to regulate upstream emissions occurring outside California, or to account for upstream emissions occurring outside

[33] The reference is to Executive Order S-01-07, with its "10 percent" by 2020 goal, which according to the CARB staff remains the target for the LCFS regulation. *See* Letter from G. Grey to K. Sideco, June 13, 2014 at 2, available at http://www.arb.ca.gov/fuels/lcfs/regamend14/wspa_06132014.pdf. WSPA has also stated that modification of the LCFS program through "cost reduction" provisions would "simply penalize fuel suppliers for not meeting an infeasible standard." *See* Letter from C. Reheis-Boyd to K. Sideco, April 11, 2014 at 10, available at http://www.arb.ca.gov/fuels/lcfs/regamend14/wspa_04112014.pdf.

California in adopting regulations to meet the statewide greenhouse gas emissions limit? (*See* Cal. Health & Safety Code § 38505(m), (n); 38562(a).) If AB 32 authorizes CARB to regulate or consider out-of-state GHG emissions attributed to ethanol production, does AB 32 also authorize CARB to address those emissions through the cap-and-trade regulation?

- Can the California cap-and-trade regulations be modified to provide the same numerical reductions in GHG emissions as the LCFS regulation? If not, why not?

- If the CARB staff is concerned that the state measures to control GHG emissions and the federal RFS program might not be fully implemented and enforced at some time in the future, would adoption of a revised LCFS regulation as a "backstop" measure, to be implemented only if those other programs are not meeting defined objectives, address that concern? If not, why not?

- If the CARB staff believes some regulated parties might prefer to comply with a revised LCFS regulation rather than a modified cap-and-trade regulation, could that issue be addressed by including a revised LCFS as a part of a regulatory alternative (with appropriate opt-in provisions) that would be an option for parties that did not wish to comply with a modified cap-and-trade regulation?

- What are the current and expected future levels of resources at CARB, in terms of personnel and other resources, that are allocated to the LCFS regulation? What would be the budgetary impact for CARB if the LCFS program were eliminated? What would be the budgetary impact for CARB caused by the change in the cap-and-trade regulation proposed here?

- To the extent the CARB staff would attribute other beneficial impacts, different from GHG emissions reductions, to the LCFS regulation, to whom do those benefits accrue? With regard to those other beneficial impacts, are California consumers benefitted and, if so, how and to what extent? With regard to those other beneficial impacts, are California businesses benefitted and if so, how and to what extent? Do those other beneficial impacts justify or support continuation of the LCFS regulation, and if so, what is the basis for CARB's authority to adopt and enforce the LCFS regulation to obtain those benefits? If those other beneficial impacts include the possibility that sources for alternative fuels will be increased or diversified, are there any peer-reviewed or other studies that support such a proposition? If not, what is the staff's basis for attributing such benefits to the LCFS regulation? Could those benefits be realized through the development of a compliance offset program under the cap-and-trade regulation?

As with the questions presented in Part II, the CARB staff's responses to these questions are important in understanding its evaluation of Growth Energy's proposal. If the CARB staff does not believe that one or more of the above questions are relevant to the evaluation of

regulatory alternatives, Growth Energy requests that the CARB staff explain why, with respect to each such question.

IV. Next Steps

As noted at the outset of this submittal, Growth Energy's analysis of alternatives to the LCFS regulation can be no more detailed than the available information about the staff's intended revised LCFS regulation. If CARB does nothing further to facilitate the public input into the SB 617 process for use in the SRIA, it will not have substantially complied with the APA as amended by SB 617 and implemented in the Department's regulations.

In the CARB staff's first notice that it was ready to receive public input on regulatory alternatives, published on May 23, 2014, the staff set a deadline for that input of June 6, 2014 -- nine business days later. The staff indicated in that notice that the public should, among other things, "submit the quantities of low-CI fuels used each year" in the proposed alternative to the LCFS regulation, "as well as the associated cost and benefit information, and their sources." [34] According to the May 23 notice, that information was needed "to enable comparison of economic impacts."[35] The May 23 notice stated that the objective for public input should be to provide "alternative LCFS approaches," meaning "any approach that may yield the same or greater benefits than those associated with the proposed regulation, or that may achieve the goals at lower cost."[36]

The "proposed regulation" to which the May 23 proposal referred (i) had not been provided to the public for review as of May 23, nor (ii) has it been provided at any time since

[34] *See* Attachment 5.

[35] *Id.*

[36] *Id.*

May 23.[37] The May 23 notice was not accompanied by any information that provided the CARB staff's own prediction of "the quantities of low-CI fuels [that would be] used each year" under the CARB staff's proposed regulation, nor the benefits that the CARB staff attributed to the LCFS regulation. Growth Energy requested that the CARB staff give the public the information needed to prepare a complete SB 617 submission and requested that the public be given additional time to prepare SB 617 analyses after the necessary information was released.[38]

The CARB staff responded by extending the deadline for public submittals that would be addressed in the SRIA to June 23, 2014 (31 days after the May 23 notice), but did not provide any of the information requested by Growth Energy and needed to provide the type of input sought in the May 23 notice, and necessary under the Department's SB 617 regulations. Instead, the staff referred to the GHG emissions reductions targeted in the 2009 rulemaking, to a March 2014 "Concept Paper" that discussed the staff's approach to revision of the LCFS regulation, and to material provided to the public in connection with regulatory workshops held in ARB's offices.[39] The March 2014 Concept Paper raises more questions about the staff's approach than it answers: it included, for example, a general description of two different "cost reduction" concepts without indicating how either of them would work, how they would reduce costs, or how they would affect the GHG emissions reduction benefits of the LCFS program. If the March 2014 Concept Paper provided a basis for preparing SB 617 submittals, then there is no reason why the CARB staff should have waited until May 23 to solicit public input under the Department's regulations. Had the staff informed the public when it released the Concept Paper

[37] The CARB staff has released some draft regulatory text for their proposed revised LCFS, but that partial text does not include, for example, the "cost reduction" feature intended for the new regulation, nor the carbon intensity values to be assigned to each alternative fuel.

[38] *See* Attachment 1.

[39] *See* Attachment 2.

and discussed the Concept Paper at one of its March 2014 regulatory workshops that the Concept Paper was intended to provide a basis for SB 617 input, Growth Energy (and perhaps other stakeholders) would have pointed out at that time that the Concept Paper was inadequate for that purpose; in that event, perhaps the CARB staff would have been able to provide the necessary information for public input into the SRIA.

The materials provided in connection with the regulatory workshops -- including the partial regulatory text released on May 28, after the staff had launched the public input process -- likewise do not provide the necessary information for detailed public submittals consistent with SB 617 and the Department's regulations. Growth Energy has studied those materials carefully, and with the greatest respect, would challenge the CARB staff to indicate where in those materials the staff identifies GHG emissions reduction targets for a revised LCFS regulation; where the staff identifies any other putative benefits of the LCFS regulation; and where in those materials the staff provides specific and concrete information about the impact of the "cost reduction" concepts on the quantities of alternative fuels that would be used in order to comply with the revised LCFS regulation, or permits a quantification of costs and benefits of a revised LCFS regulation that includes a cost-reduction feature.

Finally, it is important to address comments by the CARB staff at one recent workshop, which suggested that the timing of the current regulatory effort has been affected by the Board's need to comply with the mandate in litigation under the APA and the California Environmental Quality Act ("CEQA").[40] In that litigation, the Superior Court has allowed CARB all the time

[40] The case is *POET LLC et al. v. California Air Resources Board*, Case No. 09 CE CG 04659 (Sup'r Ct., Fresno County). The Writ of Mandate in that proceeding does not require CARB to commence or conclude rulemaking by a particular date, but to proceed in good faith without delay. The Writ of Mandate was issued more than six months ago, by which time CARB presumably knew that it had to comply with the Department's SB 617 regulations.

that the Board has requested in order to comply with the mandate. If CARB needs more time in order to conduct the SB 617 process in a manner that allows sufficient time for effective public input into the preparation of an SRIA, CARB should so inform the Superior Court. (Notably, in its filings with the Superior Court, CARB has not adverted to SB 617 or the Department's implementing regulations.) In addition, the CARB staff would surely agree that even before issuance of the mandate in that litigation, it was aware that it had major program review obligations for the LCFS regulation in 2014.[41] Particularly in light of those program review obligations, the CARB staff's inability to provide more information now to the public, needed to participate fully in the SB 617 process, seems inexcusable.

Against that backdrop, Growth Energy urges the CARB staff to reconsider its present approach to the SB 617 process, and specifically the staff's approach to obtaining public input for the SRIA. As the staff might expect, if one response to Growth Energy's proposed regulatory

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[41] In 2009, when it first adopted the LCFS regulation, the Board directed the CARB staff to conduct and to present by January 1, 2015 a "review of implementation of the LCFS program" that was to "include, at a minimum, consideration of the following areas:

> "(1) The LCFS program's progress against LCFS targets;
> "(2) Adjustments to the compliance schedule, if needed;
> "(3) Advances in full, fuel-lifecycle assessments;
> "(4) Advances in fuels and production technologies, including the feasibility and cost-effectiveness of such advances;
> "(5) The availability and use of ultralow carbon fuels to achieve the LCFS standards and advisability of establishing additional mechanisms to incentivize higher volumes of these fuels to be used;
> "(6) An assessment of supply availabilities and the rates of commercialization of fuels and vehicles;
> "(7) The LCFS program's impact on the State's fuel supplies;
> "(8) The LCFS program's impact on state revenues, consumers, and economic growth;
> …
> "(12) Significant economic issues; fuel adequacy, reliability, and supply issues; and environmental issues that have arisen; and
> "(13) The advisability of harmonizing with international, federal, regional, and state LCFS and lifecycle assessments."

17 C.C.R. § 95489(a).

alternative is that Growth Energy's proposal lacks a detailed comparison with the costs, benefits, and cost-effectiveness of the staff's proposal in the SRIA, Growth Energy will attribute its lack of specificity to the staff's failure to provide the information needed to offer a more specific regulatory analysis. Because this is one of the first major rulemakings at CARB that is required to comply with SB 617 and the Department's SB 617 regulations, it is also important for the Department to take a proactive role in providing guidance to CARB, the stakeholders, and other members of the public interested in the LCFS program.

Respectfully submitted,

GROWTH ENERGY

Attachment 1

growth energy
America's Ethanol Producers

777 North Capitol Street, NE, Suite 805, Washington, D.C. 20002
PHONE 202.545.4000 FAX 202.545.4001 GrowthEnergy.org

May 30, 2014

Via Electronic Mail

Ms. Kirsten King
California Air Resources Board
1001 I Street
Sacramento, CA 95814
kking@arb.ca.gov

Re: Solicitation of Alternatives for Analysis in the Low Carbon Fuel Standard Rulemaking (posted May 23, 2014)

Dear Ms. King:

I write on behalf of Growth Energy, an association of the United States' leading producers of ethanol and other enterprises who serve the nation's need for alternative fuels. Thank you for inviting the public, including Growth Energy, to provide alternatives for analysis in the Board's upcoming rulemaking concerning the Low Carbon Fuel Standard ("LCFS") regulation. The request for that input was presented in a notice published on ARB's website on the afternoon of May 23, 2014, which is attached to this letter.

In order to respond to ARB's request for input, Growth Energy needs to know the specific benefits that ARB has established or is considering as the objectives for the new LCFS regulation. Those benefits might include, for example, reductions in various emissions from the transportation sector in California, reductions in other emissions, and other impacts on California businesses and consumers.

As the ARB's May 23 website notice indicates, ARB is interested in proposed alternatives to the LCFS regulation that could "yield the same or greater benefits than those associated with the proposed regulation, or that may achieve the goals [of the proposed regulation] at lower cost." The same notice directs stakeholders to explain an "alternative's ability to fulfill the purposes of the draft regulatory proposal as ARB has presented it." Growth Energy is not aware of any such draft regulatory proposal presented by ARB. The ARB staff has conducted a number of public consultation meetings, but to date the staff as not presented a regulatory proposal that would be useful in framing alternatives, nor has it described the specific benefits that it expects to achieve from the regulation, or the specific benefits that it currently has under consideration as possible regulatory objectives or impacts.

Without knowing the presumed, estimated or possible benefits of the proposed LCFS regulation, it is not possible for Growth Energy nor, we believe, any other stakeholder to participate effectively in the analytical process required by S.B. 617. We therefore request that ARB present the "draft regulatory proposal" to which the May 23 notice refers, and also identify where stakeholders may find ARB's estimate of the "benefits associated with the proposed regulation" to which the notice also refers.

In addition, Growth Energy is concerned that the May 23 notice contemplated that stakeholders submit proposed alternatives, including cost calculations and the basis for cost calculations, along with the "quantities of low-CI fuels to be used each year," by June 6, 2014 -- within nine business days of May 23. It would be impractical to meet that deadline for input even if the Board had already presented its draft regulatory proposal and the estimated or possible benefits of the proposed regulation. Growth Energy asks that ARB establish a more realistic time frame for the public to perform its role in the S.B. 617 process.

My colleagues and I are available on short notice to confer with you and other ARB representatives regarding these requests. I can be reached on (605) 965-2200.

Sincerely,

David Bearden

David Bearden
General Counsel and Secretary

cc: The Hon. Mary D. Nichols (via U.S. Mail)
The Hon. Michael Cohen (via U.S. Mail)
Dr. Irena Asmundson (via Electronic Mail)

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PHONE 202.545.4000 FAX 202.545.4001

Attachment 2

Air Resources Board

Mary D. Nichols, Chairman
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

June 5, 2014

Mr. David Bearden
General Counsel and Secretary
Growth Energy
777 North Capitol Street NW
Suite 805
Washington, D.C. 20002

Dear Mr. Bearden:

Thank you for your May 30, 2014, letter to Ms. Kirsten King of my staff inquiring about the timeline for submitting suggested alternatives to the Low Carbon Fuel Standard (LCFS), currently codified at California Code of Regulations, title 17, section 95480 et seq. In case others have similar questions, we are providing two additional weeks and plan to post this response on our website today.

We are in the process of re-proposing the LCFS for consideration by Air Resources Board (ARB). Your letter asks what benefits the re-proposed LCFS seeks. The specific benefits we wish the LCFS to achieve remain those set out in the 2009 Initial Statement of Reasons from the original LCFS adoption, which you can find at http://www.arb.ca.gov/regact/2009/lcfs09/lcfsisor1.pdf. In short, the regulation is intended to reduce the carbon intensity of transportation fuels used in California by at least 10 percent by 2020 from a 2010 baseline; reducing carbon intensity is expected to reduce greenhouse gas (GHG) emissions and support the development of a diversity of cleaner fuels with other attendant co-benefits. Promoting innovation may yield even greater future benefits in terms of GHG emissions, air quality, and diversity of fuels, all of which we believe support a resilient economy.

Your letter also indicates that you are not aware of any draft regulatory proposal on which you can comment. At present, the LCFS has been on the books for several years. In addition, we have conducted publicly-announced workshops to introduce proposed changes in March, April, May, and June of 2013 and again in 2014 in March (including a concept paper dated March 7, 2014), April (four workshops), and May 2014. More information is available at http://www.arb.ca.gov/fuels/lcfs/lcfs_meetings/lcfs_meetings.htm. To the documents

provided at those workshops, we added specific proposed regulatory language relating to contemplated changes to the existing LCFS, posting six handouts at the website noted above on May 28, 2014, for discussion at a May 30th workshop and subsequent feedback.

If you or your members wish to submit comments regarding alternatives to the LCFS, please submit alternatives to the existing regulation as proposed to be amended per the March 7th concept paper and the specific proposed regulatory language released May 28th. Although no one is obligated to submit any comments, we will consider suggestions or alternatives that you or your members submit as the rulemaking process unfolds. Please note that failing to submit ideas now will not preclude later comments and suggestions you or your members may want to make.

Under legislation recently enacted as Senate Bill 617 (Chapter 496, 2011) and subsequent regulations codified at California Code of Regulations, title 1, sections 2000 et seq. (Department of Finance regulations) we will be analyzing the economic effect of the to-be-reproposed LCFS. The timelines under those regulations do not entirely align with the normal rulemaking process under California's Administrative Procedures Act (APA), and require ARB staff to prepare an economic analysis of the LCFS regulation before it has been formally proposed under the APA. Fortunately, because the LCFS has been in the code books for several years, we are able to begin the rigorous economic analysis required by the Department of Finance regulations.

Our approach is within the requirements and spirit of SB 617 and Department of Finance regulations. As part of our effort we asked those who wish to assist us in proposing and analyzing alternatives to the LCFS to submit their ideas and analyses by June 6th – in time to be considered in connection with the Standardized Regulatory Impact Analysis we are preparing for submittal to the Department of Finance. In light of your questions and request for additional time, we will extend the time for submitting alternative(s) and analysis to June 23, 2014. If received in time, we will consider your input in our submittal to the Department of Finance. In any event, please be assured that we will consider your submittal as we go forward with proposing and analyzing a new LCFS over the next few months. For more information on SB 617, please see the Department of Finance's implementing regulations at title 1, sections 2000-2004 of the California Code of Regulations (available at https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=I3F8EE070481811E3A6E48D2522760836&transitionType=Default&contextData=(sc.Default)#I401F60A0481811E3A6E48D2522760836).

Thank you again for writing. If you have any questions or comments, please contact me at (916) 322-6020 or by email at mwaugh@arb.ca.gov. Alternatively, you may contact Ms. Kirsten King, Air Pollution Specialist, Fuels Evaluation Section at (916) 327-5599 or by email at kking@arb.ca.gov.

Sincerely,

Michael S. Waugh, Chief
Transportation Fuels Branch

cc: Kirsten King, Air Pollution Specialist
Fuels Evaluation Section

Attachment 3

growth energy™
America's Ethanol Supporters

777 North Capitol Street, NE, Suite 805, Washington, D.C. 20002
PHONE 202.545.4000 FAX 202.545.4001 GrowthEnergy.org

June 11, 2014

Via Electronic Mail

Mr. Michael S. Waugh, Chief
Transportation Fuels Branch
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Solicitation of Alternatives for Analysis in the Low-Carbon Fuel Standard Rulemaking

Dear Mr. Waugh:

Thank you for your letter of June 5, 2014, concerning the low-carbon fuel standard ("LCFS") rulemaking. As your letter directs, Growth Energy will attempt to provide useful input for ARB's Standardized Regulatory Impact Assessment ("SRIA") for the LCFS rulemaking by June 23, 2014. Growth Energy would like to respond to two statements in the June 5 letter concerning SB 617 and the Department of Finance's implementing regulations.

First, the June 5 letter states that the "timelines" in the Department of Finance's regulations implementing SB 617 "do not entirely align with the normal rulemaking process under California's Administrative Procedures Act." If what the June 5 letter calls "normal" rulemaking practices have to change in order to comply with the Legislative mandate in SB 617 for improved regulatory analysis, then those changes should occur. The Department of Finance's implementing regulations for SB 617 became operative on November 1, 2013. Agencies like ARB have had ample time to plan for compliance with the timelines in those regulations without disrupting their rulemaking processes.

Second, the June 5 letter states, with reference to the SRIA requirements of SB 617, that ARB's "approach is within the requirements and spirit of SB 617 and the Department of Finance regulations." If the June 5 letter means to claim that ARB is substantially complying with the SB 617 regulations, Growth Energy respectfully disagrees.

None of the documents cited in the June 5 letter provide concrete estimates of the benefits that ARB plans to attribute to a revised LCFS regulation. For example, the June 5 letter refers to "at least a 10 percent" reduction in greenhouse gas ("GHG") emissions by 2020 from "a 2010 baseline;" the June 5 letter does not indicate whether ARB is aiming for a higher level of GHG reductions than 10 percent from the 2010 baseline set in 2009, and, if so, what the actual target or targets are. It is clear that the ARB staff is considering substantial changes in the LCFS regulation that could have a substantial impact on the annual and cumulative GHG reductions that ARB estimated for the LCFS regulation in 2009. (One example is the "cost reduction" feature of the new regulation outlined, but not fully described, in the March 2014 Concept Paper.) It is also clear that the regulatory context for the LCFS program has changed since 2009, including, for example, the adoption in 2010 of federal regulations implementing the Energy Independence and Security Act of 2007.

Without better information about ARB's predicted benefits for the revised LCFS regulation that the staff is developing, the public has a limited capability to propose regulatory alternatives that provide equal or greater benefits. ARB's current approach therefore does not substantially comply with section 2001(d) of the SB 617 regulations regarding public input into the SRIA process.

Growth Energy therefore renews its request for an identification of any annual or cumulative 2020 GHG emissions reduction targets that the staff plans to attribute to the revised LCFS regulation. Growth Energy believes that at least 30 days should be allowed for the preparation of regulatory alternatives once those estimated benefits have been identified. If, however, the staff is not able to accommodate these requests, Growth Energy will, as indicated above, provide input by June 23.

Please place this letter in the public docket that I understand the ARB staff is now establishing for materials it receives in connection with the LCFS rulemaking effort.

Sincerely,

David Bearden
General Counsel and Secretary

cc: The Hon. Mary D. Nichols (via U.S. Mail)
The Hon. Michael Cohen (via U.S. Mail)
Mr. Richard W. Corey (via Electronic Mail)
Dr. Irena Asmundson (via Electronic Mail)
Ms. Kirsten King (via Electronic Mail)

Attachment 4

growth energy™
America's Ethanol Producers

777 North Capitol Street, NE, Suite 805, Washington, D.C. 20002
PHONE 202.545.4000 FAX 202.545.4001 GrowthEnergy.org

May 10, 2010

Mr. James N. Goldstene
Executive Officer, California Air Resources Board
1001 I Street, 23rd Floor
Sacramento, California 95812

By Hand and Electronic Mail

Re: Petition to Amend the Low-Carbon Fuel Standard Regulation Pursuant to Cal. Gov't Code § 11340.6

Dear Mr. Goldstene:

On behalf of Growth Energy, an association of the nation's leading ethanol manufacturers and other companies who serve the nation's need for alternative fuels, I respectfully petition for amendments to the California low-carbon fuel standard ("LCFS") regulation published in title 17 of the *California Code of Regulations* at 17 C.C.R. §§ 9548-95490. That regulation was approved by the California Air Resources Board ("CARB" or "the Board") in April 2009, and you took final action with respect to the relevant provisions of the LCFS regulation in November 2009. This petition is submitted pursuant to section 11340.6 of the California Government Code. It is based upon data and analysis that has become available to Growth Energy within the last two weeks.[1]

The specific amendments to the LCFS regulation proposed by Growth Energy are as follows:

1. An amendment to the LCFS regulation that would take effect no later than December 31, 2010, that would eliminate the "Land Use or Other Indirect Effect" carbon intensity values assigned to the corn ethanol pathways in Table 6 in section 95486 ("Table 6") for corn ethanol used to comply with the LCFS regulation in 2011 and 2012.

[1] The relevant new developments are also discussed in a letter to ARB from the Renewable Fuels Association ("RFA") dated April 28, 2010, which, while not formally requesting action under the Government Code, also recommends an immediate change in the LCFS regulation. The RFA letter is included as an attachment to this petition.

2. As an alternative to the amendment presented above in paragraph 1, an amendment to the LCFS regulation that would take effect no later than December 31, 2010, and that would replace the 30 gram of carbon dioxide-equivalent emissions per megajoule ("g/mj") value in Table 6 for corn ethanol pathways with 15.1 or 13.9 g/mj, for corn ethanol used to comply with the LCFS regulation in 2011 and 2012.

3. If the amendment presented in paragraph 1 is not adopted, then in addition to the amendment presented in paragraph 2, an amendment to the LCFS regulation that would take effect no later than September 30, 2010, and that would require the Executive Officer to take final action on a Method 2A or Method 2B submittal under section 95486 within 90 days of his receipt of a complete submittal pursuant to Method 2A or Method 2B.

The change in paragraph 1 above would be effected by replacing "30" in the indirect emissions values for corn ethanol in Table 6 with "0." Changes in regulatory text sought in paragraphs 2 and 3 of the petition are shown in Exhibit 1. The balance of this letter and the attached exhibits provide the rest of the information required by section 11340.6 of the Government Code.

I. Authority to Amend the LCFS Regulation and Requirements of the Government Code

Sections 39600-39601 of the Health & Safety Code empower the Board to adopt regulations in accordance with the California Administrative Procedure Act ("the APA"). The power to adopt regulations brings with it the power to amend regulations. Except when the right to do so is otherwise restricted, section 11340.6 of the Government Code permits any interested person to seek amendment to rules adopted by the Board. There is no statutory impediment to consideration of this petition on its merits. A response is therefore required in the manner described in your recent response to another petition under section 11340.6 of the Government Code, in which you stated as follows:

> Under Government Code section 11340.7, the State agency within 30 days may grant or deny the petition in part, and may grant any other relief or take any other action as it may determine to be warranted by the petition. It must also indicate why the agency has reached its decision in writing and if it grants the petition, it must schedule the matter for public hearing in accordance with the notice and hearing requirements of the APA.

Letter to M. Steele from J. Goldstene, Feb. 11, 2010 at 1 n.1 (*see* Exhibit 2). If you determine that you lack authority under sections 39515 and 39516 to consider and to grant any aspect of this petition, Growth Energy requests that (i) you refer this petition to the Board, and (ii) the Board grant this petition.

II. Grounds for Amendment of the LCFS Regulation.

The Board adopted the LCFS regulation as an early-action measure to implement the Global Warming Solutions Act of 2006, codified at sections 38500-38599 of the Health & Safety Code (the "2006 Act"). The Legislature directed ARB to use the "best available economic and scientific information" when adopting regulations to implement the 2006 Act. Health & Safety Code § 38652 (e).

During the LCFS rulemaking, ARB selected models developed by the Global Trade Analysis Project ("GTAP") to estimate the indirect emissions impact of the use of corn ethanol to comply with the LCFS regulation. As you explained in announcing the use of GTAP at the start of the LCFS rulemaking:

> To assess the emissions from land use changes, staff used the Global Trade Analysis Project (GTAP) [model] to estimate [greenhouse gas, or "GHG"] emissions impact. ... In general, the [GTAP] model evaluates the worldwide land use conversion associated with the production of crops for fuel production. Different types of land use have different rates of storing carbon. In general, multiplying the changes in land use times an emission factor per land conversion type results in an estimate of the GHG emissions impacts of land conversions.

Notice of Public Hearing to Consider Adoption of a Proposed Regulation to Implement the Low Carbon Fuel Standard (dated Feb. 24, 2009) at 8. The suite of the GTAP models used in last year's LCFS regulation is specified in the regulation at 17 C.C.R. §95481(a)(20.5), and is called in the regulation the "February 2009" version of GTAP.

The GTAP modeling system was developed by the faculty and staff of the Department of Agricultural Economics at Purdue University. It should be noted in this regard that at least one GTAP expert at Purdue (Dr. Thomas Hertel) advised the Board at the inception of the regulatory process that the use of GTAP to select single-point carbon intensity values might be less defensible than other uses of the GTAP system and could be considered arbitrary. Last month researchers at Purdue led by Professor Wallace E. Tyner reported the development of a new and, in their opinion, improved version of the GTAP modeling system, called GTAP-BIO-ADV. Their research was partially funded by the Argonne National Laboratory. A final report summarizing the changes made in the GTAP modeling system has been prepared and is attached to this petition as Exhibit 3. Consistent with Dr. Hertel's advice during the rulemaking process, the new GTAP report presents a range of indirect land-use emissions values for corn ethanol, and invites the reader to evaluate the range of outputs and the assumptions that produce the different outputs.[2]

As indicated in the new report from the GTAP researchers at Purdue, the indirect emissions impact that Table 6 attributes to corn ethanol (which is based on the February 2009 version of GTAP) is significantly overstated, based on the results of GTAP-BIO-ADV. Table 6 assigns an indirect carbon intensity value to corn ethanol of **30 g/mj**. Based on certain assumptions about growth in yield and population, the average indirect land-use emissions that can properly be attributed to corn ethanol using the updated GTAP modeling system is **13.9 g/mj**, or less than half the level used in Table 6, measured in g/mj of carbon intensity. The marginal carbon intensity value that the new analysis based on GTAP-BIO-ADV would attribute to corn ethanol's indirect effects under those same assumptions about yield and

[2] It should be noted that Growth Energy does not agree with some of the fundamental assumptions made in indirect land-use change ("ILUC") theory applied in the LCFS rulemaking, and that Growth Energy believes that the final LCFS regulation failed to comply with the 2006 Act and other legal requirements, even before publication of the new work on GTAP discussed in this petition.

population growth is **15.1 g/mj.** The Board should not overlook this important change in the results that are produced by the GTAP modeling system using updated data, which was not available to the Board when it approved the LCFS regulation, nor available to the public during the post-hearing review process last summer and fall.

Growth Energy does not believe that the economic and scientific bases for attribution of indirect emissions impacts to corn ethanol usage are adequate, as explained in comments submitted to ARB last year. Putting that disagreement with the Board's overall approach to the side, however, it should be clear that ARB must reconsider Table 6 before the LCFS regulation takes full effect at the start of 2011. Discussing the carbon intensity values developed last year, one consultant for ARB testified as follows at the April 2009 Board hearing:

> [I]f we make a mistake in one direction in estimating these numbers, we'll use too much of a biofuel that's actually higher carbon [than] we thought and will therefore increase global warming. And if we use numbers that are too low, then we'll use too little of a biofuel that's lower carbon than we thought and will therefore increase global warming.

See April 2009 Hearing Transcript, *available at* http://www.arb.ca.gov/board/mt/2009/mt042309.pdf, at 73-74. As the same witness pointed out, "the cost to the world of being wrong in both directions is fairly symmetrical," and "there's no obvious conservative direction" to take in order to minimize the risks and costs of error. *Id.* at 74.

There is debate today about how to conduct a full lifecycle emissions analysis of transportation fuels. At this point, however, it should be clear that the GTAP modeling framework as adapted to a lifecycle analysis for corn ethanol has changed significantly since 2009. Moreover, the results produced by the GTAP systems are highly dependant on some assumptions that (in the latest report from Purdue) are not fully documented or explained. For example, it is far from clear whether what the new report calls the "yield effect" on food consumption is consistent with historical data. The selection of a population growth rate in the new iteration of the model is also not fully explained, and the new model appears to continue the assumption in the old model that forest land is converted in roughly the same proportion to all other land types. The new model is therefore likely to overstate the impact of corn ethanol usage on greenhouse gas emissions, accepting all other assumptions made in the ILUC theory. The new GTAP system may be an improvement over the February 2009 version, but the risk of error that punishes corn ethanol without a proper scientific basis remains great.

Given the risk of error, Growth Energy believes that the best course would be to eliminate any indirect emissions penalty for ethanol, and perhaps for all other biofuels, for at least the first two years of the LCFS compliance period (2011 and 2012), so that the science can catch up with regulatory process. Such a deferral of indirect emissions assessments will give the Board's external expert working groups time to formulate and present recommendations for full lifecycle analysis to the Board. A decision to defer ILUC-based emissions penalties in Table 6 for a full two years should be made now, so that the regulated parties can develop initial compliance plans with the LCFS regulation that are not based on clearly mistaken ILUC-based penalties. Assuming that the expert working groups can report to the Board by the end of the current year and recommend appropriate reforms in lifecycle emissions assessments at

that time, and that the Board can act on those recommendations in early 2011, then revised carbon intensity values could be included in Table 6 in early 2011 to take effect in 2013.

Even if ARB maintains the view (not shared by Growth Energy) that there is surely some indirect emissions impact from corn ethanol use, and that the indirect emissions value must be "greater than zero," there should be no disagreement that the February 2009 verison of the GTAP modeling system on which the LCFS regulation is currently based is now obsolete. When the GTAP modeling system is updated with what the new Purdue report calls "model improvements" and with a 2006 data base, there is a substantial reduction in the carbon intensity values that the Purdue team believes can credibly be assigned to corn ethanol. (*See, e.g.*, Exhibit 3, Table 20 at p. 46.) The use of a 2006 data base seems itself to be questionable, but the availability of that data set certainly shows that the older data set used in the February 2009 version of the GTAP modeling system is no longer the "best available economic and scientific information." Health & Safety Code § 38652 (e). Surely, those who believe that some "non-zero" value needs to be assigned to indirect emissions from the use of biofuels would agree that the 30 g/mj value in Table 6 is not the correct or most reliable "non-zero" value, and must be changed in order to avoid a serious mistake.

Based on the new work at Purdue (but without agreeing with the premise that corn ethanol must be assigned some indirect land-use change emissions impact), if the Board believes that a "non-zero" value for indirect emissions must remain in Table 6, Growth Energy believes that consistency with the "best available" science requirement of the 2006 Act mandates the replacement of the 30 g/mj value with either 13.9 or 15.1 g/mj, depending on whether ARB decides to use average or marginal emissions values. Such a change should be made now, with the expectation that the expert working group and the Board will be able to revisit the issue in time to make any necessary further changes for biofuels usage after 2012. If such a change is not made now, the LCFS regulation will take full effect in a few months' time using carbon intensity values that are simply no longer credible.[3]

In the event that ARB decides not to establish a two-year moratorium on the use of indirect emissions impacts for corn ethanol, Growth Energy requests two further regulatory changes in addition to the reduction in the indirect emissions values assigned to corn ethanol in 2011 and 2012. First, given the importance of prompt action on revisions to the carbon intensity values assigned to alternative fuels, Growth Energy also requests that section 95486 be revised to include a 90-day deadline for action on Method 2A and Method 2B applications. Second, in light of the rapid pace of developments in the GTAP modeling structure, Growth Energy believes it would be appropriate to amend the LCFS regulation to make it clear that the Executive Officer should permit the use of updated versions of the GTAP models in the Method 2A and Method 2B procedures for determining carbon intensity.

---

[3] During the rulemaking process that Growth Energy seeks, it is possible that other interested parties could come forward with data and analysis to support changes in the indirect land-use change values assigned to ethanol produced from sugar cane. To avoid proliferation of proceedings, Growth Energy recommends that any such changes sought in the indirect emissions values assigned to ethanol produced from sugar cane be presented without delay pursuant to Government Code § 11340.6. Growth Energy would vigorously oppose any action with respect to such a petition concerning sugar cane ethanol that might result in a delay in consideration of amendments sought in this petition.

The dates specified for final action to amend the current regulation presented on pages one and two of this letter (by December 31, 2010, for the amendments to Table 6, and by September 20, 2010 for the Method 2A/2B amendments) are critical to the objectives of this petition. Any delay from those dates will therefore mean effective denial of the petition. ARB should proceed with the publication of a notice for a public hearing to consider the changes requested here as soon as possible, and certainly no later than the 30-day period allowed by the Government Code for action on petitions of this type.

* * * *

Thank you for considering this petition. Please contact me at 605-965-2375 if you have any questions, or if further steps are required for consideration of this petition by you or by the Board.

Sincerely,

David Bearden
General Counsel

cc: Ellen Peter, Esquire

777 North Capitol Street, NE, Suite 805, Washington, D.C. 20002
PHONE 202.545.4000 FAX 202.545.4001

Exhibit 1

Table 6. Carbon Intensity Lookup Table for Gasoline and Fuels that Substitute for Gasoline.

Fuel	Pathway Description	Carbon Intensity Values (gCO2e/MJ)		
		Direct Emissions	Land Use or Other Indirect Effect	Total
Gasoline	CARBOB – based on the average crude oil delivered to California refineries and average California refinery efficiencies	95.86	0	95.86
Ethanol from Corn	Midwest average; 80% Dry Mill; 20% Wet Mill; Dry DGS	69.40	~~30~~ 15.1 or 13.9	~~99.40~~ 84.5 or 83.3
	California average; 80% Midwest Average; 20% California; Dry Mill; Wet DGS; NG	65.66	~~30~~ 15.1 or 13.9	~~95.66~~ 80.76 or 79.56
	California; Dry Mill; Wet DGS; NG	50.70	~~30~~ 15.1 or 13.9	~~80.70~~ 65.8 or 64.6
	Midwest; Dry Mill; Dry DGS, NG	68.40	~~30~~ 15.1 or 13.9	~~98.40~~ 83.5 or 82.3
	Midwest; Wet Mill, 60% NG, 40% coal	75.10	~~30~~ 15.1 or 13.9	~~105.10~~ 90.2 or 89.0
	Midwest; Wet Mill, 100% NG	64.52	~~30~~ 15.1 or 13.9	~~94.52~~ 79.62 or 78.42
	Midwest; Wet Mill, 100% coal	90.99	~~30~~ 15.1 or 13.9	~~120.99~~ 106.09 or 104.89
	Midwest; Dry Mill; Wet, DGS	60.10	~~30~~ 15.1 or 13.9	~~90.10~~ 75.2 or 74.0

	California; Dry Mill; Dry DGS, NG	58.90	~~30~~ 15.1 or 13.9	~~88.90~~ 74.0 or 72.8
	Midwest; Dry Mill; Dry DGS; 80% NG; 20% Biomass	63.60	~~30~~ 15.1 or 13.9	~~93.60~~ 78.7 or 77.5
	Midwest; Dry Mill; Wet DGS; 80% NG; 20% Biomass	56.80	~~30~~ 15.1 or 13.9	~~86.80~~ 71.9 or 70.7
	California; Dry Mill; Dry DGS; 80% NG; 20% Biomass	54.20	~~30~~ 15.1 or 13.9	~~84.20~~ 69.3 or 68.1
	California; Dry Mill; Wet DGS; 80% NG; 20% Biomass	47.44	~~30~~ 15.1 or 13.9	~~77.44~~ 62.54 or 61.34
Ethanol from Sugarcane	Brazilian sugarcane using average production processes	27.40	46	73.40
	Brazilian sugarcane with average production process,mechanized harvesting and electricity co-product credit	12.40	46	58.40
	Brazilian sugarcane with average production processand electricity co-product credit	20.40	46	66.40
Compressed Natural Gas	California NG via pipeline; compressed in CA	67.70	0	67.70
	North American NG delivered via pipeline; compressedin CA	68.00	0	68.00
	Landfill gas (bio-methane) cleaned up to pipeline quality NG; compressed in CA	11.26	0	11.26
	Dairy Digester Biogas to CNG	13.45	0	13.45
Liquefied Natural Gas	North American NG delivered via pipeline; liquefied in CA using liquefaction with 80% efficiency	83.13	0	83.13
	North American NG delivered via pipeline; liquefied inCA using liquefaction with 90% efficiency	72.38	0	72.38

	Overseas-sourced LNG delivered as LNG to Baja;re-gasified then re-liquefied in CA using liquefactionwith 80% efficiency	93.37	0	93.37
	Overseas-sourced LNG delivered as LNG to CA;re-gasified then re-liquefied in CA using liquefaction with 90% efficiency	82.62	0	82.62
	Overseas-sourced LNG delivered as LNG to CA;no re-gasification or re-liquefaction in CA	77.50	0	77.50
	Landfill Gas (bio-methane) to LNG liquefied in CA using liquefaction with 80% efficiency	26.31	0	26.31
	Landfill Gas (bio-methane) to LNG liquefied in CA using liquefaction with 90% efficiency	15.56	0	15.56
	Dairy Digester Biogas to LNG liquefied in CA using liquefaction with 80% efficiency	28.53	0	28.53
	Dairy Digester Biogas to LNG liquefied in CA usingliquefaction with 90% efficiency	17.78	0	17.78
Electricity	California average electricity mix	124.10	0	124.10
	California marginal electricity mix of natural gas andrenewable energy sources	104.71	0	104.71
Hydrogen	Compressed H2 from central reforming of NG (includes liquefaction and re-gasification steps)	142.20	0	142.20
	Liquid H2 from central reforming of NG	133.00	0	133.00
	Compressed H2 from central reforming of NG (no liquefaction and re-gasification steps)	98.80	0	98.80
	Compressed H2 from on-site reforming of NG	98.30	0	98.30
	Compressed H2 from on-site reforming with renewable feedstocks	76.10	0	76.10

(c) *Method 2A – Customized Lookup Table Values (Modified Method 1).*

Under Method 2A, the regulated party may propose, for the Executive Officer's written approval pursuant to section 95486(f), modifications to the GTAP Model or to one or more inputs to the CA-GREET model used to generate the carbon intensity values in the Method 1 Lookup Table.

For any of its transportation fuels subject to the LCFS regulation, a regulated party may propose the use of Method 2A to determine the fuel's carbon intensity, as provided in this section 95486(c). For each fuel subject to a proposed Method 2A, the regulated party must obtain written approval from the Executive Officer for its proposed Method 2A before the regulated party may use Method 2A for determining the carbon intensity of the fuel. The Executive Officer's written approval may include more than one of a regulated party's fuels under Method 2A.

The Executive Officer may not approve a proposed Method 2A unless the regulated party and its proposed Method 2A meet the scientific defensibility, "5-10" substantiality, and data submittal requirements specified in section 95486(e)(1) through (3) and the following requirements:

(1) The proposed modified GTAP Model or CA-GREET inputs must accurately reflect the conditions specific to the regulated party's production and distribution process;

(2) The proposed Method 2A uses only the inputs that are already incorporated in CA-GREET and does not add any new inputs (e.g., refinery efficiency); and

(3) In lieu of use of the GTAP Model or a modified GTAP Model, the ~~The~~ regulated party ~~must~~ may request the Executive Officer to conduct an analysis or modeling to determine the new pathway's impact on total carbon intensity due to indirect effects, including land-use changes, as the Executive Officer deems appropriate. ~~The Executive Officer will use the GTAP Model (February 2009), which is incorporated by reference, or other model determined by the Executive Officer to be at least equivalent to the GTAP Model (February 2009).~~

(d) *Method 2B – New Pathway Generated by California-Modified GREET (v.1.8b).* Under Method 2B, the regulated party proposes for the Executive Officer's written approval the generation of a new pathway using the CA-GREET model as provided for in this provision and the GTAP Model or a modified GTAP model. The Executive Officer's approval is subject to the requirements as specified in section 95486(f) and the following requirements:

(1) For purposes of this provision, "new pathway" means the proposed full fuel-cycle (well-to-wheel) pathway is not already in the ARB Lookup

Table specified in section 95486(b)(1), as determined by the Executive Officer;

(2) The regulated party must demonstrate to the Executive Officer's satisfaction that the CA-GREET can be modified successfully to generate the proposed new pathway. If the Executive Officer determines that the CA-GREET model cannot successfully generate the proposed new pathway, the proponent-regulated party must use either Method 1 or Method 2A to determine its fuel's carbon intensity;

(3) The regulated party must identify all modified parameters for use in the CA-GREET for generating the new pathway;

(4) The CA-GREET inputs used to generate the new pathway must accurately reflect the conditions specific to the regulated party's production and marketing process; and

(5) In lieu of use of the GTAP Model or a modified GTAP Model, the ~~The~~ regulated party ~~must~~ may request the Executive Officer to conduct an analysis or modeling to determine the new pathway's impact on total carbon intensity due to indirect effects, including land-use changes, as the Executive Officer deems appropriate. ~~The Executive Officer will use the GTAP Model (February 2009), which is incorporated by reference, or other model determined by the Executive Officer to be at least equivalent to the GTAP Model (February 2009).~~

(e) *Scientific Defensibility, Burden of Proof, Substantiality, and Data Submittal Requirements and Procedure for Approval of Method 2A or 2B.* For a proposed Method 2A or 2B to be approved by the Executive Officer, the regulated party must demonstrate that the method is both scientifically defensible and, for Method 2A, meets the substantiality requirement, as specified below:

(1) *Scientific Defensibility and Burden of Proof.* This requirement applies to both Method 2A and 2B. A regulated party that proposes to use Method 2A or 2B bears the sole burden of demonstrating to the Executive Officer's satisfaction, that the proposed method is scientifically defensible.

(A) For purposes of this regulation, "scientifically defensible" means the method has been demonstrated to the Executive Officer as being at least as valid and robust as Method 1 for calculating the fuel's carbon intensity.

(B) Proof that a proposed method is scientifically defensible may rely on, but is not limited to, publication of the proposed Method 2A or 2B in a major, well-established and peer-reviewed scientific journal (e.g., Science, Nature, Journal of the Air and Waste Management Association, Proceedings of the National Academies of Science).

(2) *"5-10" Substantiality Requirement.* This requirement applies only to a proposed use of Method 2A, as provided in section 95486(c). For each of its transportation fuels for which a regulated party is proposing to use Method 2A, the regulated party must demonstrate, to the Executive Officer's satisfaction, that the proposed Method 2A meets both of the following substantiality requirements:

(A) The source-to-tank carbon intensity for the fuel under the proposed Method 2A is at least 5.00 grams CO2-eq/MJ less than the source to-tank carbon intensity for the fuel as calculated under Method 1. "Source-to-tank" means all the steps involved in the growing/extraction, production and transport of the fuel to California, but it does not include the carbon intensity due to the vehicle's use of the fuel; "source-to-tank" may also be referred to as "well-to-tank" or "field-to-tank."

(B) The regulated party can and is expected to provide in California more than 10 million gasoline gallon equivalents per year (1,156 MJ) of the regulated fuel. This requirement applies to a transportation fuel only if the total amount of the fuel sold in California from all providers of that fuel exceeds 10 million gasoline gallon equivalents per year.

(3) *Data Submittal.* This requirement applies to both Method 2A and 2B. A regulated party proposing Method 2A or 2B for a fuel's carbon intensity value must meet all the following requirements:

(A) Submit to the Executive Officer all supporting data, calculations, and other documentation, including but not limited to, flow diagrams, flow rates, CA-GREET calculations, equipment description, maps, and other information that the Executive Officer determines is necessary to verify the proposed fuel pathway and how the carbon intensity value proposed for that pathway was derived;

(B) All relevant data, calculations, and other documentation in (A) above must be submitted electronically, such as via email or an online web-based interface, whenever possible;

(C) The regulated party must specifically identify all information submitted pursuant to this provision that is a trade secret; "trade secret" has the same meaning as defined in Government Code section 6254.7; and

(D) The regulated party must not convert spreadsheets in CA-GREET containing formulas into other file formats.

~~(D)~~ (f) The Executive Officer shall take final action a request for modification of a fuel's carbon intensity value using Method 2A or Method 2B within 90 days of a complete submittal of such a request. The Executive Officer shall notify a party making a submittal using Method 2A or Method 2B within 15 days of receipt of such a submittal whether he has found the submittal to be complete.

Exhibit 2

Air Resources Board

Mary D. Nichols, Chairman
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Linda S. Adams
Secretary for
Environmental Protection

Arnold Schwarzenegger
Governor

(Via email and U.S. Mail)

February 11, 2010

Mr. Michael J. Steel, Esq.
Morrison Foerster
425 Market Street
San Francisco, California, 94105-2482
msteel@mofo.com

Re: Response to January 11, 2010, Petition Filed by Associated General Contractors of America

Dear Mr. Steel:

I am writing in response to the petition filed pursuant to the Administrative Procedure Act (APA), Government Code section 11340.6, by the Associated General Contractors of America (AGC or petitioner) dated January 11, 2010.[1] The petition requests that the Air Resources Board (ARB or Board) adopt an emergency amendment to delay the fleet average target dates of the In-Use Off-Road Diesel-Fueled Fleets Regulation (regulation)[2] for two years. The petition also requests that ARB ask the United States Environmental Protection Agency (U.S. EPA) to postpone consideration of California's request for authorization of the regulation that ARB submitted pursuant to section 209(e)(2) of the federal Clean Air Act (CAA) until such time that ARB has resolved the issues underlying the petition.

After careful consideration of all of the facts associated with the petitioner's request, pursuant to Government Code section 11340.7(b), I am granting the following relief and finding that the following actions are warranted:

---

[1] The petition is available from ARB upon request. Under the APA, any interested person may petition a State agency requesting the adoption, amendment, or repeal of a regulation as provided in Government Code section 11340.6. The petition must clearly and concisely state the substance or nature of the regulation, the requested amendment or repeal, the reason for the request, and the reference to the authority of the State agency to take the action requested. Under Government Code section 11340.7, the State agency within 30 days may grant or deny the petition in part, and may grant any other relief or take any other action as it may determine to be warranted by the petition. It must also indicate why the agency has reached its decision in writing and if it grants the petition, it must schedule the matter for public hearing in accordance with the notice and hearing requirements of the APA.

[2] Title 13, California Code of Regulations, sections 2449 through 2449.3.

(1) ARB will issue an advisory notifying all stakeholders subject to the regulation that ARB will take no enforcement action regarding compliance with the regulation's emission standards or other emission related requirements before ARB receives authorization from U.S. EPA; and

(2) a hearing will be held in Sacramento on March 11, 2010, before the Executive Officer to take testimony and other relevant information on the need for further amendments to the regulation to address the economic recession confronting the State and the adverse impacts that the recession has caused to the construction and other industries that operate off-road vehicles. As the Board has already directed staff to provide an update on the regulation at its April 2010 meeting, any information and testimony collected at this hearing shall be compiled and included as part of that update.

This relief, coupled with statutory and regulatory relief already provided by Assembly Bill 8 2X (AB 8 2X or bill), will ensure no stakeholders will be in violation with the regulation's March 1, 2010 emission standards or other emission related requirements. Therefore, I have concluded that an emergency does not exist. I am also taking no action on the petitioner's request that ARB request U.S. EPA to delay issuance of the authorization, because the request is outside the scope of the APA petition process.

Summary of January 11, 2010 Petition

The petitioner's request that ARB delay implementation of the regulation can be summarized as follows: since the Board's approval and adoption of the regulation in 2007-2008, changed circumstances in the economy and its impact on construction activity in California have affected the financial ability of construction fleets to comply with the regulation's requirements while concurrently resulting in fewer emissions from construction vehicles. In claiming that a two-year moratorium in implementing the initial compliance requirements is urgently necessary, the petition argues that, without such immediate relief, California construction contractors will suffer immediate and irreparable harm because the regulation as it currently exists will force fleets to either downsize or have to purchase and install expensive and unreliable emission control devices or repower their equipment in order to meet the 2010 and 2011 fleet average requirements.[3] In making this claim, AGC asserts that the relief provided by AB 8 2X signed by the Governor on February 20, 2009, provides insufficient relief with "some relief to some contractors, but not to others, and certainly not to all [a]nd even those relieved of the initial burdens will find that that [sic] their relief is fleeting. . . ."[4]

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[3] Petition at p. 6.
[4] *Id.*

AGC further argues that current economic conditions in the construction industry will not improve over the next two years,[5] and that reduced emissions resulting from the current economy gives the Board flexibility to delay the regulation and thereby reduce the financial burdens that it will impose, while still meeting the goals of the State Implementation Plan.[6]

Background of the Regulation

The Board approved the regulation for adoption on July 26, 2007, and formally adopted it on April 4, 2008. In adopting the regulation the Board specifically found that the regulation was necessary, technically feasible, and cost effective.[7] In finding that the regulations were necessary, the Board determined that in-use off-road diesel-fueled vehicles are significant contributors of emissions of oxides of nitrogen (NOx), particulate matter (PM), including PM2.5, and diesel exhaust, the last of which has been identified as a toxic air contaminant. The Board further found that the regulation would result in reductions in emissions that would prevent approximately 4,000 premature deaths and other harmful health impacts and would help California meet National Ambient Air Quality Standards (NAAQS) for ozone and PM2.5.

Subsequently, California, the nation, and the international community, in general, experienced a serious economic recession that has undisputedly impacted California businesses, including the State's construction industry. In response, as part of the 2009-2010 State budget, the California Legislature passed, and the Governor signed, AB 8 2X. Codified in Health and Safety Code section 43018.2, ARB was directed to amend the regulation to provide specified relief to affected stakeholders who have been negatively impacted by the State recession. Specifically, the legislation directed the Board to modify the NOx and PM credit provisions of the regulation to reflect vehicle retirements that reduce total fleet horsepower between March 1, 2006 and March 1, 2010, and reduced fleet activity between March 1, 2007, and March 1, 2010. It further directed the Board to amend the total cumulative NOx turnover and PM retrofit requirements for the years 2011 through 2013, to provide fleets with greater compliance flexibility with the regulation's requirements over the next three years.

Pursuant to the legislation's directives, the Board approved amendments to the regulation on July 23, 2009, with the amendments formally adopted and operative on December 3, 2009.

After adoption of the regulation in 2008, but before the enactment of AB 8 2X, AGC filed on December 15, 2008, the first of its two petitions, and requested that ARB amend and/or repeal the regulation. ARB and AGC agreed on February 4, 2009, to hold the

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[5] *Id.*, at p. 7.
[6] *Id.*, at p. 5.
[7] Resolution 07-19, a copy of which is attached as Attachment 1.

petition in abeyance as the parties evaluate data to determine the recession's impacts on construction fleets. With notice from either party, the petition could once again be activated and require an ARB response. To date, neither party has sought to activate the first petition.

On December 3, 2009, AGC presented ARB staff with its 2009 emissions inventory modeling analysis using the Diesel Off-Road On-Line Reporting System (DOORS)[8] data collected by ARB staff. The analysis was subsequently sent to the Board and made a part of the record of the December 11, 2009, Board hearing. At the hearing, the Board directed staff to return at its April and July 2010 Board hearings with an assessment of how the recession has impacted stakeholders subject to the regulation, using such information that is available, including the most recent fleet data that fleets are required to report no later than April 1, 2010.

Response to Petition

A. Actions Warranted by the Petition

Pursuant to the authority provided under Government Code section 11340.7, I am granting the following relief and finding the actions described below to be warranted.

1. Enforcement Advisory

I have determined that issuance of an enforcement advisory is warranted. The advisory will notify all stakeholders affected by the regulation that ARB will not take any enforcement action for noncompliance with the regulation's emission standards or other emission related requirements before ARB receives authorization from U.S. EPA.

2. Hearing before the Executive Officer to Determine Need for Further Relief from the Impacts of the Recession

I am scheduling a hearing to be held on March 11, 2010 before the Executive Officer for the purpose of receiving testimony and other relevant information on the question of whether the regulation needs to be further amended to provide additional mitigation for stakeholders that have been adversely impacted by the recession and for whom the compliance relief provided by the AB 8 2X amendments has not been adequate. At the hearing, the petitioner and affected stakeholders will be provided the opportunity to fully present information on the effects of the recession on the construction industry and other industrial sectors of the economy, in general, and off-road fleets in particular. They will also be able to present testimony and information on how the recession has

[8] DOORS is an online reporting tool designed to help fleet owners report their off-road diesel vehicle inventories and actions taken to reduce vehicle emissions to ARB, as required by the regulation.

affected emissions in the State, and why further delay of the regulation's compliance schedule is necessary and will not affect California's continuing efforts to improve air quality within its borders. I am also requesting that AGC and other stakeholders provide concrete and verifiable information to support any claims that the economy, in general, and the construction industry, specifically, will not have sufficiently rebounded from the recession by 2013.[9] The collected information will assist ARB staff in determining whether additional amendments to the regulation beyond those already adopted should be proposed to the Board.

In holding the hearing, I recognize that the present recession is the deepest recession since the Great Depression of the 1930s, that it has adversely impacted many fleets covered by the regulation, and that recovery from this recession is taking longer than many expected. I also recognize that the recession has resulted in reduced activity for many fleets and that, as a consequence, emissions are lower than forecasted in 2007, when the regulation was initially approved. However, what must be determined is the adequacy of the amendments already in place. The Executive Officer hearing will provide the best means of collecting information to make that determination.

In directing that an Executive Officer hearing be held, I have determined immediate Board action is not necessary since no emergency exists. The petition argues that the regulation must be immediately delayed by two years to prevent immediate and irreparable harm to fleets, in large part because the fleets have been adversely impacted by the current severe recession.[10] There is no dispute that a severe recession exists and that fleets have been negatively impacted. However, the AB 8 2X amendments, which became operative on December 3, 2009, have averted the need for immediate emergency action. The amendments adopted by the Board address the petition's concerns by providing a two-year delay, except for the largest fleets that were able to sustain revenues at pre-recession 2007 levels. Any fleet that has reduced its horsepower through retirement of vehicles between March 1, 2006 and March 1, 2010 will receive compliance credit for that horsepower reduction. Similarly, any fleet that has reduced its operational activity over the last several years (i.e., the difference in fleet activity between calendar year 2007 and the 12-month period bounded by March 1, 2009 to February 28, 2010) will also receive compliance credit. This effectively provides immediate compliance relief in the first years of the regulation's implementation for most fleets that have been adversely affected by the recession. For example, any fleet that has reduced its horsepower through retirements or reduced the amount that it operates by 32 percent or more will be COMPLETELY exempt from any compliance actions in 2010 or 2011 (i.e., will not be required to turn over any vehicles or install any retrofits). Fleets that have been more modestly impacted by the recession will be able to offset some of their 2010 and 2011 compliance requirements.

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[9] See Petition at pages 4 and 6
[10] Petition at page 6

The AB 8 2X amendments also allow all fleets, even those unaffected by the recession, to postpone much of the compliance actions originally required for 2011 and 2012 until 2013. Fleets whose business has not been adversely impacted should financially be in position to meet the regulation's immediate 2010 requirements.[11] Moreover, it is reasonable to assume that at least some of these fleets will take advantage of the regulation's early action credit provisions.[12] This relief along with the compliance relief provided in the above-referenced advisory preclude my finding that an emergency exists. For these reasons, I cannot accept AGC's characterization that most, if not all, fleets need immediate further relief to avoid irreparable harm.[13]

Immediate action is also not required even though the AB 8 2X amendments do not address the fleet average requirements of the regulation. The petition essentially argues that the remedy provided in AB 8 2X is insufficient in that it does not address the fleet average requirements of the regulation.[14] The argument is unsupportable because AB 8 2X specifically provides relief to fleets from the regulation's best available control technology (BACT) requirements, which are a compliance alternative to the fleet average requirements. Thus, to the extent that fleets achieve compliance by meeting the regulation's BACT requirements through credits for vehicle retirements and fleet inactivity, they are under no obligation to meet the fleet average requirements. Consequently, the AB 8 2X relief effectively addresses all of the regulation's performance requirements.

B. No Action is Warranted for ARB to Request that U.S. EPA Delay Issuing California an Authorization for the Regulation

The petition requests that ARB inform U.S. EPA that it should not issue the authorization that California has requested for the regulation. I have determined that such a request is outside of the scope of the APA petitioning process, which is directed at requests for adoption, amendment, or repeal of a regulation.[15] Accordingly, no action on the request is warranted.

C. Conclusion

In conclusion, for the foregoing reasons, I am granting the following relief: ARB will issue an advisory no later than February 28, 2010, notifying stakeholders that ARB will not take any enforcement action for noncompliance with the regulation's March 1, 2010 emission standards or other emission related requirements before it receives authorization from U.S. EPA. I have further determined that an Executive Officer

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[11] See e.g., title 13, Cal. Code Regs., §§ 2449(d)(1), 2449.1(a)(2)(A)2., and 2449.2(a)(2)(A)2.
[12] Title 13, Cal Code Regs , § 2449(g)(1)(G).
[13] Petition at page 4.
[14] Petition at pages 1 and 4.
[15] Govt. Code § 11340.7.

hearing to take testimony and receive information on the question of whether further amendments to the regulation, beyond those that have been adopted to date, is warranted. At the hearing, AGC and other stakeholders will have the opportunity to present testimony and documentation on the recession's impact and what additional relief stakeholders need to address those impacts.

If you have questions regarding the decision on this petition or would like to discuss the regulation, please contact Mr. Erik White, Chief, Heavy-duty Diesel In-Use Strategies Branch, at (916) 322-1017 or ewhite@arb.ca.gov or Mr. Michael Terris, Senior Staff Counsel, Office of Legal Affairs, at (916) 445-9815 or mterris@arb.ca.gov.

Sincerely,

James N. Goldstene
Executive Officer

Attachment

cc: Tom Cackette,
Chief Deputy Executive Officer

Ellen M. Peter
Chief Counsel

Bob Cross, Chief
Mobile Source Control Davison

Erik White, Chief
Heavy-Duty Diesel In-Use Strategies Branch

Michael Terris
Senior Staff Counsel
Office of Legal Affairs

Attachment 5

From: owner-arbcombo@listserv.arb.ca.gov on behalf of acayabya@arb.ca.gov
Sent: Friday, May 23, 2014 7:34 PM
To: post-arbcombo@listserv.arb.ca.gov
Subject: arbcombo -- Solicitation of Alternatives for Analysis in the LCFS Standardized Regulatory Impact Assessment and Under the California Environmental Qu

Follow Up Flag: Follow up
Flag Status: Flagged

In response to the requirements of SB 617 and the California Environmental Quality Act (CEQA), ARB is welcoming public input on alternatives to the existing regulation and concepts in the LCFS Re-Adoption Concept Paper released on March 7, 2014. State rulemaking and environmental law supports public input in this ongoing ARB process aimed toward a Low Carbon Fuel Standard (LCFS) rulemaking proposal for Board consideration in fall 2014. As part of that process, ARB encourages public input on alternative LCFS approaches: specifically, any approach that may yield the same or greater benefits than those associated with the proposed regulation, or that may achieve the goals at lower cost.

To submit an alternative for ARB to analyze in its Standardized Regulatory Impact Analysis (SRIA) under SB 617 (see http://www.dof.ca.gov/research/economic_research_unit/SB617_regulation/view.php) and/or under CEQA, please ensure that your submission discusses the alternative's ability to fulfill the purposes of the draft regulatory proposal as ARB has presented it. To enable comparison of economic impacts, please submit the quantities of low-CI fuels used each year to comply with the alternative, as well as the associated cost and benefit information, and their sources. Please also submit a clear description of the basis for any cost calculations.

For environmental alternatives, please state the potentially significant adverse environmental impact(s) your alternative is seeking to address, and discuss how your proposed alternative would avoid or substantially lessen that impact while meeting most of the draft staff proposal's basic purposes.

ARB will consider all alternatives provided in deciding which alternatives will be carried forward for more detailed analysis as part of the rulemaking process.

The deadline for submission of alternatives relating to economic impacts is Friday, June 6, 2014. Alternatives may be submitted via email to Ms. Kirsten King, at kking@arb.ca.gov.

The Low Carbon Fuel Standard, a regulation to reduce the carbon intensity of fuels sold in California ten percent by 2020, is one of the measures adopted by the California Air Resources Board, pursuant to Health and Safety Code Sections 38500-38599 (AB 32) to reduce greenhouse gases in California. It is designed to help clean the air, protect the environment, and drive the development of clean, low-carbon fuels.

California is in a drought emergency.
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The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, visit the Flex Alert website at www.flexalert.org .
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Attachment 6

Nos. 12-15131, 12-15135

UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

ROCKY MOUNTAIN FARMERS UNION, *et al.*, Plaintiffs-Appellees,

v.

JAMES N. GOLDSTENE, *et al.*,Defendants-Appellants, and ENVIRONMENTAL DEFENSE FUND, *et al.*,Intervenor-Defendants-Appellants.

Appeal from the United States District Court for the Eastern District of California (D.C. Nos. 1:09-cv-02234-LJO-GSA, 1:10-cv-0013-LJO-DLB)

DECLARATION OF ERIN HEUPEL, P.E.

I, Erin Heupel, declare and state as follows:

1. I am the Director of Environment and Technology at POET LLC, a company that constructs and manages ethanol production facilities, headquartered in Sioux Falls, South Dakota. I provide this declaration in support of the opposition by Plaintiffs-Appellees ("Plaintiffs") to the motion filed by Defendants-Appellants ("Defendants") to stay the preliminary injunction and judgments in *Rocky Mountain Farmers Union, et al. v. Goldstene*, Case No. 1:09-cv-02234-

LJO-GSA (E.D. Cal., Dec. 29, 2011).[1] I am a licensed Professional Engineer in the States of Iowa and South Dakota. I make this declaration based on my professional experience and my personal knowledge of the facts set forth herein. I am willing and able to present under oath the facts set forth in this Declaration if called as a witness before the Court.

2. The purpose of this declaration is to respond to statements in the Declaration of Michael Waugh, dated January 20, 2012, and filed in this Court by Defendants on February 10, 2012, on two subjects: (i) the creation of "individualized" pathways for some corn ethanol plants under the California low-carbon fuel standard ("LCFS") regulation, and (ii) the impact of District Court's preliminary injunction on the environmental benefits that Defendants attribute to the LCFS regulation. *See* Declaration of Michael Waugh in Support of Defendants and Defendant-Intervenors' Motion to Stay Preliminary Injunction and Judgments Pending Appeal (Dkt Entry 21-7) ("Waugh Decl.") ¶¶ 5, 39-41, 52-59, *and id.* at 11:9.

3. I am in charge of the efforts of ethanol plants managed by POET LLC, to receive CARB approved individualized carbon intensity "pathways" for

[1] *See* Motion for A Stay of the District Court's Orders and Judgments Pending Appeal (Dkt Entry 22-1) ("Stay Mot.").

the plants managed by POET LLC that can qualify for such pathways.[2] My duties at POET LLC require me to have complete knowledge of the technologies, processes, and methods used for the production of corn ethanol and various co-products by the plants that POET LLC manages, including the production efficiencies and energy requirements of those plants. My responsibilities at POET LLC also require me to have substantial knowledge of the same attributes of corn ethanol plants that compete with the plants that POET LLC manages.

4. At the outset, it is important to understand that companies in the U.S. corn ethanol industry have strong commercial incentives to maximize yield from feedstock and to minimize energy usage, and thus to minimize greenhouse gas ("GHG") emissions. Corn ethanol plants cost millions of dollars to build. Midwest corn ethanol plants are carefully sited in order to have ready access to their feedstock, as well as competitively priced natural gas, electricity, or other sources of energy to run the plant. The companies that survive and prosper in this industry are those whose plants are designed from the beginning for maximum efficiency in feedstock conversion and minimum energy consumption. Next to corn costs, energy costs are the largest variable cost in producing corn ethanol.

[2] *See* Waugh Decl. ¶¶ 52-56. The plants that POET LLC constructs and/or manages are owned by separate investor groups. *See* Declaration of Robert Whiteman (filed March 1, 2012) at note 3.

5. A number of plants managed by POET LLC have received CARB staff approval for 11 different individualized pathways for corn ethanol. I am personally familiar with the attributes of each plant awarded those pathways that the LCFS regulation treats as relevant in determining the carbon intensity of the ethanol that those plants produce. The relevant plants made no changes in production methods, feedstock, methods of transport, or any other factor relevant to the pathway application, in order to reduce the carbon intensity that would be assigned to ethanol produced at those plants. POET LLC obtained the CARB approved CI pathways for these plants by documenting the attributes of production and energy supply relevant under the LCFS regulation that those plants had adopted for commercial reasons, completely independent of the LCFS regulation and the regulation's requirements for the establishment of alternative pathways.

6. When plants managed by POET LLC make changes in their technologies, production methods, or energy sources, and those changes reduce the carbon intensity, POET LLC seeks changes in the carbon intensity values that apply to those plants to the extent possible under the LCFS regulation. In such instances, however, the motivating factor for the change at the plant is not the LCFS regulation, but the need to remain competitive in production methods and technologies within the Midwest corn ethanol industry. In addition, to my knowledge, none of the Midwest corn ethanol plants that compete with those

managed by POET LLC have made changes in their technologies, production methods, or energy inputs in order to gain a lower carbon intensity value under the LCFS regulation; instead, those plants strive to increase efficiency and reduce energy consumption for the same commercial reasons as the plants managed by POET LLC.

7. The LCFS regulation becomes more stringent in each year after 2011. But, contrary to what appears to be the position taken in Mr. Waugh's declaration, it would not be commercially practicable for Midwest corn ethanol plants to try to keep up with the increases in the stringency of the regulation, simply in order to try to stay in business in California.[3]

8. Under the LCFS regulation, all corn ethanol plants, including those in the Midwest, must add an assigned "indirect" carbon intensity emissions factor of 30 gCO_2eq/MJ to their "direct" carbon intensity emissions factor. The "indirect" emissions factor is more than 40 percent of the total carbon intensity level assigned to the corn ethanol pathway that, according to Mr. Waugh's Declaration, has the lowest carbon intensity level recognized by the CARB staff.[4] Nothing that any

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[3] *See* Waugh Decl. ¶¶ 41, 44.

[4] *See* Waugh Decl., Exh. E at 8 (pathway value of 73.21 gCO_2eq/MJ for Pathway No. ETHC0035). The pathway that Mr. Waugh's declaration identifies as the "lowest carbon intensity value approved for any ethanol," for a plant located in Kansas (Waugh Decl. ¶ 53), is a pathway for a plant that uses the combination of wheat slurry, sorghum, and corn and is not a pathway for an ethanol plant using

single corn ethanol plant or group of corn ethanol plants can do will reduce the "indirect" carbon intensity emissions factor assigned by the LCFS regulation. As a result, the impact of plant changes in improving efficiency or reducing energy consumption do not result in proportional changes in the assigned CI value. For example, the 73.21 gCO_2eq/MJ value above consists of 43.21 gCO_2eq/MJ for the production of feedstock and ethanol as well as ethanol transport and the value of 30 gCO_2eq/MJ for indirect emissions. A 10% reduction in the 43.21 gCO_2eq/MJ value to 38.89 gCO_2eq/MJ yields only a 6% reduction in the overall CI value which becomes 68.89 gCO_2eq/MJ. In addition, within the "direct" emissions factor assigned to a corn ethanol plant, the LCFS regulation attributes a substantial increment to GHG emissions attributed to the cultivation and harvesting of corn (potentially, 35.7 gCO_2eq/MJ). Ethanol plants cannot directly control and document how farmers grow and harvest corn, which the farmers grow not only to

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corn. Sufficient quantities of sorghum feedstock are not available to most corn ethanol plants, including those in the northern Great Plains that were built to serve the California market. Although the yields from converting grain sorghum to ethanol can be similar to corn, the yields of sorghum per acre are lower, making sorghum a generally less desirable crop than corn for fertile or irrigated land. Sorghum tends to be grown where the land is too marginal to support a profitable corn crop, or where moisture availability is scarce. As was the case with the fuel-grade ethanol industry prior to the implementation of the LCFS regulation, grain producers will grow crops that make the most profitable use of their land and agricultural inputs.

sell to ethanol plants, but also to other customers, on the best possible commercial terms for the farmers.

9. As indicated above, the lowest CI value for any Midwest corn ethanol pathway is 73.21 gCO_2eq/MJ and the direct CI value for that pathway is 43.21 gCO_2eq/MJ. Assuming that this lowest CI corn ethanol is blended with a gasoline blendstock assigned a carbon intensity value of 95.86 gCO_2eq/MJ (which is the value assigned to an "average" gasoline blend), LCFS compliance could only be achieved with a 15% ethanol blend ("E15") through 2015. In order for LCFS compliance to be achieved with E15 in 2016, the CI of Midwest corn ethanol would have to be reduced to 64.20, and the direct CI value to 34.20. This represents approximately a 21% reduction in the direct CI value from the lowest CI value currently documented. That same ethanol blended at 15% into the same gasoline feedstock would begin to generate deficits for the blender starting in 2017.

10. Experience in 2011 has shown that gasoline blenders in California will quickly try to stop buying and blending ethanol that does not generate a credit against the requirements of the LCFS regulation.[5] Given the "indirect" emissions factor automatically assigned to all corn ethanol plants, and the compliance schedule for LCFS regulation in the near term, even the most efficient Midwest corn ethanol plant currently recognized by the CARB staff would need to reduce

[5] *See* Declaration of James M. Lyons ¶¶ 5-7 .

its direct carbon intensity factor by more than 21% and file the necessary documentation with CARB, in order to continue in the California fuel market for one more year past the current limit of 2015. The costs incurred to reduce the carbon intensity of ethanol from the plant would have to be recovered by the end of 2016 before the gasoline blenders stopped buying that plant's ethanol and moved to an alternative fuel with a lower carbon-intensity level, for example, from Brazil or through the use of the "electricity" pathways in the LCFS regulation.

11. The upshot is that even a very efficient Midwest corn ethanol plant would have to find and implement further efficiencies or energy reduction opportunities not driven by the nationwide market and recover the costs of the necessary changes, over a very short time frame. That is not commercially practicable for corn ethanol plants managed by POET LLC or, I believe, for competitor corn ethanol plants. Rather than incur those costs, U.S. corn ethanol plants will try to compete in markets outside California.

12. In sum, I am aware of no evidence that the LCFS regulation has had any significant impact on the level of GHG emissions from corn ethanol plants located in the Midwest. A stay of the preliminary injunction will not cause the corn ethanol plants managed by POET LLC, or any competitors to those plants with whose operations I am familiar, to reduce the GHG emissions from their

operations relative to current levels. A stay of the preliminary injunction issued by the District Court therefore will not restore or continue any GHG emissions reductions during the pendency of this litigation, simply because the LCFS regulation itself has had no effect on GHG emissions attributable to corn ethanol production, nor would it have any such effect in the near term.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct. Executed on March 1, 2012 at Sioux Falls, South Dakota.

Erin Heupel, P.E.